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Health and Allied Sciences(HaAS)

2D:4D DIGIT RATIO AND ACADEMIC PERFORMANCE IN MEDICAL STUDENTS OF IIUM

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The prenatal androgens has been proposed to directly influence the relative length of the second (index, 2D) to the fourth (ring, 4D) finger (2D:4D) and the brain development, future behavior (intelligence or learning-ability skills, abstract reasoning, highly competitive sports etc) and life choices. The academic performance in medical school is affected by many factors(cognitive ability, biological and psychological traits, and social status) and by partly from prenatal exposure to androgenic steroids. Many studies correlated the relationship between 2D:4D ratio and athletic performance but a few studies to academic performance which showed mixed results. OBJECTIVE: This study was to find out the average 2D:4D digit ratio of male and female Malay ethnic, to determine the correlation of 2D:4D ratio and academic performance during matriculation and to examine the correlation of 2D:4D ratio and academic performance in year one of first year medical students of International Islamic University Malaysia (Academic session 2012/13). METHODOLOGY/STUDY DESIGN: The 2D and 4D length of both hands of 137 first year medical students (42 male and 95 female) were measured with a vernier caliper, accuracy of 0.02mm. The CGPA of matriculation and mean of four end blocks examination of first year were calculated and Pearson correlation coefficient was measured between two variables, 2D:4D ratios of both hands and both sexes and CGPA of matriculation and mean first year four end blocks examinations. RESULTS: The means of left and right 2D:4D ratios are 0.9865 and 0.9699 in male and 0.9954 and 0.9944 in female students. Male and right hand have lower ratio than female students and left hand in both sexes. In male student, both left and right 2D:4D ratios are negatively correlated with CGPA of matriculation and mean first year examination marks. In female student, correlation is positive except between left 2D:4D ratio and mean first year mark which is negatively correlated. All correlations are low or weak correlations and statistically not significant except between left 2D:4D ratio and mean first year mark in female. CONCLUSION: The means of left and right 2D:4D ratios are 0.9865 and 0.9699 in male and 0.9954 and 0.9944 in female Malay ethnic. There is a weak or low correlation between 2D:4D digit ratio and academic performance in medical students of IIUM.

A COMPARATIVE STUDY ON PERMISSIVENESS TOWARD EUTHANASIA AND RELATED ISSUES AMONG PHYSICIANS AND PATIENTS IN MALAYSIA

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Due to globalizing trend of homogenisation of culture, changes in the health care delivery system, and market economics infringing on the practice of medicine, there has been a gradual change in the attitude of the medical community as well as the lay public towards greater acceptance of euthanasia as an option for terminally ill and dying patients. Physicians in developing countries come across situations where such issues are raised with increasing frequency. As euthanasia has gained worldwide prominence, the objectives of our study therefore were to explore the attitude of physicians and chronically ill patients towards euthanasia and related issues. Concomitantly we wanted to ascertain the frequency of requests for assistance in active euthanasia. Methods: Questionnaire based survey among consenting patients and physicians. Results: The majority of our physicians and patients did not support active euthanasia or physician-assisted suicide (EAS), no matter what the circumstances may be p ¡0.001.Both opposed to its legalization p¡0.001. Just 15% of physicians reported that they were asked by patients for assistance in dying. Both physicians 29.2% and patients 61.5% were in favour of withdrawing or withholding life-sustaining treatment to a patient with no chances of survival. Among patients no significant differences were observed for age, marital status, or underlying health status. Conclusions: A significant percentage of surveyed respondents were against EAS or its legalisation. Patient views were primarily determined by religious beliefs rather than the disease severity. More debates on the matter are crucial in the ever-evolving world of clinical medicine.

A NEW HOPE TO CONTROL FOODBORNE DISEASES AND POLLUTION: POTENTIAL ANTIMICROBIAL ACTIVITY OF BANANA (MUSA PARADISIACA) PEELS AGAINST FOOD BORNE PATHOGENIC MICROBES

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HaAS 3

In food industries, different kinds of antimicrobial agents are used during food processing in order to prevent and controlling diseases, enhance the growth and also to increase the production efficiency. However, their persistent use leads to the emergence of resistant in microorganism. Thus, alternative strategies are sought by using unutilized and safe antimicrobial byproducts from natural resources. Musa paradisiaca L. (banana) peels are usually treated as wastes and are discarded during the processing and are responsible for increased pollution. Hence, this study was designed to explore the antimicrobial potential of peels extracts of Musa paradisiaca in order to generate safe and cheap antimicrobials as well as to address issues related to pollution due to such wastes. Ethanol, dichloromethane and aqueous extracts from two different varieties of M. paradisiaca, i.e., Nangka (M. paradisiaca variety Nangka) and Tanduk (M. paradisiaca variety Tanduk) peels against eight (8) pathogenic bacteria (Bacillus cereus, Escherichia coli, Pseudomonas aeruginosa, Enterococcus faecalis, Staphylococcus aureus, Burkholderiacepacia, Vibrio alginolyticus, and Vibrio parahaemolyticus) and three (3) fungal species (Candida albicans, Candida tropicalisand Candida krusei) using disc diffusion and broth micro-dilution methods. The best activity by disc diffusion method for bacteria was demonstrated by ethanolic extract of Tanduk peel against S. aureus with average inhibition zones of 30 mm while the best activity for fungi showed by dichloromethane extract of Tanduk peel against C. krusei with average inhibition zones of 10 mm. However, based on this method, the least active bacteria was found to be V. parahaemolyticus since it was resistant to most of the extracts whereby for fungi, C. albicans was the least active. Moreover, the minimum inhibitory concentration (MIC) results showed that all extracts inhibited the growth of tested microorganisms in the range of 6.25 to 100 mg/mL. Among the extracts, ethanolic extract of Tanduk peel exhibited lowest MIC and minimum bactericidal concentration (MBC) values against B. cepacia at 6.25 mg/mL whereas for fungi, dichloromethane extract of Tanduk peel exhibited lowest MIC and minimum fungicidal concentration (MFC) values against C. albicans at 25 mg/mL. The results of MBC or MFC also showed that some extracts were bactericidal or fungicidal against certain microorganisms while others were bacteriostatic or fungistatic. It is concluded from this study that ethanol extract of Tanduk peel exhibited the most potent antimicrobial activity. Therefore, the extracts of M. paradisiaca L. peel waste could be potential source as antimicrobial alternatives and may be effective to utilize as a natural source of antimicrobial agent in pharmaceutical industries.

A STUDY ON ANGIOTENSIN CONVERTING ENZYME GENE INSERTION/ DELETION POLYMORPHISM IN CARDIOVASCULAR DISEASES

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ABSTRACT Coronary artery disease (CAD) is a common disease with significantly high morbidity and mortality. It occurs from complex interactions between variety of environmental and genetic factors. There is no strong evidence on the role of genetic factors and the extent by which they could cause this serious disease. Angiotensin converting enzyme (ACE) gene insertion/deletion polymorphism has been linked with hypertension (Sayed-Tabatabaei et al., 2006). However studies on its association with other cardiovascular diseases and specially CAD are inconsistent & not well recognized. This case control study was conducted on a total number of three hundred twenty six (326) participants that included one hundred sixty one (161) patients with coronary artery disease, attending Hospital Tengku Ampuan Afzan Kuantan (HTAA) and a matching number of control subjects who were age- and sex-matched. ACE insertion/ deletion polymorphism was analysed by polymerase chain reaction assay. There was significant association between ACE deletion polymorphism with CAD (X2 = 12.89, p ¡ 0.001). It was found that the incidence of deletion was higher in cases than in the control groups [6.74% vs 5.36%]. There was also significant difference of genotypes distribution between cases and controls (X2 = 11.40, p ¡ 0.01). It was found that the incidence of D/D was higher in cases than in the control groups [5.71% vs 4.67%]. This study found that deletion allele and D/D genotype are significantly associated with CAD. Hence, ACE deletion/insertion polymorphism may be a potential tool for genetic studies of cardiovascular disease.

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A STUDY ON EATING HABIT AMONG PUPILS AT SEKOLAH KEBANGSAAN INDERA MAHKOTA, KUANTAN, PAHANG

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Balanced dietary intake is vital to maintain the normal growth and development of children. Population mainly school-going children's nutritional status is influence by their eating habit which affects their health and academic performance. Excessive intake of unhealthy food or poor eating habit is identified as among risk factors of obesity. The number of childhood obesity is escalating sharply across the globe. The effects of poor eating habit contribute to other health problems ie: hypertension, diabetes mellitus and musculoskeletal problems. The aim of the study was to determine the trend of eating habit among pupils and their perception on healthier food. Methodology: A cross-sectional survey was conducted among 206 respondents by purposive sampling from selected primary school at East Coast region of Malaysia. The data were collected by using self administered questionnaire to assess pupils eating habit and their perception on healthy food. The data was analyzed by using SPSS version 18.0. Result: The result showed the total mean score of eating habit was 5.23 which indicate healthy eating habit whereas total mean score for the perception on healthier food was 5.15. The result revealed no significant association between gender and eating habit. In contrast, there was a significant association between standard and perception on healthier food with eating habit. Conclusion: Pupils in the selected school practiced healthy eating habit and have good perception towards healthier food. The results reflect the effectiveness of school health program (SHP) predominantly on health promotion of nutritional intake.

ACADEMIC STRESS AND COPING STRATEGIES OF FIRST YEAR IIUM MEDICAL STUDENTS

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Medicine is generally perceived as very stressful course as compared to other courses. Previous studies have reported that pressure of a challenging academic curriculum is very stressful for first year medical students. High level of stress is a risk factor for a wide range of physical and mental health-related consequences. OBJECTIVE: This study was conducted to examine the prevalence of academic stress in first year medical students of the International Islamic University Malaysia (Academic session 2012/13) and to explore the most stressful time and coping strategies in these students. METHODOLOGY/STUDY DESIGN: A cross-sectional, questionnaire-based survey was carried out involving the first year medical students of IIUM in March, 2013, while they were in the third block of the academic programme. RESULTS: One-hundred and ten students (75.3 %) participated. About fifty percent (50.9%) reported high level of academic stress. Female medical students experienced more stress. The majority of students found that near exam day was a most stressful period for them. Praying was the most frequently used coping strategy. CONCLUSION: Reducing the psychological distress of medical students prior to examination may help them to perform better in the examination. Review of curriculum and exam schedules, extracurricular activities, proper mentor system and counselling service might reduce the academic stress.

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ACUTE ORAL TOXICITY STUDY OF PHALERIA MACROCARPA (SCHEFF.) BOERL

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Acute toxicity of a single oral dose 5000mg/kg/b.w (max. dose) of Phaleria macrocarpa (Scheff.) Boerl.(PM) fruits (mesocarp & pericarp) ethanolic extract by in vivo and MTT-assay by cell line study with different concentration was evaluated. In the in vivo study, a total of twelve healthy adult male rats (SpragueDawley) 812 weeks weighing from 180 to 200 gm.Ethanolic extract of the(PM) fruits was obtained based on the procedure described by the revised UP and Down method (OECD, 425). Group-I (Control- 10% normal saline) and Group- II (treated+ PM) consist of six rats of each group. The rats were fasted (16 h) overnight and the body weight (gm) of each rat was recorded prior to the test. A fixed dose of PM fruits extract (5000mg/kg/b.w) was administered orally to each rat and observed closely at 4 h initially, then every 6 h intervals for changes. MCF-7 cells were used in the MTT-assay in cell lines study.In-vivo biochemical aspects for the treated animals serum values were similar to the control animals. Results on histological studies of liver showed that there was no periportal necrosis of the hepatocytes and no inflammation of lymphocytes and macrophages in both control and treated groups. No difference was observed in glomeruli or any other segment of kidney tubules when compared with their respective normal rats. Similarly, in vitro cytotoxicity study showed that the percentage of cell viability was 56.65% (5.00 L) and 95.62 (0.31L) but the percentage of cell viability was 106.23% at concentration of 1.25L. Findings of the present study suggest that the ethanolic extract of(PM) fruits at the dose of 5000mg/kg/b.w (maximum) non-toxic and it could be used in the next step research for animal or cell lines study.

ALTERATION OF PERIPHERAL BLOOD LYMPHOCYTES (PBL) PROFILE WITH HBSAG LEVEL IN CHRONIC HEPATITIS B INFECTION

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chronic hepatitis B infection (CHBI) is known to be associated with dysfunction of cell-mediated immunity. However, little is known about the changes of immune response during CHBI, particularly the correlation between alterations of peripheral immune cell populations with hepatitis B surface antigen (HBsAg) levels and hepatitis B e antigen (HBeAg) status. Our goal is to look into the alteration of peripheral blood lymphocytes (PBL) including B lymphocytes, NK cells and T cells subsets in patients with (CHBI) and to elucidate their correlation with the level of HBsAg (qHBsAg) and HBeAg status. Methods: the immunophenotype profile of PBLs in 50 CHB patients and 20 age and sex matched healthy donors were analysed by flowcytometry (FCM). The profile of T cell subsets in patients was also analysed based on the presence or absence of HBeAg and on the quantitation of HBsAg. Serum HBsAg was quantified by Elecsys assay (Roche Diagnostics, Germany). Results: significant alteration in PBL percentage of the T lymphocytes subset were found in patients as compared to healthy controls showing reduction in both CD4+ and CD8+ cells (p¡ 0.001) as well as reduction in CD4+/CD8+ ratio (p¡0.01). Meanwhile, there were no significant changes in other PBLs (Total T, B, and NK cells). There was no significant alteration in the percentage of T lymphocytes between HBeAg positive and HBeAg negative patients. However, an important correlation was observed between HBsAg level and the percentage of T and NK cells (r = 0.366; p¡0.01, r = 0.462; p¡0.01 respectively). Conclusion: our findings suggest that the alteration in immunological response in chronic hepatitis B infection, reflected in the significant alterations in the peripheral blood lymphocyte population subsets and serum HBsAg levels, may affect the progression of the disease process in these patients.

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AN ANALYSIS OF DISASTER-RELATED EDUCATION/ TRAINING (DRET) AMONG HOSPITALS IN SELANGOR

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Disasters are ruinous occurrences that overwhelm the community affected and also worldwide; threatening the public health and environment. In 2012 alone, the world has seen many catastrophic events such as typhoon in Philippines; floods in Thailand; floods and landslides in Assam state, India; and explosion in gas factory in Mexico, near Reynosa. Malaysia, is generally free from severe natural disasters since geographically, it is located just outside the Pacific Rim of Fire. Nonetheless, Malaysia is not spared from other disasters like flood, man-made disaster, landslide and severe haze. Thus, developing a basic training and education in relation with the increasing disaster occurrences might be crucial to prepare for disaster. Methods: A retrospective survey was conducted in ten government/general hospitals in Selangor. Universal sampling was used (n=10). The Head of Department (Emergency Department) were approached for consent before the questionnaire was distributed. Data collected was analyzed for descriptive statistics using SPSS version 19.0. Results: The results obtained showed that all hospitals had disaster plan and their respective code/call sign to activate the system. Though 7 hospitals were found to have their own disaster command system, only 6 of them have actually operated the command centre. 6 hospitals were reported to have adequate frequencies of DRET (> 5 times). Discussion: The occasional occurrence of major disasters in one of the reasons that health care organizations remain less equipped to systemically evaluate strengths and vulnerabilities of the emergency management systems and programs. Thus, the lack of disasters occurrence in Malaysia should not be the factor contributing to the deficiency in DRET performance.

ANALYSIS OF CHIEF COMPLAINT, TOOTHBRUSHING, PLAQUE SCORE, DENTAL CARE PROGRAM AND DECAY IN CHILDREN

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The objective of this study was to investigate association between chief complaint, tooth brushing frequency, plaque score, dental care program in school (DCPIS) and decay. There was a cross sectional study on randomized of 113 children attended to Student Dental Clinic at International Islamic University Malaysia. The study were done following the ethical issue of university. Patients date of birth, gender, chief complaint, brushing habits, plaque score, and DCPIS were recorded. Decay were recorded using a blunt probe, dental mirror and clear illumination. A descriptive statistical study was carried out. Differences between group were tested using chi-square (p¡0.05). The study showed 45.1% boys and 54.9% girls. Range of age were 4 till 15 years old and mean was 9.266 (0.4998). Chief complaint was 69.9% for dental check up, and 30.1% complaint of pain, orthodontic treatment or trauma. Children that has been received DCPIS were 69.9%, never or didnt know were 30.1%. Children had irregular or didnt know the tooth brushing frequency, one time, twice, and more than twice a day were 13.3%, 17.7%, 46.9% and 22.1% respectively. Subjects had high plaque score, moderate and low were 91.2%, 3.5% 5.3% respectively. Mean of tooth decayed were 4.778 (sd. 3.379). There were no significant association between plaque score, chief complaint and decay. There were a significant association between tooth brushing frequency, plaque score and dental care program in school.

ANALYTICAL METHODS FOR SHARIAH-COMPLIANT PHARMACEUTICAL FORMULATIONS MANUFACTURED BY IKOP

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Two new sensitive, rapid, and specific Reversed Phase- High Performance Liquid Chromatography (RP-HPLC) analytical methods for the analysis of antidiabetic (gliclazide) and antihypertensive (amlodipine besylate) were developed and validated in tablet dosage form formulated following Shariah guidelines by iKOP. For amlodipine: the mobile phase consisted of ammonium acetate buffer (pH=4 adjusted using glacial acetic acid) and acetonitrile in the ratio 60:40 v/v. The flow rate was maintained 1 ml/min and UV detector was used for the detection of amlodipine at wavelength 248 nm. The method was validated according to ICH guidelines. The results showed that the retention time for amlodipine peak was 3.4370.41 min with the total run time of 6 min. The method was found linear over the range 0.1-40 g/ml with correlation coefficient (R2) = 0.999. For gliclazide, the mobile phase was a mixture of Triethanolamine buffer (pH=3 adjusted using phosphoric acid) and ACN 60:40 v/v. The flow rate was maintained 1 ml/min and UV detector was used for the detection of gliclazide at wavelength 229 nm. The method was validated according to ICH guidelines. The retention time for gliclazide peak was 3.790.41 min with the total run time of 6 min. The method was found linear over the range 0.1- 40 g/ml with correlation coefficient (R2) = 0.999. Both methods showed high recovery with 98.09-100.19 %, and the methods showed high precision and repeatability. In human plasma, one specific method was developed to determine both drugs simultaneously. The aim of developing one method for both drugs is to reduce time and cost consumption. Glipenclamide was used as internal standard and the drugs were extracted from plasma using dichloromethane. The recovery was 89%, 91% and 86% for amlodipine, gliclazide and glebinclamide respectively. This method can be used for both drugs simultaneously or for each of them individually. For cleaning process, an HPLC method was developed for the detection of residual drugs of amlodipine, gliclazide, cetirizine, mefemanic acid, sodium diclofenac and diazepam in production area and wastewater. Drugs were extracted using SPE method and the detection limits (LOD) ranged from 50 to 75 ppm. The method showed linear concentration ranges from 25 to 800 ppm with regression coefficients (R2) better than 0.99.

ANTI- FERTILITY EFFECTS OF TRIGONELLA FOENUM GRAECUM L. (FENUGREEK) SEEDS AQUEOUS EXTRACT.

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Despite a variety of contemporary methods for contraception, some women still rely on herbal plants as anti-fertility agent based on its common use for many years, passed down from generation to generation. One of these herbal plants is Trigonella foenum-graecum (fenugreek). This study aimed to evaluate the effect of fenugreek seeds aqueous extract on fertility of female rats. Twenty four healthy adult female rats with normal estrous cycle were divided into 3 groups. A control group received distilled water as vehicle. Animals in group 2 and 3 were fed orally with 250 mg/kg and 500 mg/kg body weight of fenugreek seeds aqueous extract respectively for 15 days. Vaginal smear cytology was examined daily and blood was taken on day 16 to assay for serum estrogen and progesterone level. Animals from group 3 were involved in the reversibility study; vaginal smear observation was continued for the following 15 days after the withdrawal of treatment and then blood was taken from these animals. The results showed that the extract caused irregularities in the duration of estrous cycle with significant prolongation of pro estrous cycle from 4 days in control group to 7 days in group 2 and 8 days in group 3. It also shortened the duration of the metestrus and diestrus stage in both treatment groups when compared to control group. Fenugreek aqueous extract also caused non dose dependent reduction in serum estrogen concentration and dose dependent reduction in serum progesterone concentration. These changes were significantly different (p¡0.05) at the dose of 500 mg/kg when compared to control group. After 15 days of treatment withdrawal, serum estrogen and progesterone concentration increased with no significant difference (p¿0.05) to the control group and the estrous cycle slowly returned to its normal cycle after 10-15 days of withdrawal. In conclusion, the aqueous extract of fenugreek seeds has reversible anti fertility effects on female rats.

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ANTICANCER ACTIVITIES OF -MANGOSTIN EXTRACTED FROM GARCINIA MALACCENSIS AGAINST HUMAN HEAD NECK SQUAMOUS CELL CARCINOMA CELLS

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Head neck squamous cell carcinoma (HNSCC) is one of malignant tumors with poor prognosis resulting in major morbidity and mortality. The actual curative treatment is usually chemotherapy with concurrent radiation, sometimes combined with surgery. Unfortunately, the strength of the drugs used in chemotherapy causes side effects that can bring discomfort and inconvenience. Herbal remedies have been used for thousands of years with very minimal side effects and clearly merit extended research for their ability to selectively kill cancer cells. Garcinia malaccensis (bird mangosteen) is an endemic mangosteen species in Malaysia and closely resembles G. mangostana (mangosteen). The genus of Garcinia is well known as a medicinal plant in Southeast Asia. Recent studies have revealed that -mangostin, a xanthone from the pericarps of G. mangostana exhibits anti-cancer activities in various human cancer cells. However, no attempt has been made to explore the potential benefits of this xantone for treatment and/or prevention of HNSCC. Previously, we have isolated -mangostin from G. malaccensis and performed the initial cytotoxicity screening on several cancer cell lines. Here, we report that -mangostin exhibits anti-proliferative effect and induces apoptosis in HNSCC cell lines HSC-3 and Ca922. MTT assay showed that -mangostin markedly reduce the viability of HSC-3 and Ca922 cells in a dose- and time-dependent manner. The apoptosis induced by -mangostin was clearly detected by cytometer in both cell lines and quantitative RT-PCR analysis revealed that apoptotic activity induced by -mangostin in HSC-3 and Ca922 cells is associated with an up-regulation of caspase-3, -8 and pro-apoptotic PUMA genes. Moreover, we also found that -mangostin treatment enhances chemosensitivity of both cancer cells to chemotherapeutic drug Doxorubicin as determined by Trypan blue exclusion test. Taken together, these results identify -mangostin as a potential therapeutic agent for human HNSCC.

ANTIMICROBIAL ACTIVITY OF BACCAUREA ANGULATA EXTRACTS ON HUMAN PATHOGENS

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Methanolic, ethanolic, and aqueous extracts of lyophilized Baccaurea angulata skin, berry and whole fruits were evaluated for antimicrobial activity. The anitimicrobial activity was tested by paper disc diffusion, agar well diffusion methods and by microdilution technique against nine pathogenic microorganism (Staphylococcus aureus, Streptococcus pneumonia, Streptococcus epidermidis, Clostridium botulinum, Escherichia coli, Psedomonasaeruginosa, Klebsiella pneumonia, Salmonella paratyphiA and Candida albicans). K. pneumonia was most susceptible to the ethanolic and aqueous extracts of BA skin. Methanolic extracts of BA skin and whole fruit have been shown to possess the antimicrobial activity against S. epidermidisand C. albicans. The BA berry of methanolic and aqueous extracts recorded antimicrobial activity against C. albicansand S. pneumonia, respectively. It was concluded that the extracts from various parts of BA may be considered as promising resources for potential novel antimicrobial agents. Key words: Antimicrobial activity, plant extract, Baccaurea angulata.

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APOLIPOPROTEIN E AND TYPE II DIABETES - A CASE CONTROL STUDY

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BACKGROUND: Type II diabetes mellitus (T2DM) is a rapidly progressing diseases and already reached at the level of epidemic in Malaysia. The rapidly increasing prevalence of T2DM is thought to be due to the environmental factors acting on the genetically susceptible individuals. The Apolipoprotein E (APOE) gene polymorphisms have been suggested as risk factors for the development of T2DM and its related health morbidities a decade ago. Numerous studies were carried out around the world. Scarcity of similar studies in Malaysia is excruciating and demand of the time. Hence this study was aimed at evaluating the distribution of the APOE alleles and checks its relationship with the Fasting Blood Glucose (FBG) level among the T2DM subjects in selected communities. RESEARCH METHODOLOGY: This case-control study was conducted between the T2DM (case) and Non-Diabetes (control) study subjects. Approach to the study subjects was individually. Overnight fasting (¿8h) blood sample was collected from each subjects after completion of a short questionnaire and signing the informed written consent. FBG level was measured following Glucose-Oxydase method. APOE gene polymorphisms were identified following Restriction Fragment Length Polymorphism (RFLP) technique. Standard kit was used to extract genomic DNA (Invisorb Spin Blood Mini kit) and to amplify the APOE Gene using Polymerase Chain Reaction (TopTaq Master Mix Kit, QIAGEN, Germany). HhaI restriction enzyme was used to cut the PCR amplified gene product into several diagnostic bands those were visualized in 4% Agarose gel in Ultra-Violet trans-illumination chamber. Statistical analyses were done using Predictive Analysis SoftWare (PASW), version 18. RESULTS: There were a total of 102 study subjects recruited in this study; 51 were in the control group and 51 in the case group. The studied groups were statistical similar in terms of their ethnicity (2(df=1)=0.00, p=1.00), gender (2(df=1)=1.44, p=0.23), age distribution (2(df=2)=5.76, p=0.33) as well as their mean age (t= -0.94, p=0.35, 95%CI:3.64,4.95). There is a significant difference (t=13.01, p=¡0.001, 95%CI:-6.05, 2.17) in FBG level between the study groups. Distribution Of the APOE Genotypes and alleles were not found to be significant (2(df=2)=1.08, p=0.58) between the groups. However, a significant deviation was observed in the control group (p=0.0007) from the Hardy-Weinberg Equilibrium, especially among the Malay control subjects (p=0.0002), which necessitate further research. Analyses for the association with the T2DM disease occurrence showed that the allele held the highest responsibility for the T2DM (OR=1.51, 95%CI:0.615,3.706) followed by the allele (OR=1.12, 95%CI:0.584,2.131) and allele (OR=0.77, 95%CI:0.431,1.375). Both the (p=0.026) and (p=0.036) alleles were found to be related with significantly higher FBG compared to the allele within the T2DM group. CONCLUSION: The APOE Gene polymorphisms were found to be associated with FBG of the T2DM subjects although it is not found to be associated with the disease occurrence.

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ARTIFICIAL INTELLIGENCE TECHNIQUE FOR RETINAL VESSEL SEGMENTATION

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Cardiovascular disease (CVD) is the leading cause of death and a source of substantial socio-economic burden on the Malaysian community. As estimated, 63% of the population had at least one cardiovascular risk factor with hypertension having the highest prevalence. Globally, an estimated 17.3 million deaths were attributable to CVD in 2008 and by 2030, almost 23.6 million people is projected to die from CVD. The prevention of CVD is thus undeniably a major national and international health priority. Retinal vasculature pattern has extensively been studied as a tool for targeting preventive treatment at persons who do not exhibit symptoms but at high risk of CVD. However, limited access to the state-of-the-art software to analyze the vasculature prevent further research in Malaysia. This research work is aimed to develop a software based on artificial intelligence technique. It is able to learn from human experts drawing and classify pixels as vessel and non-vessel.

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ASSESSMENT OF NEUROPROTECTIVE POTENTIAL OF TUALANG HONEY IN ALZHEIMER MODEL OF RATS.

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Reduction in cerebral blood flow (CBF) due to aging has been associated with neurodegenerative disorders including Alzheimers disease and dementia. Experimentally, a condition of chronic cerebral hypoperfusion due to reduced CBF can be induced by permanent bilateral occlusion of common carotid arteries (2-vessel occlusion, 2VO) in rats. Honey is a natural product that has been widely used since long time as a nutrient, for its therapeutic effects in traditional medicine, and recently as an antioxidant. Since oxidative stress leading to neuroinflammation, resulting in neuronal apoptosis and death, is one of the mechanisms which is thought to play a significant role in chronic degenerative neurological disorders, the present study was planned to assess the neuroprotective role of Honey in chronic cerebral hypoperfusion-induced neurodegeneration. After acclimatization, thirty Sprague Dawley rats weighing 200-250 g were equally divided into three groups. Group A sham control, Group B 2VO, and Group C 2VO-H (treated daily with Honey (1.2 g/kg freshly diluted with distilled water, orally by 30 gavage every morning following 2VO). At 10th week, all the rats were euthanized and the hippocampi were isolated. Viable neuronal cell were count in the hippocampal CA-1 region. The results showed damaged, distorted, irregular cells with shrunken cytoplasm and dark pykonotic nuclei in 2VO rats as compared to sham control (p¡0.001). Treatment of rats with honey restored the hippocampal cells to their normal structure and revealed the reduced loss of neurons in 2VO+H rats as compared to untreated 2VO rats (p¡0.001). This study shows that Malaysian tualang honey might have therapeutic potential for the treatment of chronic cerebral hypoperfusion related neurodegenerative disorders including Alzheimers disease.

ASSOCIATIONS BETWEEN BODY MASS INDEX, BODY FAT, SUGAR CRAVING AND EATING BEHAVIOUR.

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Background. The increase of obesity cases in Malaysia is related to excessive intake of sugar among the population, hence the exponential hike and early onset of non-communicable diseases. Sugar is known as the most-craved food form in human. While psychological factors markedly contribute to food intake, it is useful to investigate specific eating behaviour trait that influences sugar craving, in which subsequently favours positive calorie balance and increased body weight. Objectives. 1) To measure the relationship between sugar craving intensity and anthropometric measurements, 2) To investigate the association of sugar craving intensity and eating behaviour. Methodology. Adult volunteers (age 19-59y; 39 male, 80 female) were recruited at multiple centres in Kuantan, Pahang. Subjects were asked to complete 2 sets of questionnaires, 1) the Sugar Craving Assessment Tool for Malaysian (MySCAT) to determined sugar craving intensity (total score 0 to 120) and 2) the Dutch Eating Behaviour Questionnaires (DEBQ), to assess external (EX), emotional (EM) and restraint (R) eating behaviour. Demographic and anthropometric measurements (weight, height and body fat) were also collected. Results. Findings showed data for 119 adults with mean age = 36.8y, BMI=25.5 kg/m2, body fat= 31% and total MySCAT score = 38.3/120. Eating behaviour were influenced most by external factors (84.9%), followed by restraint (70.6%) and the least was emotional (29.4%). Subjects who were restraint-eaters showed significantly higher BMI (26.6 vs. 22.9 kg/m2, p¡0.001) and body fat (32.0 vs. 28.6%, p=0.008). Meanwhile, subjects who were emotional- and external-eaters showed higher intensity of sugar craving than those who were not (EMaffected= 44.0, EMnot affected=35.9, p=0.004 and EXaffected=40.1, EXnot affected=28.4, p=0.001). However, there is no significant correlation detected between sugar craving with BMI, body fat and eating behaviour. Conclusion. Although there is no direct association between sugar craving intensity and anthropometric measurement, adults with higher BMI are more likely to be affected by restraint factors in their eating habit, often following attempt to reduce food intake via dieting. Emotional and external factors lead to sugar craving, most probably due to comforting effects of sugar-containing food items.

HaAS 18

ATTITUDES OF HEALTH CARE PERSONNEL TOWARDS FAMILY PRESENCE DURING RESUSCITATION

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Introduction: Traditionally, resuscitation is done by groups of health care personnel alone where family members are excluded from witnessing this procedure. However, family presence during resuscitation (FPDR) remained a controversial issue worldwide although some recognized professional bodies now offering support to this practice. Objectives: This study attempts to examine the attitudes of health care personnel towards allowing FDPR in Malaysia, to determine the association between socio-demographic data and to compare attitudes towards family presence during resuscitation on different profession. Methodology: A cross-sectional study with simple random sampling was carried out to 180 health care personnel (n=70 doctors, n=81 Registered Nurses; n=79 Assistant Medical Officers) working at Emergency & Trauma Department, Coronary Care Unit and Intensive Care Unit of Sungai Buloh Hospital, Selangor. A total of 153 health care personnel responded with response rate of 88%. The chi-square test was used to identify the association of socio-demographic data with the attitude towards FPDR among health care personnel. Results: It was shown that 74.1% of health care personnel in this study have negative attitudes towards FPDR. There were significant association between age (p=0.038) and previous experience (p=0.004) with attitude towards FPDR. The findings showed there is no difference between professions of health care personnels attitude (p=0.410). Conclusion: The findings clarified that majority of health care personnel in this study have negative attitude towards FPDR.

AWARENESS OF SEXUALLY TRANSMITTED DISEASE AMONG SECONDARY SCHOOL STUDENTS IN KUANTAN PAHANG

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Introduction: Sexually transmitted diseases (STDs) are infections generally acquired by sexual contact. The risk of STDs increases among teenagers and will become worst if not prevented from its early stages. STDs can be prevented if the awareness of STDs is high. Objectives: The aim of the study is to identify STDs awareness and its demographic data. Method: A cross-sectional study was conducted at two schools in Kuantan, Pahang. The two schools were selected from 42 of secondary schools by using simple random sampling. By choosing form 4 students from secondary schools, STDs awareness was assessed using a self-administered questionnaire containing part 1 and part 2 questions. The level of awareness among secondary school students was scored by marks. The level of awareness about STDs was calculated based on the knowledge of the students that answered the questions. The maximum mark was 33 and the level of scoring was from 0-10 for low level of awareness, 11-22 for moderate level of awareness and 23-33 for high level of knowledge. The data had been analyzed by using PASW Statistics Version 18.0 in terms of descriptive statistics, Mann Whitney test and Kruskal-Wallis. Result: A total of 266 students with informed consent had participated. The number of female students who answered the questionnaires was 134 (50.4%) and the number of the male students was 132 (49.6%). The results showed that 258 (97%) of the students knew about HIV/AIDS, 143 (53.8%) of the students knew about HPV and 90 (33.8%) knew about hepatitis. It was shown that 215 (80.8%) of students knew that having unprotected sex increased the risk of getting STDs. Most of the students knew about STDs from doctors, nurses, and others health care provider 183 (68.8%). Yet, 186 (69.9%) students from the schools admitted that they did not know what STDs. Based on the result, the number of students who had low level of awareness about STDs was 36 (13.5%) and for high level of awareness of STDs was 12 (4.5%). Socioeconomic status of the parents among students was highest for students that had moderate socioeconomic status, 157 (59%). The students who had parents with low income was 62 (23.3%), while for high income the number was 47 (17.7%).The awareness of the STDs among secondary schools is moderate. The results also showed that there was a significant between the income of parents and the awareness of STDs, (Chi-square= 11.02, p¡0.004). However, there was no significance between different genders (z-score= -1.943, p¿0.05 and courses (0.455, p¿0.005) for the awareness of STDs. Conclusion: The knowledge of the students in Kuantan is moderate and in order to increase the knowledge, health education must to be provided in schools by health care providers, teachers and lastly the government needs to give support in order to increase the knowledge of students about STDs.

BELIMING DAYAK (BACCAUREA ANGULATA) FIBER: A POTENTIAL SOURCE OF ANTIOXIDANT AND DIETARY FIBER IN BISCUIT

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: The recent NHMS 2011 found that 15.2% of adult above 18 years old suffering diabetes (1) in comparison to 11.6% in NHMS III (2006)(2). The statistic is doubling within only a decade, where NHMS III result was already reached the projected prevalence for year 2025 estimated by the International Diabetes Federation (IDF) in 2003(3). Alternative way in tackling this problem is by consuming food with high content of fiber such as fruits and vegetables. Many studies have shown fiber can improve blood glucose regulation and thus less risk of having diabetes. Besides, it also rich in antioxidant , which has important role in protection from diseases due to oxidation damage. In the present study, hot air dried B.angulata fiber was incorporated in production of biscuit and chemical properties of the biscuits was studied. Full fat biscuit with 20% shows the highest total dietary fiber with 6.652.90 g/100g. Moreover, the total antioxidant activity for DPPH and ABTS were significantly higher in full fat biscuit with 20% fiber as compared to full fat control biscuit. IC50 result showed the best inhibition activity for full fat 20% fiber biscuit for ABTS and 40% fat with 10% fiber biscuit for DPPH.

CONCERNS OF HEALTH HAZARDS ASSOCIATED WITH HEAVY METALS CONTAMINATION IN LOCALLY SOURCED TRADITIONAL MEDICINES

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Traditional medicine (TM) mainly herbal origin is considered the oldest therapeutic system known to mankind. Recently there was a potential growth in the global consumption of TM. In Malaysia a significant proportion of the population is depending on TM for some aspect of their primary health care. The global widespread of TM had initiated many concerns regarding to the safety and efficacy of such products by many health institutes. Some herbal products might be toxic due to the presence of toxic substances such as heavy metals. The existence of heavy metals in such products is either from the raw material it self or they might arise during the processing part. Arsenic (As), cadmium (Cd), lead (Pb) and nickel (Ni) are often reported to be found in TM products. Prolong exposure to such metals cause adverse health effects due to their ability to bioaccumulate in vital organs and subsequently causing various diseases including cancer even at relatively low concentrations. Hence, this study was designed with a prime focus of detecting the amount of heavy metals namely As, Cd, Pb and Ni in locally available traditional medicines both registered and unregistered medicinal products with Malaysian Drug Control Authority (DCA). The determination of heavy metals was conducted using Atomic Absorption Spectrometer (AAS). A total of sixty TM samples in various dosage forms were purchased from different places in three major states of the East Coast Region of Malaysia namely Pahang, Terengganu and Kelantan. Among the sixty TM samples it was found that As, Cd, Pb and Ni were present in 43%, 81%, 90% and 100%,of the total samples with a concentrations range of 0.214-1.325, 0.1-1.23, 1.2-19.3 and 2.01-36.3 g/g respectively. The results further revealed the fact that 36 % and 10% of samples were contained Cd and Pb above the permissible limit of heavy metals in TM products set by National Pharmaceutical Control Bureau (NPCB). The accuracy and precession of the analytical method were confirmed by checking the recovery percentages and the relative standard deviation (RSD) for QC samples which were ranged from 95.12-102.4 and 3.23-0.2 respectively. All the validation results were within the specification limit of American Organization of Analytical Chemistry (AOAC) guideline.

DEPRESSION, ANXIETY AND STRESS LEVEL OF TYPE -2 DIABETES MELLITUS PATIENTS FROM A SELECTED PRIMARY CARE CLINIC IN KUANTAN, PAHANG

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Introduction: Modern stressors such as financial worries, deadline pressures at work or school, as well as unnecessary physical stressors such as excessive caloric intake, obesity, and inactivity chronically activate the hypothalamic-pituitary-adrenal axis, leading to adverse health consequences such as increased rates of cardiovascular diseases, diabetes, and mood disorders like depression and anxiety. The relationship between chronic stress, depression, and anxiety is complex and incredibly powerful. Based on the facts, stress, anxiety and depression might affect together on patients with DM through physiological mechanism and via health related behavior particularly poor compliance of treatment and diet control. Methods: A cross sectional study was carried out. The respondents were selected through random sampling from the list of patients who attended the diabetic clinic in a selected primary care clinic in Kuantan, Pahang during the study period from 1st July 2013 to 31st August 2013. Depression, anxiety and stress level of the patients were assessed by using self-reported answer on the validated Depression and Anxiety Stress Scales 21(DASS-21) Malay version within stipulated time. Four rating scores of the patients on DASS-21 questions were analyzed to determine the level and prevalence of depression, anxiety and stress among type-2 DM patients. Background socio-demo-economic status and clinical profiles were assessed by using a pre-tested verified questionnaire. A correlation matrix was done to infer the relationship of depression, anxiety and stress of the type-2 DM patients. A cross analysis was done to find out the influences of background socio-demo-economic status and clinical profiles of the type-2 DM patients on their depression, anxiety and stress status. Results: A total of 103 Type 2 DM patients agreed to participate in the study. The study revealed that the prevalence of depression, anxiety and stress among type 2 DM are 12.6%, 20.4% and 9.7 % respectively. There are significance correlation in between the relationship of depression, anxiety and stress among Type-2 DM but there are no significance difference variables in between Type-2 DM patients with DAS group and non DAS group except in female gender. Conclusion: Regular assessing DAS status and Psychological support/therapy to relieve anxiety and stress together with anti-depressant medication should be considered as a holistic care to assist in glycemic control and to improve quality of life of DM patients. A further study should be conducted with extended sample size to get more valid data regarding this issue.

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DESIGN & DEVELOPMENT OF GASTRORETENTIVE DRUG DELIVERY SYSTEM OF METFORMIN HCL

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An oral sustained-release floating tablet formulation of metformin HCl was designed and developed. Effervescence and swelling properties were attributed on the developed tablets by sodium bicarbonate and HPMC-PEO polymer combination respectively. Tablet composition was optimized by response surface methodology (RSM). Seventeen (17) trial formulations were analyzed according to Box-Behnken design of experiment where polymer content of HPMC and PEO at 1:4 ratio (A), amount of sodium bi-carbonate (B), and amount of SSG (C) were adopted as independent variables. Floating lag time in sec (Y1), cumulative percent drug released at 1 h (Y2) and 12 h (Y3) were chosen as response variables. Tablets from the optimized formulation were also stored at accelerated stability condition (40C and 75% RH) for 3 months to assess their stability profile. RSM could efficiently optimize the tablet composition with excellent prediction ability. In-vitro drug release until 12 h, floating lag time, and duration of floating were dependent on amount of three selected independent variables. Optimized tablets remained floating for more than 24 h with a floating lag time of less than 4 minutes. Based on best fitting method, optimized formulation was found to follow Korsmeyer-Peppas release kinetic. Accelerated stability study revealed that optimized formulation was stable for three months without any major changes in assay, dissolution profile, floating lag time and other physical properties.

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DISTRIBUTION OF TONGKAT ALI (EURYCOMA SPP.) IN MALAYSIA

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Eurycoma longifolia is one of the two recorded species of the genus Eurycoma, it is also known locally as Tongkat Ali and considered the most popular medicinal plant in Malaysia. It is widely acclaimed for its energy boosting and aphrosidiac properties. However, the tremendous attention given to this plant by the public for its medicinal and nutriceutical properties has led to its nonselective harvesting at a very alarming rate, thus posing existential threat to the species. Moreover, plant genetic resources collection and conservation using random basic sampling strategy, is expensive, time consuming and high labour demanding. In order to provide the background data on which the E. species collection expeditions would be based, a herbarium survey was conducted in three major Malaysian herbaria located at: 1. Universiti Kebangsaan Malaysia (UKM), 2. Forest Research Institute of Malaysia (FRIM) and 3. Malaysian Agricultural Research and Development Institute (MARDI). Data were recorded using the specimen information and labels. Then, FloraMapR software was used to map the probability distributions of each species in the country. Results revealed that of the herbarium specimens examined, 72% were longifolia species, while 28% were apiculata. However, data did not cover Sabah and Sarawak. For Eurycoma, the two species to be targeted are E. longifolia and E. apicula. Among the two species, longifolia should be given priority. The information gathered from findings can be used to plan collection routes as well as develop sampling strategy.

DOSE RELATED PROLIFERATIVE CHANGES IN THE PROSTATE OF RATS INDUCED BY EURYCOMA LONGIFOLIA JACK (TONGKAT ALI) EXTRACT

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Eurycoma longifolia jack(E.L) root extract has become famous for giving enhanced sexual performance ability through elevation of serum testosterone levels in males. However, although very widely used, its possible adverse effects are poorly studied .The objective of this study is to find out if there are any pathological changes that occur in the prostate of rats due to consumption of E.L. root extract. Methodology:45 male rats where used in this study , they were divided into three groups ,group(A) contain 5 rats that represent the control group who did not receive any treatment, group (B) with 20 rats ,received 5mg/Kg twice daily of 100:1 freeze dried water extract of Eurycoma longifolia Jack roots and group (C) with 20 rats received 10mg/kg body weight twice daily of the same extract .The duration of treatment for both groups was 4 weeks. At the end of the experiment, blood was obtained from the rats and serum testosterone level (T) was analyzed. The rats were then terminated and the prostate was removed, weighed and its dimensions measured, then it was processed into haematoxiline and eosin stained slides which were observed under light microscope. Results: Group C showed a significant increase in prostate size, weight and serum T. Histopathological examination of the specimens revealed that there were no significant observable changes in group B in comparison with the control group while group C showed a marked cell proliferation of the prostatic gland lining epithelium that appeared as stratification and intraglandular villus formation of the usual single layer columnar epithelium. Areas of mild dysplastic changes were observed in the lining epithelium characterized by nuclear enlargement and irregularities in the nuclear membrane and hyperchromatism. These dysplastic changes were equivalent to low grade prostatic intraepithelial neoplasia PIN. Conclusion: E.L. root extract can cause abnormal proliferation in the prostatic epithelium and these changes are dose dependant.

DOSE-DEPENDENCE OF DIETARY ANTIOXIDANTS IN THEIR BIOLOGICAL ACTION FOR RESEARCH IN HUMAN CHRONIC DISEASE

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Dietary antioxidants are substances in foods that significantly decrease the adverse effects of reactive oxygen species, reactive nitrogen species, or both on normal physiological function in humans. Mostly found in fruits and vegetables, they prevent free radicals from attacking cells and damaging DNA. Epidemiological evidences have suggested that intake of fruits and vegetables reduces the risk of both cancer and cardiovascular disease. Flavonoids, carotenoids, vitamin C, vitamin E and selenium are the major dietary antioxidants. Several large intervention studies have thus been conducted with beta-carotene and vitamin E, leading investigations on chemoprevention of chronic diseases with dietary antioxidants. However, beta-carotene supplementation has shown not only positive but also negative effects on human health. The antioxidant activity of these compounds may shift into prooxidant activity, depending on the redox potential of the carotenoid molecules as well as on the biological environment in which they act. The prooxidant potency of these compounds is determined by several factors, including oxygen tension, carotenoid concentration, and interactions with other antioxidants. Prooxidant activity can induce harmful results in biologic systems and influence the development of human chronic diseases.

EFFECT OF LONG-TERM USE OF EURYCOMA LONGIFOLIA JACK ON THE LIVER

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In present years, the use of Eurycoma longifolia Jack (ELJ) (Tongkat Ali) has increased dramatically in Southeast Asia especially Malaysia where it is widely used as aphrodisiac and anti-malarial agents. Interestingly, its consumption has become popular in daily life as beverage to enhance energy and stamina especially among males. However, its effect on the safety of vital organs of the body is not studied properly. Hence, the main objective of this study was to determine whether or not long-term use of ELJ has side effects on liver in rats. Three different concentrations of aqueous extract of ELJ were prepared and dissolved in distilled water, a total of thirty two Sprague-Dawley male rats were used and randomly divided into three test groups and control. The three test groups were given different doses (low dose 250 mg/kg bw, medium dose 500 mg /kg bw and high dose 1000 mg/kg bw) of aqueous extract of ELJ, respectively. Control group was given distilled water alone. Doses were given orally and daily for about 5 weeks. After thirty days, animals were sacrificed; whole liver tissues were obtained, fixed in 10 percent formaldehyde solution overnight for histological examination. Histological observations were showed mild to moderate degrees of hemorrhage, hepatocytes degeneration and severe fatty changes in liver tissue of the test groups treated with ELJ with comparable to control. As a conclusion, the long-term daily consumption of ELJ as beverage may cause fatty changes, hemorrhage and hepatocytes degeneration in the liver tissue when taken in large quantity for long time.

EFFECTS OF NONSURGICAL PERIODONTAL THERAPY ON BLOOD PARAMETERS AND ESR IN PATIENTS WITH CHRONIC PERIODONTITIS

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Objectives: The aim of this study was to determine if nonsurgical periodontal therapy has any effect on leukocytes, erythrocytes, haemoglobin and ESR in subjects diagnosed with chronic periodontitis. Materials and method: After obtaining the ethical approval from the ethics committee of the International Islamic University Malaysia, 25 systematically healthy Malaysian subjects diagnosed with chronic periodontitis were recruited for the study. Oral hygiene instructions and nonsurgical periodontal treatment were performed. The clinical periodontal parameters including full mouth plaque scores, bleeding on probing, pocket depth and clinical attachment loss were recorded and re-assessed 3 months after the treatment completion. Complete blood count and ESR at baseline and 3 months after the periodontal treatment were determined from peripheral blood samples. Results: Nonsurgical periodontal therapy resulted in significant reduction in the white blood cells (WBC), where the average WBC decreased from 8.3 103/uL at baseline to 7.6 103/uL, after 3 months of periodontal therapy; (p=0.038), and significant decrease in the monitored erythrocyte sedimentation rate (ESR) from 8.3 mm/hr to 5.9 mm/hr (p=0.033). However, the results of this study failed to show significant difference in the erythrocytes and haemoglobin (p¿0.05) after the marked improvement in the scored clinical periodontal parameters in response to the periodontal therapy. Conclusion: This study provided evidence that periodontitis has systemic effect and the nonsurgical periodontal therapy results in a significant reduction in the white blood cells count and ESR.

EFFECTS OF PERIODONTAL TREATMENT ON HIGH-SENSITIVE C-REACTIVE PROTEIN IN PATIENTS WITH CHRONIC PERIODONTITIS

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Objectives: The aim of this study was to assess the outcome of the nonsurgical periodontal treatment in term of its effect on the high-sensitive C-reactive protein (hs-CRP) in consecutive subjects diagnosed with chronic periodontitis. Materials and method: 25 systematically healthy subjects diagnosed with chronic periodontitis were recruited for the study after obtaining the ethical approval from the ethics committee of the International Islamic University Malaysia. Detailed oral hygiene instruction and standard periodontal therapy were performed. Full clinical periodontal parameters including full mouth plaque scores, bleeding on probing, pocket depth and clinical attachment loss were recorded and re-evaluated 3 months after the treatment completion. Blood samples were collected to determine the hs-CRP at baseline and 3 months after the periodontal treatment. Results: Nonsurgical periodontal therapy resulted in significant reduction in the serum CRP level where the average CRP decreased from 1.8 mg/L at baseline to 1.6 mg/L (p=0.009) after 3 months of periodontal therapy, and this reduction marked the improvement in the recorded clinical periodontal parameters. Conclusion: This study demonstrated that nonsurgical periodontal therapy results in a significant reduction in the serum CRP level of Malaysian patients with chronic periodontitis.

EVALUATION OF ORAL HEALTH EDUCATION PUPPET SHOWS CONDUCTED BY 3RD YEAR DENTAL STUDENTS KULLIYYAH OF DENTISTRY, INTERNATIONAL ISLAMIC UNIVERSITY, MALAYSIA

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Background: Providing Oral Health Education (OHE) is of utmost importance to prevent common oral diseases such as dental caries and periodontal diseases for all including preschool children. OHE puppet show is a special kind of edutainment program to convey oral health education information to preschool children to assist in keeping good oral hygiene practices since childhood. Thus, all 3rd year dental students have to perform OHE puppet shows as a group activity for the preschoolers who visit to Kulliyyah of Dentistry, under dental public health curriculum in their clinical years of BDS course of International Islamic University, Malaysia. There were 4 OHE puppet shows conducted by the 3rd year dental students in 2012-2013 academic year. Objective: To evaluate the effectiveness of oral health education puppet show conducted by 3rd Year dental students for preschool children. Methods: A mixed method design was applied to evaluate the effectiveness of OHE puppet shows which were conducted at Kulliyyah of Dentistry, International Islamic University, Malaysia in 2013. The scripts and performances of puppet show were analysed by using a qualitative documentary analysis approach. Theme, number of character used and performance style including using audio-visual aids were considered to grade the scripts and performances as good, acceptable and need to be improved. A quantitative assessment was done by using a semi-structured questionnaire in face to face interview with 101 preschool children after 4 OHE puppet shows to explore their perception on and receiving OHE information from it such as tooth brushing, sweet consumption, suffering toothache because of caries and consulting with dentist for toothache. A cross analysis between OHE information received by the preschool children and the grade of scripts and performances of OHE puppets shows they enjoyed. Results: Among 4 scripts and performances of OHE puppet shows, one was graded as good, two were acceptable and one was need to be improved. The script and performance which was graded as good one used 4 characters to play the puppet show, but the other three used only 3 characters. Audio-visual aids for background scenes and music were applied in all performance except the one graded as need to be improved. Participatory style of performance - inviting children to participate in tooth brushing scene- was noticed in the two puppet shows graded as acceptable. Out of 101 preschool children (4- 6 years old), 61% of them liked too much OHE puppet shows while 38% just liked it. Sixteen percents of preschool children received three or all of four facts of OHE information, 66% received one or two facts and 18% could not remember any fact. A significant influence of OHE puppet show performance on receiving OHE information by preschool children was noticed. Conclusion: This study highlighted the effectiveness of OHE puppet show edutainment among preschool children. Performances of OHE puppet shows conducted by the dental students significantly influenced on receiving OHE information by their audiences. Thus, dental students should be coached to produce effective OHE puppet shows for pre-school children.

FACTORS RELATED TO FREQUENT ADMISSIONS IN PSYCHIATRIC WARD

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Malaysia is among those countries that are following the trend of decentralization of Psychiatric Services. This devolutionary process observed a great number of chronic mentally ill patients returning to the relatives. Presently the Psychiatric hospital is performing like the other psychiatric units of General hospitals and there is no more transfer for long-term stay. It has been noted that with reduction in number of patients in the Psychiatric hospitals in Malaysia, the Psychiatric department of general hospitals became overloaded. Rehospitalisation is not an uncommon issue among Psychiatric patients. High readmission rate has been often measured as poor prognostic out comes in Psychiatric patients. More significantly, an elevated readmission rate can reveal a large number of patients who cannot be adequately contained in communities and can be used as a marker of insufficiency or inappropriateness of community-based after care.3 Furthermore there has been a huge amount of health budget consumed while the patients are admitted and the readmission rate is considered as a performance indicator. Therefore, the aim of this study is to find out the social, demographic, and clinical profile of frequently re-hospitalized psychiatric patients. There are several collaborative studies explored the risks and rates of readmission and their predictors but the data attained from this effort shall reflect the factual situation in Malaysian population.

FOOD SECURITY STATUS OF UNIVERSITY STUDENTS IN KUANTAN

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Food security can be defined as the availability of and accessibility to food, acquired in an acceptable means at any given time and place in a way that could maintain health and well-being. Food insecurity exists whenever people are unable to have access to sufficient food. This study aims to identify the determinants and prevalence of food insecurity among IIUM Kuantan students population. Demographic background, spending expenditure pattern, food availability and accessibility were being assessed through a self-administered questionnaire. The US Adult Food Security Survey Module was utilized to categorize food security status. A total of 316 students from all Kulliyah in IIUM Kuantan campus were selected through stratified random sampling. From 307 students who completed the questionnaire, 54.4% were found to experience food insecurity, with 32.9% low food security and 21.5% very low food security. Food security status was found to be significantly related to spending on books and miscellaneous items (p=0.006), parents income (p¡0.001) and scholarship sources (p¡0.001). In addition, most of the students reported that food availability and choices were their major problem concerning their food security status. Financial management appeared to be critical concern in this study. The findings suggest that, prompt action should be taken in order to combat the increasing tendency of food insecurity among the IIUM students community. Further investigation is needed in order to plan a proper intervention. It is hoped that this findings could provide as a basis in improving the food security status of IIUM students which will further prevent them from developing the negative consequences of food insecurity.

FOOT PROBLEM AND FOOT CARE PRACTICE AMONG DIABETIC PATIENTS IN A PRIMARY CARE CLINIC

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IRIIE Abstracts ID 33 Abstract Submission Authors: NA Jamani1 Aida Jaffar 2 Noor Azimah Muhammad2 Noorlaili Tohit2 Affiliation: 1 Department of Family Medicine, International Islamic University Malaysia 2 Department of Family Medicine, Universiti Kebangsaan Malaysia Title: FOOT PROBLEM AND FOOT CARE PRACTICE AMONG DIABETIC PATIENTS IN A PRIMARY CARE CLINIC Background: Diabetes mellitus is a global health problem and one of the known complications is diabetic foot problem. This problem is strongly related to poor foot care practice. The prevalence of diabetic foot problem among Malaysian diabetics in 2003 was about 3%. Thus, it is prudent to assess the current prevalence of foot problem, types of foot problem and foot care practice among our diabetic patients. Objectives: To determine the prevalence of diabetic foot problem and to describe the foot care practices among diabetic patients. Methods: This was a cross sectional study conducted among diabetic patients in a primary care clinic in Kuala Lumpur. Patients with diabetes, aged more than 18 years were selected using systematic random sampling technique. Patients feet were examined using a standard foot examination protocol by a single trained physician. Then, the patients responded to a set of self-administered pre-tested questionnaire on their foot care practice. Results: The total number of patients was 166 (79 males and 87 females). Diabetic foot problem was diagnosed in 42.2% of them. Most patients had more than one abnormality. Skin abnormalities reported in diabetic patients were dry skin (92.8%) hair loss (71.1%), callosity (65.7%), nail changes (36.7%) and intertrigo (19.3%). Structural foot abnormalities were seen in 15.1% of patients. Nearly a quarter of them (34.9%) had loss of protective sensation. Overall, the foot care practice was poor. Practices that put patients at risk of foot injury are walking barefoot (51.2%), not inspecting their feet daily (53%), not applying moisturiser to their feet (63.9%) and wearing flip flops as their footwear (68.7%). Conclusion: The results highlight that diabetic foot problem is prevalent among our Malaysian diabetic patients. With regards to foot care, areas that need reinforcement are appropriate foot wear, daily foot inspection and keeping their feet moist.
Keywords: foot problem, foot care practice, diabetic patients, Malaysia

FORMAT-INDEPENDENT MCQ MARKING SYSTEM

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Multiple Choice Question (MCQ) is recognized as a valid summative assessment in clinical curriculum [1]. Previous research showed that well-constructed MCQs can be an acceptable replacement for essay questions to reasonably assess higher order skills [2]. However, manual marking of MCQs can be exhausting and is subject to human error. The use of software to automatically mark the questions is able to overcome such problems. The existing software commonly comes with a standard copyrighted template which can only be used with a specific automated marking machine [3]. This limits the use of automated marking technique and prohibitively expensive. We have developed a software to address the shortcomings, it is independent of the MCQ format and can be used with normal scanner.

GENETIC ENHANCEMENT OF STEVIA (STEVIA REBAUDIANA BERTONI) THROUGH MUTATION AND POLYPLIDIZATION IN MALAYSIA

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Stevia rebaudiana bertoni is known for its production of sweet glycosides, an alternative to sugar due to its zero calorie and strong health and dietary implications. The cultivation of stevia in this country is hampered by few factors. First, stevia produces flowers at early stage under Malaysia photoperiod condition, thus leading to poor leaf development where the leaves are the most needed for sweetener extraction. In addition, stevia accessions do not grow well under local condition, and there has been no breeding work to develop suitable cultivars making production of plant materials difficult and expensive. Thus, the project was undertaken to study the breeding factors affecting growth of Stevia rebaudiana Bertoni under Malaysian condition. Breeding was carried out to develop stevia hybrids. Data were analyzed using SPSS V.16. Mutation using gamma irradiation showed that the LD50 was 55 grays. Tetraploidy induction using colchicine concentrations of 0.2 to 0.5 mM was performed. The concentration of 0.2% (w/v) was optimal in raising new tetraploids. Hybridizarion using Trigona increased cross-pollination between tetraploids and diploids. New triploid, RAAMBO/02, was developed. This research led to classical novelties, such as plant materials: (i) Tetraploid RAAMBO/01, (ii) Triploid RAAMBO/02, (iii) M1 RAAMBO/03, and (iv) M2 RAAMBO/04. Key words- Stevia, alternative sugar, zero calorie, Mutation, Polyploidization, Malaysia

GREY MATTER VOLUME DIFFERENCES OF HYPNOTIC SUSCEPTIBILITY: A VOXEL BASED MORPHOMETRY (VBM) STUDY

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This is the second study of brain morphology and the first to study differences in grey matter volume between low and highly hypnotizable people. Voxel based morphometry with DARTEL algorithm was used to analyse MRI structural images of participants consisting low, medium and high hypnotizability. Low hypnotizable participants significantly have more grey matter volume than high at the regions of thalamus and cuneus. The result shows normal gender differences of grey matter volume between male and female explained by the number of female participants predominantly high hypnotizable and the male participants predominantly in the low hypnotizable.

HIGHLY CYTOTOXIC AGENTS FROM LUVUNGA SCANDENS AGAINST HUMAN BREAST ADENOCARCINOMA CELL LINE (MCF7)

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Breast cancer is among of the frequently diagnosed cancer and major of death in the most of country in the world. These led to the necessity for the development of potential chemotherapeutic agents against breast cancer cells with novel mechanisms of actions. The plant-derived triterpeniods commonly used due to its ability to exhibit cytotoxicity against a variety of tumor cells [1]. Luvunga scandens plant (Rutaceae) is one of the plant-derived triterpenoids were responsible to use in this study. In order to investigate the cytotoxicity effect of L. scandens plant, extractions and it isolated compound were derived and assayed on human breast adenocarcinoma cell line (MCF-7). The stems of L. scandens were extracted with n-hexane, dichloromethane (DCM) and ethanol (EtOH). DCM extracts were then further fractionated by vacuum liquid chromatography (VLC) into five extracts; namely n-hexane, n-hexane:DCM, DCM, DCM:MeOH and MeOH. Those five extracts were assayed in vitro cytotoxic activity against MCF-7. Among them, DCM:MeOH fraction was found to be the most effective and was further subjected to isolation procedure and the isolated compound was assayed in vitro cytotoxic activity against MCF-7. Bioactivity-guided fractionation of the fraction through successive column chromatography procedures led to the isolation of a triterpenes-type of compound. A comparison of NMR data showed an appropriate match with the previously reported data. The structure of the compound was elucidated to be lanosta-8, 24-dien-21-oicacid, 3-oxo, (13a, 14b, 17a, 20S)-, a well-known triterpenes with molecular formula C30H46O3. This compound was found to be responsible for the cytotoxicity effects with the half maximal inhibitory concentration (IC50) value 24.8 M. Whereas IC50 of DCM extract and DCM: MeOH fraction extract is 75 g/mL and 94 g/mL respectively. This basic study, therefore, revealed that L. scandens plants are potential sources of cytotoxic agents.

HIPPOCAMPAL GFAP MRNA EXPRESSION IN RATS WITH EXPERIMENTAL NEURODEGENATION TREATED WITH BLACK CUMIN SEEDS AND CURRY LEAVES EXTRACTS

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HaAS 39

Introduction: Experimental neuroinflammation can be induced by two-vessel occlusion intervention (2VO). Nigella sativa (Linn.) seeds extract (NSSE) has shown to enhance memory and learning task performances in rats with 2VO. Prevention of neuroinflammation and/or of toxic free radical formation is possible mechanisms. Murraya koenigii (Spreng.) leaves extract (MKLE) has been reported to inhibit cholinesterase activity and scavenge free radicals. The glial fibrillary acidic protein (GFAP) is a vital molecular marker in neuroscience researches. GFAP was found to be up-regulated in 2VO rats indicating astrocytichyperactivity or astrogliosis. Objective: The current study aimed to compare the hippocampal GFAP mRNA expressions of 2VO (untreated) male rats as a biomarker of neuroinflammation in the experimental neurodegeneration with other groups of rats treated with NSSE and MKLE. The comparison was based on relative normalized expression of the reverse transcriptase quantitative PCR (RT-qPCR) assay. Method: 24 adult male Sprague Dawley rats were randomly divided into four groups (n=6); Healthy Control (HC); 2VO- without treatment (2VO); 2VO+NSSE-treated (NSSE) and 2VO+MKLE-treated (MKLE). The NSSE and MKLE groups were pretreated (2ml, 50 mg/kg/day, respectively orally) for 10 days prior to 2VO surgery and continued until all animals were sacrificed at the end of 10th postoperative week. Hippocampal samples were then collected, total RNA was purified from the tissues and reverse transcribed cDNA of samples were relatively quantified as per Cq of RT-qPCR assay. Results: There was significant (P¡0.01) 3 folds difference of GFAP mRNA expression in both HC and NSSE groups as compared to that of 2VO. However, the difference was not significant (P=0.52) of GFAP mRNA expression for NSSE vs. HC. Moreover, GFAP mRNA expressions for MKLE were (P=0.013) and (P=0.07) as compared to that of HC and 2VO respectively after 80 days of treatment. Conclusion: Prolonged treatment with NSSE has the potential to prevent hypoperfusion-induced neuroinflammation within the hippocampus. But, treatment with MKLE didnt show significant down-regulation of GFAP mRNA expression in 2VO induced-neuroinflammation.

HISTOPATHOLOGICAL CHANGES OF THE CARDIAC MUSCLE AND THE ADRENAL GLAND IN LONG TERM DIABETIC RAT

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Diabetes in an animal model is increasingly being used in the investigation of etiopathogenesis of diabetes and diabetic complications in the long term. Streptozotocin is the chemical used to induce experimental diabetes, mostly in rodents. Administrations of the STZ to adult rats cause insulin-dependent type 1 diabetes. Cardiovascular diseases as a long-term complication may be found in diabetic experimental animals. These complications are the most significant and commence one of the major causes of mortality causes due to diabetes. On the other hand, Diabetes mellitus is associated with abnormal function of the adrenal gland. The aims of this study were to investigate the histopathological changes of cardiac muscle and adrenal gland in diabetic rats. Sixteen adult female SpragueDawley rats weighing 200225g at testing were used. All animals were housed in groups of 2-3 in a temperature (221 c) and relative-humidity (6070%) controlled room on a 12:12-h light/dark cycle and allowed free access to water and normal diet for rodents. Animal care complied with that stipulated by the local ethics committee. The rats were randomly divided into 2 groups of 8 animals. Streptozotocin was dissolved in 0.1M Citrate Buffer at pH 4.5 immediately before i.p. Injection at 60mg/kg. Eight rats (diabetic group) received a single i.p. Injection of Streptozotocin (60 mg/kg body weight) following an overnight fast. After six months, animals from control and treated groups (STZ) were sacrificed; dissected and small pieces of the heart and adrenal gland were quickly removed, then fixed in 10% formalin. Following fixation, specimens were dehydrated, embedded, and then sectioned to 4 microns thickness. For histological examinations, sections were stained with Ehrlich Haematoxylin and Eosin. In conclusion, the long-term diabetic rat may be act as a useful model to observe the histopathological changes of the cardiac muscle and the adrenal gland in long-term diabetic human.

HYPOTENSIVE DOSE RESPONSE RELATIONSHIP OF THYMOQUINONE IN NORMOTENSIVE RATS

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Introduction: Nigella sativa seeds have been widely used in traditional medicine for diseases treatment including hypertension. Thymoquinone (TQ) is one of the major active constituent in its volatile oil. The objective of the current study was to illustrate the blood pressure lowering effect of TQ, and to plot the dose response relationship. Methods: 15 adult male Sprague Dawley (SD) rats were equally divided into 3 groups each receiving a specific dose of TQ (2.5, 5 and 10 mg/kg) intraperitoneally. The blood pressure lowering effect of the three TQ doses were evaluated and the dose response relationship was obtained by using the non-invasive tail cuff technique for mean arterial blood pressure (MAP) measurements. Results: TQ showed a dose dependent blood pressure lowering effect, where 2.5 mg/kg reduced MAP by 81 mmHg. Whereas 5 and 10 mg/kg of TQ treatment decreased MAP by 123 and 293 mmHg, respectively. All tested doses showed a statistically significant reduction in MAP (with a P¡0.01) compared to pretreatment values. The time for maximum reduction in MAP ranged between 27-34 minutes after TQ administration. Conclusion: This study provided an evidence for the folkloric use of Nigella sativa for treatment of hypertension. Based on the dose dependent effect of TQ, further investigation is needed to clarify the mechanism of TQ action.

I-DRYLICIOUS: TRAVELERS' APPETITE BOOSTER

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It is a normal phenomenon for travelers especially old pilgrims to loss appetite during hajj and umrah seasons. The loss of appetite is normally caused by the changes of new environment and the introduction of unfamiliar food. I-dryliciousTM offer an alternative of appetite stimulating food to boost the desire and sensation feeling of eating especially during long journey travelling or migration and very useful during hajj and umrah seasons. It is a natural, familiar local food product without any artificial preservative and colour and very safe for consumption. New invention technology makes it very dry, light weight, easy to carry, comfortable to put in our luggage and serve in individual pack. Physical test and sensory evaluation confirmed the practicality of the product for travelers and accepted by majority of respondents.

IS 'PRES' A PRESSING PROBLEM

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PRES or posterior reversible encephalopathy syndrome is a clinicoradiological entity that was well described by many authors in the literature. Variety of names has been given to this condition which includes reversible posterior leukoencephalopathy syndrome, reversible posterior cerebral edema syndrome, and reversible occipital parietal encephalopathy. PRES is now the accepted term. This terminology has been challenged recently based on the risk of neurological impairment and up to 15 % mortality rate. PRES is associated with seizure activity, impairment of conscious level, headaches, visual abnormalities, nausea/vomiting, and focal neurological signs. The cerebral imaging abnormalities are often symmetric and predominate in the posterior white matter. Recognition of PRES has evolved with increasing availability of Magnetic Resonance Imaging (MRI). Various conditions have been linked with the development of PRES. Regardless of the underlying cause, the main abnormality is from cerebral vasogenic edema, the pathogenesis of which is still being discussed and postulated. Typically PRES is reversible once the cause is removed. Patients with severe manifestations of PRES, such as coma and/or status epilepticus, may require admission to the intensive care unit (ICU). However permanent neurological impairment or death occurs in a minority of patients. Objective: to illustrate 4 cases of PRES seen in HTAA and how imaging in these cases help in the diagnosis hence was able to help clinicians institute appropriate care & treatment.

KAP STUDY ON EMERGENCY PERSONNEL TOWARDS DISASTER MANAGEMENT

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Introduction: Disasters kill thousands of people and damage huge numbers of habitat and properties each year, which gives a big impact to the community involved. Disaster management is important, as its understanding will reduce the impact of disaster. Objective: To identify knowledge, attitude and practice of emergency personnel towards disaster management and its associated factor. Methodology: A quantitative comparative cross-sectional study design. The data were collected from 194 emergency personnel by using questionnaire based on inclusion and exclusion criteria. The data were analysed by using Chi-square and Fisher Exact test. Results: Most of the emergency personnel had adequate knowledge, positive attitude and adequate practice towards disaster management. It have been identified that gender (p=0.010) and level of education (p=0.002) are significantly associated with knowledge. Meanwhile, gender (p=0.000), level of education (p=0.038), working experience (p=0.002), involvement in disaster response (p=0.000) and attended disaster related education (p=0.000) were significantly associated with practice towards disaster management. However, the result showed no significant association between socio-demographic profile and attitude. Conclusion: It has been recognized that emergency personnel are lacking in regards to knowledge and practice towards disaster management. This research outcomes may beneficial to improve KAP of emergency personnel and may have positive effects on disaster management in future. With the enforcement from the health care institutions in regards to education/training perhaps emergency personnel can be prepared in advance while dealing with disaster victims.

KINEMATIC ANALYSIS OF HUMAN RUNNING GAIT

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Researches on humanoid robots have been in existence since long, however, there is no humanoid robot available so far which can perform tasks in a wide range of fuzzy conditions preserving the same quality of performance as that of humans. They can only mimic few human gaits as well as intellectuality. Though in many cases, artificial intelligent (AI) is well established, but robotic control algorithm still far behind the natural control algorithm developed in human, which is more complex, versatile and spontaneous. On the other hand, in the physical capabilities i.e. power, strength and endurance, robots are more capable than human such as repeated heavy weight lifting. The references cited so far are quite new, mostly spanning between 2001 and 2010. Most of these works concentrate on load carrying capacity rather than speed of activity, where increased walking speed or running capability along with heavy load carrying capacity would provide extra benefit to the current solutions. As human is less efficient in running than walking, thus power supplied externally during running would reduce metabolic cost and could enhance running speed as well duration due to less fatigue. Thus the proposed research will concentrate on the dynamic aspect of the lower limb exoskeleton system. The main drive is to enhance human motion, the lighter the structure we make, and the less will be the impedance as well as inertia of the system. This in turn would help increase acceleration with less actuation force, thus higher velocity of the user.

KNOWLEDGE AND ATTITUDES REGARDING PROBIOTICS AMONG INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA (IIUM) MEDICAL SCIENCES STUDENTS

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Background: Recently, studies about probiotics and its disease prevention properties had been rising. It is already known that probiotics have many health benefits. The knowledge specifically regarding probiotics and its products among health-related professional is important, because they will be one of the sources of knowledge regarding probiotics to the society. Objective: To assess the knowledge and attitudes of medical sciences students in International Islamic University of Malaysia (IIUM). Methods: A quantitative method of cross-sectional study was conducted among 621 IIUM medical sciences students. Questionnaire were used as assessment tools. Students who fulfilled the criteria were selected and they completed the questionnaires afterwards. Data analysis involved descriptive statistics, Chi-square test, One-Way ANOVA, T-test and others. Results: More than half of the students possess a good level of knowledge. 2.7% of students had poor, 4.9% had moderate and 52.4% had good level of knowledge. Comparison of knowledge result between different major was statistically not significant. Conclusion: Although students had a good level of knowledge, some of them are still confused about probiotics and its properties and how to differentiate it with other conventional foods. The present study had portrayed the overall knowledge and attitudes of IIUM medical sciences students. The use of efficient co-educational materials such flyers, posters and pamphlets as well as teaching new findings may be beneficial to improve the understanding of students.

KNOWLEDGE, ATTITUDE & PRACTICE OF HUMAN PAPILLOMAVIRUS (HPV) VACCINATION AMONG SECONDARY SCHOOL STUDENTS IN KUANTAN

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Introduction: The research is basically about the knowledge, attitude and practice of Human Papillomavirus (HPV) vaccination among secondary school students in Kuantan. Cervical cancer is the second most common cancer in the world. Objective: The purpose of this research was to assess knowledge, attitude and practice of Human Papillomavirus (HPV) among secondary school students in Kuantan. Materials and Methods: It is quantitative, descriptive cross-sectional study. The research was carried out at SMK Methodist Girl School and SMK Tengku Afzan, Kuantan. Simple random sampling method was employed to select the students. Self-administered questionnaires were filled out individually by the secondary school girls aged 13 years old. The data regarding demographic information, knowledge about cervical cancer and HPV, attitudes towards vaccination, practice of HPV vaccine and factors promoting participation in HPV vaccination were included in the questionnaire. Results: A total of 173 participants were included in the analysis. The response rate in this research is 100%. All students from both schools participated. Majority of the students have intermediate knowledge (61.6%), neutral attitude (79.5%) and poor practice on HPV vaccination (67.4%). in addition, the main factors that promote them taking the vaccine is from healthcare provider (27.9%). The inferential analysis was done where it showed socio-demographic data of races was significant between knowledge (p= 0.038) and attitude (p= 0.017) on HPV vaccination. Conclusion: The secondary school students in Kuantan have intermediate knowledge and neutral attitude towards cervical cancer and its vaccination. However, although their knowledge and attitude quit satisfactory, they did not seem to apply it to practice, which the majority of students having poor practice towards HPV vaccination. Thus, further studies are needed to educate the students as well as parents and teachers so that the students will have the good practice on the vaccine.

KNOWLEDGE, ATTITUDE AND PRACTICE OF BREASTFEEDING AMONG MOTHERS.

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Introduction Breastfeeding is having numerous advantages on the maternal and neonatal health; the child will be more resistant to disease and infection early in life, less likely to develop diseases later in life, including juvenile diabetes, multiple sclerosis, heart disease, and cancer. Mothers, who breastfeed are less likely to develop osteoporosis later in life, are able to lose weight gained during pregnancy more easily and have a lower risk of breast, uterine and ovarian cancer. Recently; high employment rate among women have an impact on infant breastfeeding so the natural trend of breastfeeding started to decline. Mothers and their neonates started to be deprived from all these benefits. The objective of our study is to evaluate practice, knowledge and attitude to breastfeeding among women in Kuantan the capital of Pahang state, the largest state in the peninsula of Malaysia. Methodology A cross section study carried out between 23rd February 2011 and 22nd January 2013. The study conducted in the clinics of the Hospital Tengku Ampuan Afzan and the primary health care centres in Kuantan city. The study group was 222 women having children between 2-3 years old. The women interviewed and information regarding the participants' demographics, knowledge, attitude and practice towards breastfeeding were obtained by recalling the history of breastfeeding for her last child through a structured questionnaire. Results The demographic results of our sample (n=222) showed; mother's age are ranging between 20 and 46 years, about half of them (48.2%, n=107) with secondary school qualification .Two third (68%, n=151) with a household income between 1000-3000RM. Employments with full time were 51.1%. Regarding the practice; establishing breastfeeding delayed for more than 24 hour in 45% of them. Full breastfeeding recorded in 59.9% and the mixed lactation in 39.2%, bottle feeding 0.9% in the first 6 months of life. Achieving two years lactation was 23.4% among nursing mothers. High score of knowledge recorded in 55% of women and 39.6% recorded moderate score. Positive community attitude was found in 86% of the sample. Patient delivered by caesarean section under general anaesthesia were identified as a risk group for not practicing breastfeeding. Conclusion Good knowledge among mother and breastfeeding is consistent. Knowledge is not the only promoter for good practice. There is some improvement in the percentage of mothers in achieving the full breastfeeding comparing with previous studies conducted in Malaysia. This improvement may be due to the effect of the governmental protocol to encourage breastfeeding. There is low percentage of women that can achieve two years lactation which is recommended by the world health organization.

LIGHT AND SCANNING ELECTRON MICROSCOPIC STUDIES ON THE EFFECTS OF XIANG SHA YANG WEI WAN ON ETHANOL-INDUCED GASTRIC ULCER IN THE RATS.

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Introduction: Xiang Sha Yang Wei Wan (XSYWW) is a Chinese traditional medicine that is used for gastrointestinal disorders, specifically gastric ulcer in many countries of South-East Asia. The aim of the study was to evaluate the potential effects of XSYWW on ethanol-induced gastric ulcer in rats by means of histological Study. On a similar basis of treatment, ranitidine, a conventional medication was used as gold standard. Methods: Thirty adult male Sprague-Dawley rats (250-300 gm) were divided into three groups. Group I (ethanol treated group) was the control group and gastric ulcers were induced by administering 100% ethanol (1 ml/200 g). Group II (Pre-treatment group) were orally fed with 2.0 gm/kg of XSYWW solution; thirty minutes later they were administered with absolute ethanol as in group I. Group III, was given an oral dose of 2gm/kg of XSYWW solution after one hour of ethanol administration. Five rats from groups I, II and III were sacrificed on day 2 and 3 while the animals of group II were sacrificed one hour after ethanol administration. Small portions of each stomach from the greater curvature were fixed and prepared for both light and scanning electron microscopy. Results: Histological and SEM study of the stomachs from ethanol treated rats showed multiple ulcers of various depths that reached the muscularis and the serosa. Pre or post-treated rats with XSYWW showed that XSYWW has protective effect against ethanol-induced gastric mucosal lesion.

LOW-COST EYE TRACKING TO STUDY SMOOTH PURSUIT

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Humans use two types of voluntary eye movement, smooth pursuit and saccades to track objects of interest. Smooth pursuit movement functions to keep the image of the moving object on fovea of the retina, without the saccadic eye movement system taken place. In contrast, saccades occur at a rapid speed when the eyes make a sudden change of fixation. Eye trackeris a device used to measure such movements. Eye tracking has been an active research topic for many decades because of its potential usages in various applications such as human-computer interaction, disease diagnosis and studies of human behaviour. There are many methods for measuring eye movement but video-based is currently the most popular due to its non-invasive nature. However, the research in eye tracking is limited in Malaysia due to its prohibitive cost. Typical eye-tracking module costs more than RM100,000. This study aims to validate a non invasive, low-cost experimental setup to track smooth pursuit eye movement.

LOWER CALYCEAL STONE CLEARANCE AFTER EXTRACORPORAL SHOCKWAVE LITHOTRIPSY (ESWL): PREVALENCE AND ASSOCIATED FACTORS

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LOWER CALYCEAL STONE CLEARANCE AFTER EXTRACORPORAL SHOCKWAVE LITHOTRIPSY (ESWL): PREVALENCE AND ASSOCIATED FACTORS Siti Kamariah Che Mohamed1, Mohd Nazli Kamarulzaman2, Radhiana Hassan1, Hamid Ghazali3 1Department of Radiology, Kulliyyah of Medicine, IIUM, 2Department of Surgery, Kulliyyah of Medicine, IIUM, 3Department of Urology, Hospital Tengku Ampuan Afzan, Kuantan (HTAA) Introduction: Since its clinical introduction, extracorporeal shock wave lithotripsy (ESWL) has maintained an important role in the management of urinary calculi. The success of ESWL depends on the effective disintegration and evacuation of stone debris. The stone clearance rate differs for renal calculi at different sites, being the lowest for lower pole calyceal calculi. The low clearance rate for lower calyceal stones is more a problem of debris retention rather than stone fragmentation. The aim of this study is to find out the prevalence of stone clearance after ESWL for lower calyceal stones and relationship between the radiologic anatomy of the lower pole calyx (as seen on pre-operative IVU) and stone clearance. Study design: A retrospective analysis of patients with lower calyceal stones of 2cm or less in diameter which were treated with ESWL in HTAA from 2008 to 2011. The stone location and size were determined on plain abdominal radiograph. Radiographic anatomical factors were determined on pre-ESWL IVU, which were infundibulopelvic angle (IPA), infundibular length (IL) and width (IW). Patients were treated with ESWL using LT02X lithotripter machine, under intravenous or intramuscular analgesia. A stone-free status was defined as no evidence of fragments on plain radiograph 3 months after ESWL. All statistical analyses were performed with SPSS version 18.0.1 for Windows. Result Total of 14 patients that fulfill the criteria were included in the study; 10 (71.4%) patients were male and 2 (28.6%) patients were female. Majority of patients were Malays (85.7%). Age ranges from 20-70 years, but most of the patients were more than 40 years of age. Most of the patients have stone size of 1-2cm in sizes (85.7%), but the stone laterality was equal. For anatomical factors of the lower pole calyx, most of the patients showed wide infundibular pelvic angle (IPA), in which 64.3% had more than 40 degrees of angle. Majority had short infundibular length (IL), which was less than 30mm (85.7%). The infundibular width (IW) was also wide in most of the patients, as 92.9% had IW of more than 4mm. Stone clearance after ESWL was 71.4%. When measuring the predictors of outcome of stone clearance using Fishers exact test, there was no statistically significant influence for all the anatomical factors tested. Conclusion It is important to assess the possible factors that can predict the probability of stone clearance after ESWL, as the most appropriate treatment modality for lower calyceal stones can accordingly be planned. However, statistically significant sample size cannot be achieved in this study due to multiple unavoidable circumstances. Longer duration of study with larger sample size should be carried out for more complete data review and accurate results.

METAL INJECTION MOULDING FOR ORTHOPAEDICS FRACTURE FIXATION IMPLANT THE IN VIVO RESULTS

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Metal Injection Moulding (MIM) is a revolutionary new class of medical implant fabrication in orthopaedics. This technology employs natural resources and holds great promises in producing large quantities of metallic parts for prosthetic implant at minimum outlay without compromising its quality. In order to investigate bone tissue reaction of the plate from MIM technique in bone plate fixation, animal experiment with rabbit was performed with X-ray evaluation and histological observation to examine the status of bonny union. Experimental fractures were made in rabbit tibiae and fixed with MIM plate and conventional plate which served as control. The monitoring for fracture healing was carried out at week 3, 6, 9, 12 and 26 according to ISO10993-1&2:2006 Standards.It is interesting to note that there were callus formations andthere was no significant different in fracture healing in both. Bone union was evidenced starting week 6 post-operatively, whilst bone remodelling was completed at week 26. Histological assessment has indicated that both groups possessed mild to moderate callus bridging at week 3 and week 6, respectively. While complete remodelling bone cortex was evidenced at week 26. There was no plate was broke or bent during the study. These findings indicate that the MIM plate has equal potential to hold the fracture as conventional plate. Therefore, the MIM plate can be used as an alternative internal fixator for fracture management in orthopaedic considering conservation value in economic appraisals of natural resources.

MULTIPLE RENAL ARTERIES WITH AN ASCENDING UPWARD RENAL VEIN OF THE RIGHT KIDNEY - A CASE REPORT

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As it is known; the majority of the human subjects has two renal arteries arising from the abdominal aorta, each will supply one kidney but in 30% of individuals certain variations can be found. Accessory renal arteries constitute the most common and clinically important of these variations. For our case report, we are presenting one of these different variations that can be found in the blood supply of the kidneys. During dissecting the abdomen of an approximately 65 years old male cadaver, multiple variations were found. There were double right renal arteries with prehilar branching of the upper renal artery. We found also that the right renal vein ascended upwards obliquely before ending in the lateral aspect of the inferior vena cava. Variations in the renal vessels is relatively common especially multiple renal arteries, and can go smoothly without any abnormalities with the function of the kidney, but in some situations like renal transplantations, vascular reconstructions, and various surgical and radiological diagnostic techniques, the study of the anatomy of these variations is of crucial importance to decrease the patient morbidity during surgical procedures.

MYCOLOGICAL ANALYSIS OF THE ORAL CAVITY IN PATIENTS USING REMOVABLE PARTIAL /COMPLETE DENTURES ATTENDING THE POLYCLINIC, KULLIYYAH OF DENTISTRY, IIUM

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Fungal infections in edentulous patients have been widely discussed. Findings show that oral mycosis has an influence on the mycosis of oral mucosa of denture wearer patients. Based on this we started to do mycological examination to the patients before wearing the denture, evaluate changes of yeasts numbers, sensitivity to antifungal treatment and determine the impact of types of prosthesis, gender and age of patients. 50 patients where included in this study, The material for mycological examination was sampled as a smear from the palate. After the mycological identification of Candida species and assessment of growth on both Sabouraud Dextrose Agar (SDA) and CHROM agar Candida (CAC), the susceptibility testing with Nystatin was done. The type of Candida species was diagnosed microbiologically. C. albicans was identified .There was a significant statistical difference between yeasts growth and gender (p=0.016 ¡0.05). The conclusion is that a large percentage of our patients wearing removable denture has been affected by Candida albicans and that could lead to the mycosis. The mycological examination before treatment, especially in patients using acrylic denture, appears to be necessary.

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NITRIC OXIDE SYNTHASE GLU298ASP GENE POLYMORPHISM IN CARDIOVASCULAR DISEASES

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BACKGROUND AND OBJECTIVES: Endothelial-derived nitric oxide (NO) is synthesized by nitric oxide synthase (NOS). NO from the endothelium plays an important role as a vasodilator & atheroma protective mediator. Polymorphisms in the endothelium nitric oxide synthases gene is related with cardiovascular risk, it contributes to the development of atherosclerosis by causing endothelial dysfunction, which could lead in the coronary circulation to coronary spasm and ischemic heart disease (IHD). The main objective of this study was to investigate the association of NOS gene polymorphisms (Glu298Asp) and ischemic heart disease (IHD). SUBJECTS AND METHODS: The study was conducted on 185 IHD patients in Hospital Tengku Ampuan Afzan, Pahang (HTAA), and 188 control subjects. The NOS gene polymorphism was analysed by polymerase chain reaction restriction fragment length polymorphism assay. RESULTS: The genotype frequencies of Glu298Asp polymorphism for Glu/Glu, Glu/Asp, and Asp/Asp were 34.2% 47.9% and 17.9%, respectively, in control subjects, and 46.3% .33.0% and 20.7%in IHD patients, respectively. The genotype frequencies differed significantly between the two groups (P=.0.011037). The frequency of the Asp alleles in the controls was significantly different in IHD patients (37.2%) than in control subjects (41.8%). CONCLUSION: These results suggest that IHD is associated with Glu298Asp polymorphism of the NOS gene and the polymorphism might be an independent risk factor for IHD.

NEW METHOD FOR IMPROVING SOLUBILIZATION AND UPTAKE OF LUTEIN AND CAROTENOIDS IN HUMAN HEPATOCELLULAR LIVER CARCINOMA (HEPG2) CELL CULTURE

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A new method to prepare cell culture medium containing high concentrations of lutein and -carotene was developed. Cellular uptake and antioxidative activity of the carotenoids in HepG2 cells were examined under a wide range of their concentrations.

NON INVASIVE, NON CONTACT BASED AFFECTIVE STATE IDENTIFICATION SYSTEM

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In 21st century, most of the works are done by computer since the outcomes are more precise and highly accurate. However, the system is lacks in terms of sensitivity to humans emotion. This unfavorable condition need to be weighted in developing Human Computer Interaction (HCI) applications so that the performance of the machine such as rehabilitation robot can be improved. In order to measure the affective state, a structured experimental setup is designed to invoke the desired affective state which are happy, nervous, and sad. These states are induced by exposing the subject to a specific set of audiovisual stimulations upon which EM waves are captured from ten different regions of the subjects body by using a handheld device called Resonant Field Imaging (RFITM). In this project, Weka software is used to classify the training set, and questionnaire as an important tool to verify the emotion deduced from the experiment after each session. In classifying the dataset, a classifier called Bayes Network is utilized, and the correspond emotion is displayed using Matlab through Graphical User Interface (GUI).

OUR STUDENTS ARE THEY HEALTHY?

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Our students are they healthy? Muhammad Hakimi Mohd Rashid1, Tin MH3, Niferiti A1, Tariq AR2 Kulliyyah of Pharmacy1,Kulliyah of Medicine2, Kulliyah of Dentistry3, International Islamic University of Malaysia, Bandar Indera Mahkota, 25200 Kuantan, Pahang. Cardiovascular disease remains the leading cause of death worldwide. Recent studies showed an alarming trend for cardiovascular risk profile among young adults. Among the many risk factors of cardiovascular disease, cholesterol is considered as the required risk factor. This study is part of a clinical trial approved by IIUM ethical committee. A total of 63 male subjects came to join the study. After a briefing session, only 33 subjects agreed to enroll and were screened. Each subject was assessed by a physician. Their weight, height, blood pressure (supine and upright), heart rate, and ECG were taken. Blood samples were withdrawn from antecubital vein for fasting lipid profile. Subjects were asked to fast overnight (10 hours) prior to screening. Their mean (SD) age was 22.9 (2.2) years, their mean (SD) BMI was 22.7 (3.2), their supine systolic (SBP) and diastolic (DBP) blood pressure were 111.9 (9.8)mmHg and 68.0 (6.5)mmHg, their standing SBP and DBP were 117.6 (9.8)mmHg and 74.5 (7.1)mmHg, the total cholesterol was 4.8 (0.7)mmol/L, HDL was 1.3 (0.2)mmol/L, LDL was 3.0 (0.7)mmol/L and triglyceride was 1 (0.7)mmol/L. the total cholesterol level in this studys participants was significantly higher than in general Malaysian population aged 30-40 (4.8 vs. 4.5)(p¡0.05). The proportion of study participants with hypercholesterolemia is 28.1% (26.6% in NHMS 2011). The total cholesterol levels among IIUM students in our study were significantly higher as compared to general Malaysian population aged 30-40 years.

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PALM OLEIN-BASED BETAMETHASONE 17-VALERATE CREAM FOR SKIN DISEASE

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Palm olein, the major commodity of Malaysia, is inexhaustible and contains natural surfactants with the potential to be used widely in pharmaceutical formulations. However, there is little data available on the use of palm olein as an alternative in the production of topical products. The current study aims to produce pharmaceutical formulation using palm olein as the oil phase with betamethasone 17-valerate as the active ingredient and to compare efficacy with that of commercial products. Creams were prepared using Span 20 and Tween 20 as surfactants, Carbopol 940 as thickener, methyl paraben, propyl paraben and chlorocresol as preservatives, propylene glycol as solubilizer and distilled water as aqueous phase. The formulations were characterized, subjected to stability studies for 3 months and degradation of betamethasone 17-valerate in the formulations was analysed using HPLC. Evaluation on drug release with three different viscosities was further performed with Hanson Verticle Diffusion Cell System using cellulose acetate and rat skin as membranes and the samples were quantified with HPLC. The results were compared to that of three commmercially available products. The optimized formulation showed particle size ranging from 3 to 14 m, viscosity 68.21.43 mPa.s, yield stress 36.5 0.2 Pa, thixotropy 647 58, pH 5.8 0.1 and zeta potential -51 11 mV. The creams exhibited pseudoplastic behaviour and found to be thixotropic. Less than 5 % of drug is degraded during the 3-month period when subjected to 3 different temperatures. The drug release rates from palm-olein-in-water emulsions were 4.5 times higher than that of commercial products. In conclusion, these findings proved that the creams produced from palm-olein-in-water emulsion could be a superior alternative vehicle for topical drug delivery system.

PDCLASSIFIER : A NOVEL METHOD FOR EARLY DETECTION & DIAGNOSIS OF PARKINSON DISEASE USING CVNN

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A new automatic method of Parkinson detection and classication using Complex Valued Neural Network (CVNN) is proposed in this paper. The proposed methodology used one of recently introduced dysphonia measure as part of its input data. The selected measures are those that are robust to many uncontrollable variations in individual and environments. The three selected dysphonia measures are converted from time domain to frequency domain by application of Discrete Fourier Transform (DFT) on the data. The frequency domain converted measures are fed to CVNN and the output of CVNN serves as input to the parkinson disease classier for classication purpose. Result obtained by application of this technique on parkinson data resulted in classication performance of 96% accuracy.

PERCUTANEOUS VESICOLITHOTRIPSY (PCVL) IN MANAGING HUGE BLADDER STONES: OUR EARLY EXPERIENCE

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Percutaneous Vesicolithotripsy (PCVL) in Managing Huge Bladder Stones: Our Early Experience Mohd Nazli Kamarulzaman1, Siti Kamariah Che Mohamed2, Hamid Ghazali3 1 Department of Surgery, Kulliyyah of Medicine, IIUM, 2 Department of Radiology, Kulliyyah of Medicine, IIUM, 3 Department of Urology, Hospital Tengku Ampuan Afzan, Kuantan (HTAA) Introduction: Bladder stone is commonly associated with bladder outlet obstruction (BOO), either mechanical or functional. The treatment of BOO will ensure minimal risk of stone recurrence. In functional BOO such as spinal disease, spinal injury or bladder dysfunction the actual cause of obstruction cannot be eliminated. In such cases the risk of bladder stone recurrence is high. Thus, management of recurrence stone should be considered during planning for initial management of stones in these patients. Study design: This is a prospective study of a cohort of patients with large urinary bladder stone (¿5cm) or multiple stone which give total stone burden of ¿5cm in largest diameter who were treated with PCVL in HTAA between January 2010 to January 2012. Patients with concurrent bladder tumor, very small bladder capacity and bladder diverticulum were excluded from this study. The procedure was done under general or regional anesthesia. Simultaneous cystoscopy and percutaneous bladder access were performed to ensure that the procedure was done under direct vision. The percutaneous access tract was dilated under direct vision up to 30F with Amplatz dilators. Nephroscope was used to visualize the stone and it was fragmented with lithotripter. Post operatively, patient had suprapubic catheter (SPC) and continuous bladder drainage (CBD). Data was collected with regards to intra operative findings, duration of operation, intra operative and post operative complications, duration on SPC and CBD, and total hospital stay. Result Twenty patients who fulfilled the criteria were included in this study. The age of patient ranges between 24 to 74 years old. The operative time ranges between 50 to 180 minutes, with both CBD as well as SPC removal range between 1-4 days and hospital stay between 1-6 days. We found 2 cases with mild hematuria immediately post operation, and one case had post-operative fever. Conclusion Our early experience with percutaneous vesicolithotripsy (PCVL) showed encouraging results. This procedure is safe, effective and had various advantages of minimally invasive surgery in managing huge bladder stones. Longer duration of study with larger sample size should be carried out for more complete data review and accurate results.

PLAQUE REMOVAL EFFICACY OF THREE TYPES OF DENTAL FLOSS

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Objectives: The objective of this study was to evaluate the plaque removing efficacy of three types of floss, which are superfloss, waxed floss, and sewing thread. Materials and methods: A cross-over study design was applied where 15 subjects were undergone three regimen of dental floss with the duration of one week each, starting from September 2013 to November 2013. The subjects used the superfloss (SF) for one week, and then the plaque removing efficacy of the floss was measured using the modified Rustogi Navy plaque Index (RMNPI), which emphasizes on the interproximal area. After that, the subjects were free from any flossing for one week before starting with next regimen. These steps were repeated for waxed floss (WF) and also sewing thread (ST). Results: In this study, mean (SD) plaque score of SF, WF, and ST are 0.675 (.099), 0.477 (.098) and 0.197 (.026) respectively; those of before flossing are 0.680 (.100), 0.660 (.106) and 0.685 (.097) respectively; those of after flossing are, 0.464 (.099), 0.471 (.107) and 0.496 (.093) respectively; and the difference between before and after flossing are 0.215 (.009), 0.213 (.009) and 0.163 (.0127) respectively.There were no statistically significance differences between plaque score before and after of the three flosses. However, plaque score differences between those flosses were significant (p¡0.05), with SF and WF has higher efficacy compare to ST. Inter-quartile ranges (IQR) values of those flosses were (0.010), (0.013) and (0.023) respectively. Conclusion: Superfloss and waxed floss have higher plaque removal efficacy in comparison to sewing thread. There are no significant differences in plaque removal efficacy between superfloss and waxed floss. However, sewing thread is also reliable to remove plaque in time of unavailability of commercial floss and in socioeconomically disadvantages individuals.

POTENTIAL ANTIDIABETIC PROPERTIES OF G. MANGOSTANA LINN. ON STREPTOZOTOCIN-INDUCED DIABETIC RATS

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Aim: The aim of the study was to evaluate the biochemical effects and histopathological alterations of the ethanolic extracts of G. mangostana pericarps (GME) on STZ-induced diabetic rats. Methods: Oral administration of GME at doses of 50, 100 and 200mg/kg b.w. were given to STZ-induced diabetic and normoglycaemic albino rats. The serum biochemical parameters, enzymatic analysis and histopathological alterations were examined and compared to reference standard hypoglycamic drug, glibenclamide. Analytes including blood glucose, liver transminases viz. alanine aminotransferase (ALT), aspartate transaminase (AST), alkaline phosphatase (ALT); lipid profile included triglycerides (TG), total cholesterol (TC), High Density Lipoprotein (HDL), Low Density Lipoprotein (LDL) and Very Low Density Lipoprotein (VLDL); creatinine, urea and total protein were checked using standard test kits and reagents. Histological changes in the liver, kidney and pancreas of the animals were also examined. Results: The results obtained revealed a significant reduction of glucose level in GME with doses of 100mg/kg (p¡0.001) and 200mg/kg (p¡0.001) compared to 50mg/kg. Total cholesterol, serum triglyceride, LDL, VLDL, urea and creatinine were reduced in the treatment group while total protein contents and HDL level mildly elevated. Histological assessment revealed a reduction in lesions associated with diabetic state in STZ-induced rats. Conclusion: The implications of the results obtained especially reduction of glucose and improved biochemical function by G.mangostana are their potential use in management of diabetes and apparent effects on the liver, kidney and pancreas when administered in dose-dependent manner.

PREPARATION, CHARACTERIZATION AND REDUCTION OF BURST RELEASE OF PROTEIN FROM BIODEGRADABLE PLGA MICROSPHERES

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Model protein bovine serum albumin (BSA) loaded poly(lactide-co-glycolide) (PLGA) microspheres have been prepared by a modified double emulsion solvent evaporation method. The microspheres were characterized with respect to their morphology, particle size, encapsulation efficiency, production yield, thermal properties and in vitro drug release. The optimized formulation of BSA loaded microspheres was nonporous, smooth-surfaced, and spherical shape under field-emission scanning electron microscope (FE-SEM) with a mean particle size of 3.95 m and encapsulation efficiency of 98.46%. Microspheres prepared with a combination of hydroxyl and carboxyl terminated PLGA polymers exhibited a significantly lower initial burst release followed by sustained release compared to microspheres made from single PLGA polymer. It can be concluded that the modified method can be proposed as a potential delivery system of therapeutic proteins.

PREVALENCE AND REASONS FOR SEEKING TREATMENT FOR ORAL HEALTH PROBLEMS AT 3 SELECTED MEDICAL PRIMARY CARE CLINICS IN KUANTAN, MALAYSIA

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Background: Oral health as an integral part of general health. Besides, sharing common risk factors between oral health and general health have been found more since late nineteen century. The evidences of seeking treatment for oral health problems (OHPs) with primary care physicians (PCPs) at medical primary care clinics (MPCCs) were noticed in the morbidity reports and oral health care studies in primary care setting of developed countries. However, the reasons of patients for seeking treatment from PCPs for OHPs at MPCCs have been still unclear. Objective: to explore prevalence and reasons for seeking treatment for oral health problems in selected 3 medical primary care clinics in Kuantan. Methods: A pilot study was conduct by applying mixed method (Quantitative and Qualitative) approach among 3 MPCCs of Kuantan- University Clinic (IIUM), Public Clinic (Balok) and Private Clinic named Ar Razi - from April, 2012 to March, 2013. Total OHPs cases were retrieved from electronic patient record system of the respective clinic and volunteer sampling method was used to collect quantitative data by using a semi-structured verified questionnaire from the patients with OHPs. A structured in-depth-interview was done by a guide question set among 10 cases to collect qualitative data regarding reasons for seeking treatment for OHPs at 3 MPCCs. Frequency analysis and X2 test were used for quantitative data analysis and matrix analysis was done for interview transcriptions. Results: Total 623 cases were retrieved from 3 MPCCs within one year. Prevalence of OHPs in the University clinic, Public clinic (Balok) and Private clinics (Ar Razi) were 9.3, 10.9 and 5.4 per 1000 patients per year with average 7.4/1000 patients per year. All night call cases were from the private clinic Ar Razi which was 57.5% (154/268) of total OHPs of this private clinic. The most reason for encounter (RFE) was mouth ulcer (50.4%) followed by gingivitis (17.7%), toothache (12.6%), painful gum (8.9%), hand-foot-mouth-disease (7.8%), gum abscess (1.8%), more than one RFE (0.5%) and teething (0.3%). RFEs among 3 different medical primary care clinics were significantly different (p¡0.05). Most of reasons for seeking treatment for OHPs were non-specific like RFEs (60%). Among valid answers, easily accessible to services (51%) followed by preferred to and requiring services provided by medical officer (31%) and getting emergency treatment (18%). The reasons given by the patients were significantly different among 3 MPPCs (p¡0.05). In qualitative analysis, 8 out of 10 patients perceived that OHPs can be treated by PCPs. More understandable reasons of the patients such as co-morbidity with medical symptoms, familiarity with PCPs and un-familiarity with dentists and dental phobia were confirmed in qualitative study. Conclusion: This study highlighted that OHPs is one of RFEs in MPCCs and role of PCPs in primary and emergency oral health care. More understandable answers for seeking treatment from PCPs for OHPs at MPCCs were provided. Coordinated care between PCPs and dentists should be promoted for OHPs with medical diseases. A further planning to provide better care for patients with OHPs in MPCCs should be considered.

PREVALENCE OF JOB STRESS AMONG NON-ACADEMIC STAFF OF INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA (IIUM) KUANTAN CAMPUS

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Objective: Job stress is one of the most important health issues concerning globally and locally. Job stress affects both physical and mental wellbeing and also effects to work output. The aim of this study was to measure prevalence of job stress among non-academic staff of International Islamic University Malaysia, Kuantan Campus. Methods: Cross sectional study design was used with sample size of 222 non-academic staffs. Participants were identified through multistage stratified random sampling and by using validated self-administered questionnaire that includes background characteristics such as age, gender, smoking, occupational level and marital status; and job using stress identified Job Content Questionnaire (JCQ) in bilingual version. Univariate analyses were conducted using the prevalence and 95% CI. Results: Prevalence of job stress among IIUM Kuantan Campus non-academic staffs was 18.5% (95% CI: 13.8-24.0). The mean age for job stress was 32.5 (7.9) years old. Prevalence of job stress was found higher in female (20.7%), non-smoker (19.0%) and those who are single (19.7%). As for occupational level, respondents who were categorized under Grade C have the highest prevalence of job stress which was 20.0%. Conclusion: Prevalence of job stress among IIUM non-academic staffs was lower compared to other studies in Malaysia.

PREVALENCE OF PSYCHOLOGICAL DISTRESS AND SOURCE OF STRESSORS AMONG UNDERGRADUATE SCIENCE STUDENTS IN MALAYSIA

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Background: Students in higher education are subjected to different levels of stressors during various stages of their study. Stress during education can lead to mental distress and have a negative impact on cognitive functioning and learning and may affect their mental and physical health as well. Therefore, this study aimed to determine the prevalence of psychological distress among undergraduate students of Kulliyyah of Science and to identify the source of stressors and their relationship with psychological distress. Methods: A cross sectional, questionnaire-based study was conducted among 196 undergraduate science students from Kulliyyah of Science, International Islamic University Malaysia (IIUM) during the period from March 2013 to June, 2013. The psychological distress was assessed using the 12-item General Health Questionnaire (GHQ-12), which is the short version developed by David Goldberg and Paul Williams. The students were given a list of the most possible source of stressors. In this list, the stressors were chosen depending on previous studies, then the association of the top ten stressors with psychological distress were assessed. Results: The prevalence of psychological distress among Science students was found to be 38.8% and the rate was significantly higher among female than male students while there was no significant association with age, household income, year of study and family support. The top ten stressors chosen by the students were academic and personal related factors and five factors were significantly associated with psychological distress namely, feeling of incompetence, lack of motivation to learn, amount of assigned class work, academic overload, and study pressure and obligation. Conclusions: Undergraduate Science students are subjected to a considerable levelof psychological distress that is related to academic and personal stressores This problem may be overcome by improvement of curriculum, decreasing workload, psychological support by means of counselling and enhancement of mentor-mentee programs to help improve student motivation and self-confidence.

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PREVALENCE, DISTRIBUTION, AND ASSOCIATED RISK FACTORS OF MOLAR INCISOR HYPOMINERALISATION AMONG CHILDREN IN KUANTAN MALAYSIA

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Objectives: The aim of this research was to determine the prevalence, distribution, and associations of molar incisor hypomineralization (MIH) with perinatal complications (PC), childhood illness (CI), and prolonged antibiotic consumption (PAC) among children attending the Polyclinic, Kulliyyah of Dentistry, IIUM, from February 2013 until December 2013. Materials and methods: A matched-pair case control study on children of 7 to 14 years of age was conducted. MIH was determined based on criteria from EAPD seminar, Athens 2003 (Weerheijm et al., 2003). Inter-examiner reliability was tested with Kappa statistic (0.80). This research was approved by the IIUM Research Ethic Committee (IREC). Results: Out of 201 patients, 25 were detected having MIH. The prevalence of MIH was 12.4% within the 11 month period. Among those 25 patients, 52.0% were boys and 48.0% were girls. Locations of MIH were found in maxilla (57%) and mandible (43%). There was no statistically significant association between MIH and arches (p=0.282) and gender (p=1.000). Chi-square goodness-of-fit test indicated that the three sites were not equally probable (p=0.000). Binomial test further showed that the probability of occurrence of MIH at the tip of canine (2.9%) was significantly lower (p=0.000) compared to the occlusal site of first permanent molar (FPM) (54.2%) and the cervical of incisors (42.9%). Analysis of risk factors indicated significant association between MIH with CI (p=0.000). No significant associations were found between MIH with PC (p=0.187) and PAC (p=0.489). Conclusion: MIH was not related to any particular arches and gender. It was also less likely to occur at the tip of canine. MIH was associated with CI but not with PC and PAC. Early diagnosis and prevention can minimize significant dental complications, reduce the risk of caries and provide a better clinical management for the patients.

PROTECTIVE EFFECTS OF THYMOQUINONE AND NIGELLA SATIVA EXTRACT AGAINST CYCLOPHOSPHAMIDE-INDUCED SPERM HEAD ABNORMALITIES IN MICE

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The purpose of this study was to observe the modulatory effects of Nigella sativa extract (NSE) and thymoquinone (TQ) by examining the incidence of cyclophosphamide-induced genotoxicity in mouse sperm head morphology. Cyclophosphamide (CPA) is known to be cytotoxic to germ cells of the testis leading to DNA breakage, azoospermia and infertility. Nigella sativa extract and its active constituent thymoquinone have been reported for their efficacies against many diseases including fertility. Research for this study included morphometrical evaluations of the sperm count, sperm motility and sperm head abnormalities in thirty Balb/c mice following exposure to cyclophosphamide, Nigella sativa extract and thymoquinone. The major findings indicate that cyclophosphamide treatment at 200mg/kg showed 66.33% of abnormal sperm head as compared to 37.74% in the control group, p ¡ 0.05. The highest mean score of sperm head abnormalities in the cyclophosphamide-treated group was seen in folded sperms (27.37%). The percentage of abnormal sperm head was reduced to 49.27% when mice were supplemented with Nigella sativa extract post to cyclophosphamide treatment. There was a significant reduction in the percentage of banana-like and folded sperms in mice co-treated with thymoquinone and cyclophosphamide when compared with cyclophosphamide alone group, p ¡ 0.05. These results demonstrate that natural antioxidants, Nigella sativa and thymoquinone have chemoprotective potential against the overall toxicity induced by the chemotherapeutic agent.

PROTECTIVE ROLE OF THYMOQUINONE EXPOSURE AGAINST CYCLOPHOSPHAMIDE TOXICITY ON SPERM ATTACHMENT TO OOCYTE AND FERTILIZATION IN MICE

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Thymoquinone is one of the major ingredients of Nigella sativa which is a medicinal herb that has been capable of reducing the adverse effects of conventional chemotherapy. Cyclophosphamide is an anti-cancer drug clinically used to treat a variety of cancers. The aim of this study was to investigate the possible chemoprotective effects of thymoquinone on possible cyclophosphamide-induced reproductive toxicity in terms of the attachment of sperm to oocyte and also the fertilization rate. Experiments were performed on male and female albino mice, 12-14 weeks of age, weighing 25-30g. Male mice were divided into four groups with 2 mice in each group. Group I was injected once a day with normal saline via intraperitoneum. Group II was treated with cyclophosphamide 200mg/kg, group III with thymoquinone 10mg/kg and group IV with the combination treatment whereby 10mg/kg of thymoqunione was administered on alternate days until day 38 following a single injection of 200mg/kg cyclophosphamide. At the end of the study period, epididymis was excised for sperm analysis, sperm attachment to oocyte and also for in-vitro fertilization. Inverted phase contrast microscopy revealed a decreased number of sperm attachment to oocytes and non-fertilization for the group treated with cyclophosphamide alone. Administration of thymoquinone increased the sperm attachment and fertilization rate effects of cyclophosphamide significantly. Thymoquinone treatment in combination with cyclophosphamide showed an increment in sperm motility, sperm count, the sperm attachment to oocyte and fertilization rates. Thymoquinone has beneficial influences and it appears to improve sperm parameters and sperm attachment to oocyte and fertilization rate against cyclophosphamide-induced reproductive toxicity.

QUALITY BY DESIGN: UNDERSTANDING THE FORMULATION VARIABLES OF A RALOXIFENE LOADED TRANSFERSOMES FOR TRANSDERMAL DRUG DELIVERY SYSTEMS BY BOX-BEHNKEN DESIGN

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Raloxifene HCl loaded transfersomes were fabricated, optimized, and characterized as carrier for transdermal delivery to overcome the poor bioavailabilty issue with the drug. Quality by design (QBD) approach, Response surface methodology (RSM) was applied for optimization of the formulation with Box-Behnken experimental design. Phospholipid PC90G (A), sodium deoxycholate (SDC) (B) and sonication time (C), each at three levels, were selected as independent variables while entrapment efficiency (EE%) (Y1), vesicle size (Y2), and transdermal flux (Y3) were the response variables. The optimized formulation was further characterized for vesicular size distribution, shape, surface morphology, and zeta-potential. Response variables data were analyzed by Design expert software and the best model for all three response variables was found to be quadratic. Formulation No13 with composition of 300mg PC90G (A), 35mg SDC (B) and 15min sonication time (C) was predicted as the optimized formulation. The optimized formulation resulted a particle size of 1349.0 nm with 914.9% EE%, 6.51.1g/cm2/h transdermal flux, and -2.610.5 mV zeta potential. Transmission electron microscopy, scanning electron microscopy, and dynamic light scattering study defined transfersomes as spherical, unilamellar structures with a homogenous distribution and low polydispersity index (0.0800.021). Transfersomal formulation proved significantly superior in terms of amount of drug permeated and deposited in the skin, with an enhancement ratio of 6.251.5 and 9.252.4 when compared with conventional liposomes and ethanolic phosphate buffer solution of the drug respectively. Confocal scanning laser microscopy proved an enhanced permeation of coumarin-6 loaded transfersomes to the deeper layers of the skin (160 m) as compared to the rigid liposomes (60 m). These in-vitro findings proved that raloxifene HCl loaded transfersomal formulation could be a superior alternative to oral delivery of the drug.

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RELATIONSHIP BETWEEN THE APOLIPOPROTEIN E AND BIOCHEMICAL MARKERS OF T2DM

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BACKGROUND: Apolipoprotein E gene (APOE) has been known for more than 30 years and widely studied around the world for its role in the pathogenesis of diseases that are closely related to lipid and lipoprotein metabolism. Its primary role is to mediate the interaction of chylomicron remnants and intermediate density lipoprotein particles with lipoprotein receptors. Type II Diabetes Mellitus (T2DM) is a kind of metabolic disorder which is also responsible for the abnormal lipid and lipoprotein metabolism known as Diabetic Dyslipidemia. Available researches showed that the T2DM and abnormal functioning APOE gene exert similar abnormal lipid and lipoprotein metabolism. Similarly, they shared common risk factors for other health morbidities like stroke, atherosclerosis, dementia etc. Rapidly increasing prevalence of T2DM and related morbidities in Malaysia demands research at the molecular level of disease development. Hence, the focused objective of this research was to evaluate the role of the APOE alleles on the selected bio-chemical markers among the subject with T2DM. RESEARCH METHODOLOGY: This case-control study was conducted between the T2DM (case) and Non-Diabetes (control) study subjects. Approximately 10 ml of overnight fasting (¿8h) blood sample was collected after completion of a short questionnaire and signing an informed written consent. Standard protocols were followed to assess the Fasting Blood glucose (FBG), Serum Total Cholesterol (TC), Triglyceride (TG), High Density Lipoprotein (HDL) and Low Density Lipoprotein (LDL) level. The APOE was genotyped following Restriction Fragment Length Polymorphism (RFLP) technique. Standard kit preparations were used to extract genomic DNA and to amplify the APOE gene. HhaI restriction enzyme was used to digest the PCR product into several fragments those were visualized in 4% Agarose gel in Ultra-Violet trans-illumination chamber. Statistical analyses were done using Predictive Analysis SoftWare (PASW), version 18. RESULTS: There were a total of 102 study subjects recruited in this study; 51 were in the Non-Diabetes (NDM=control) group and 51 in the Diabetes (T2DM=case) group. The studied groups were statistical similar in terms of their ethnicity (2(df=1)=0.00, p=1.00), gender (2(df=1)=1.44, p=0.23), age distribution (2(df=2)=5.76, p=0.33) as well as their mean age (t= -0.94, p=0.35, 95%CI:3.64,4.95). All the selected bio-chemical parameters except the HDL were found to be significantly higher in the T2DM compared to the NDM group. The APOE genotypes and alleles where distributed similarly between the study groups (2(df=2)=1.08, p=0.58). The highest mean (SD) values of the selected bio-chemistries were with the allele followed by the and alleles in T2DM group. Analyses between the groups showed that the and alleles (p= 0.04 and 0.03 respectively) were associated with significantly higher TC level and only the e4 allele (p=0.04) with significantly higher TG level in the T2DM compared to the NDM. There was no such relationship showed for the HDL and LDL in this sample. CONCLUSION: The APOE Gene polymorphism was found to be associated with higher fasting serum TC and TG level among the T2DM subjects compared to the NDM.

SCREENING OF POLYAMINES IN SELECTED MALAYSIAN LOCAL PLANTS

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Polyamines are an aliphatic compound which has various biological roles in the body. The imbalance of this compound in the body could lead to several diseases such as cancer. Since one of the sources is through diet intake, it is essential to obtain information on polyamines content in the food and natural source products which can be found in fruits, vegetables and herbs. The aim of this study is to extract and quantify the polyamine content in selected Malaysian plants pegaga (Centella asiatica), pecah beling (Strobilanthes crispus), kesum leaves (Polygonum minus), red spinach (Amaranthus gangeticus) and graviola (Annona Muricata) . Then, to classify the classes of polyamines among them. Polyamines were extracted by using perchloric acid based on Smith and Davis (1984) with modification. Then, extracted polyamines from selected samples were dansylated with dansyl chloride before analyzed using HPLC. Putrescine was found in all samples except for fresh C. asiatica. Putrescine was detected in high quantity in fresh P. minus leaves extraction (1526.72nmoles) compared to others. While, the lowest spermidine present among all sample is only in A. muricarata extract juice (0.57 nmoles). Whereas for spermine, fresh S. crispus leaves extraction shown the highest concentration which is 64.99 nmoles followed by fresh P.minus leaves extraction (83.81 nmoles) and fresh A. gangeticus leaves extraction (111.36 nmoles). A. muricata extract juice contain low level of polyamine (6.81 nmoles) followed by fresh C. asiatica leaves extraction which has intermediated level of polyamines which is 163.92 nmoles. Fresh S. crispus leaves extraction (214.72 nmoles), fresh A. gangeticus leaves extraction (403.10 nmoles) and fresh P. minus leaves extraction (1851.69 nmoles) contain high concentration of total polyamines. In conclusion, this study revealed that the polyamines detected in C. asiatica, S. crispus, P. minus , A. gangeticus and A. muricata . Highest total polyamine content is detected in S. crispus followed by A. gangeticus and P. minus,the lowest which falls under low category is detected in A. Muricata juice while the low and intermediate level of polyamines detected in C. asiatica .

SELF FOOT CARE AMONG DIABETIC PATIENTS IN OUTPATIENT DEPARTMENT

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Introduction: Foot complications are common in diabetic patients and are associated with a high amputation rate as well as being life threatening. Objectives: The aim of the study to assess the level knowledge and practice towards self foot care among diabetic patients attending Medical Out-Patient Department (MOPD). This study was done to investigate the association between level of knowledge and practice as well as associated sociodemographic characteristics with knowledge and practice. Method: A cross-sectional descriptive study was conducted at out patient department. Purposive sampling method was used to select the sample. 64 respondents involved in this study and the data was collected using self-guided questionnaire modified from a valid and reliable measure. The data had been analyzed by using PASW Statistics Version 18.0 in terms of descriptive statistics, Chi-square test and Mann-Whitney U Test were carried out for significant test. Results: The result showed that diabetic patients in MOPD have a good knowledge with the mean score 9.48 2.79 from the total score of 15. However, the result also shown poor practice regarding self foot care with the mean score 8.36 2.54 from the total score of 16. The statistical test reflected that there was a significant association between knowledge and practice, in which the diabetic patients who had higher knowledge regarding self foot care were having better foot care practice (p-value = 0.03). Furthermore, duration of having DM, gender and occupation have no effect towards the knowledge and practice of self foot care among diabetic patients in MOPD as p ¿ 0.05. Conclusion: In conclusion, the diabetic patients in MOPD had good knowledge but had poor practice about self foot care. Therefore individualized educational intervention should be implemented to ensure foot complications can be prevented as this intervention able to improved patients self foot care knowledge, self foot care practices and confidence in performing foot related self care.

SMOKING CESSATION INTERVENTION AMONG PATIENT WITH ACUTE CORONARY SYNDROME

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Abstract Background: Smokers with Acute Coronary Syndrome often unable to quit smoking without assistance. Therefore, they were smokers who survive a coronary event return to regular smoking within a year. Hence, nurse led smoking cessation intended to reduce the number of smoker among ACS patients and increase the support to those who want to quit. Objective: To examine if smoking cessation intervention conducted by nurse improved the smoking cessation rate and self efficacy during one month evaluation. Methods: A quasi-experimental design was used; smokers with ACS (N=73) who were recruited either to control (n=39) or treatment group (n=34). The smoking cessation intervention focused on counselling education on their current health condition link to tobacco consumption, focusing on handling smoking withdrawal symptoms and reinforcing the patient self-efficacy. Setting: A 438 beds of cardiac centre, serving patients from all across Malaysia. Results: Evaluation for one month showed, there were 41.2% (n=14) among intervention group (n=34) who received smoking cessation intervention able to quit compared to control group (n=39) with 15.4% (n=6). Smoking cessation Self efficacy increased significantly between baseline at one months in the intervention group (z= -4.865, p¡0.05) but remain the same in the control group (z= -.787 p¿0.05). Carbon monoxide score was significantly reduced across the three periods of time in the intervention group with X2 (2, n=34) = 63.79, p¡0.05). The smoking cessation intervention gives an effect size of six times at first two weeks compared to five times on consecutive two weeks later. Change in smoking withdrawal symptoms was found correlated with change in carbon monoxide level (Rho= 0.358, p ¡0.05). Conclusion: Nurse led smoking cessation interventions have given an impact among Acute Coronary Syndrome patients by reducing the number of smokers and increased their smoking cessation self-efficacy during one month evaluation. However, long duration of smoking cessation intervention seems to be important as to maintain their self efficacy and to keep them motivated along with Cardiac Rehabilitation process.

SUPERCRITICAL FLUID EXTRACTION OF OIL FROM PHALERIA MACROCARPA SEED

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Good quality of oil with high unsaturated fatty acids was found in the wild seed of Phaleria macrocarpa (Mahkota dewa) which belongs to the Thymelaeaceae family. This plant is being traditionally used as an important medicinal plant for the centuries in tropical countries especially in Malaysia and Indonesia. Different parts of this plant have been studied extensively by several researchers for the scientific proven of the bioactive compounds. Apart from the bioactive compounds, the seed contains high amount of oil that is of more than half of its dry weight. The oil of this seed was extracted by solvent extraction using n-hexane and supercritical fluid extraction (SFE) and the both systems were optimized using response surface methodology (RSM). At optimized condition, high amount of oil was yielded by both solvent extraction (55.32%, dry weight base of seed) as conventional and SFE (52.9%, dry weight base of seed) as non-conventional extraction methods. However, the purified oil was extracted by SFE that is of organic residues free. The triglycerides in terms of fatty acid constituents of the extracted oil were analyzed by gas chromatography-mass spectroscopy (GC-MS). The total unsaturated fatty acids were found to be 73.62 1.41% whereas the saturated fatty acid was 26.38 0.18%. On the other hand, the long chain fatty acid (eicosanoic acid, 0.7%) and polyunsaturated fatty acid with high percentage of linoleic acid (36.25%) were present in this oil. The oil contains higher percent (44.23%) of monounsaturated fatty acids than the other vegetable oils such as palm oil (39.2%), sunflower oil (21.1%) and soybean oil (23.4%). Thus, the SFE extracted Mahkota Dewa seed oil of could be claimed as high quality and toxic free food and pharmaceutical grade oil.

SURVEY ON ORAL CARE ATTITUDES AMONG NURSES IN CRITICAL CARE UNITS OF HOSPITAL TENGKU AMPUAN AFZAN (HTAA)

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Introduction: This study is basically about nurses attitudes towards oral care to the critically ill ventilated patient. Oral care is much related to ventilator-associated pneumonia (VAP). VAP is the second most common nosocomial infection, but it is the first leading cause of death. Objectives: This study was aimed to describe the nurses attitudes in providing oral care to the ventilated patients in critical care units of Tengku Ampuan Afzan Hospital (HTAA). In this study, the researcher wanted to assess the nurses attitudes towards oral care, to identify the types of oral care and how frequent the nurses provide oral care to the critically ill ventilated patients and to determine the relationship between demographic data of highest educational level of nurses; years of working experience in critical care unit with the nurses attitudes towards oral care. Method: This quantitative cross-sectional survey study was conducted in critical care units of HTAA using self-administered questionnaire. The study involved all staff nurses who worked in Intensive Care Unit (ICU), Coronary Care Unit (CCU) and Cardiac Intensive Care Unit (CICU), during data collection period. Results: Most nurses had a positive attitude towards oral care. But, about 48.1% of the nurses are doing suction toothbrush every 8 hour. Results also showed that there were no significant relationship between highest educational level and attitudes towards oral care ($p = 0.44$). There was also no significant relationship between length of experience in critical care units and attitudes towards oral care ($p = 0.96$). Conclusion: The study highlighted the understanding of the important of performing oral care by nurses in critical care units to prevent VAP in ventilated patients.Even though there was no significant relationship between the both highest educational level of nurses and length of experience in critical care units with nurses attitudes towards oral care, it is hoped that higher educational level of nurses and longer experience in critical care units can result in good attitudes of nurses to do oral care to the critically ill ventilated patients. Keywords: Attitude, oral care, critical care nurses

THE ANTIBACTERIAL EFFECT OF NIGELLA SATIVA AS INTRACANAL MEDICATION

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Purpose: To investigate the antimicrobial activity of four pastes used as root canal dressing interappointment : a calcium hydroxide paste (Group A) , a Nigella sativa extracts (Group B), carbamide peroxide 15% (Group C) Methods: The Agar-well diffusion test was used to evaluate the antimicrobial activity of pastes A , B and C against the following microorganisms, commonly found in the oral cavity, specifically in endodontic infections: Streptococcus mutans. Streptococcus pyogenes Enterococcus Faecalis Pseudomonas aeruginosa and mixed flora of previous microorganisms. The diameter (mm) of the inhibition halos was measured using a digital pachimeter, and the data were statistically analyzed using 1-way ANOVA and Tukey test (= 0.05). Results: Group C displayed larger inhibition halos than Group A and B and the control group (P ¡ 0.05). Conclusion: It was concluded that Group C had greater antimicrobial activity than Group A and B.

THE EFFECT OF INTERNET-BASED INTERVENTION (OBESEGO!) TOWARDS OBESITY AMONG ADOLESCENTS: A RANDOMIZED CONTROLLED TRIAL STUDY

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Obesity in adolescents is a significant problem which is associated with co-morbidities in adulthood. Other than unhealthy diet, sedentary lifestyle and spending more time on screen are among the causes contributing to obesity. Internet may be an effective means of reaching adolescents in promoting them to increase exercise and improve nutrition habits, leading to weight loss and control. This 3 months randomized controlled trial was aim to see the effectiveness of having internet-based intervention (obeseGO!) towards obesity among adolescents in Kuala Lumpur. Fourty seven students were randomly allocated in obeseGO! group and signed up to actively participate in internet based intervention. They were given various information on healthy lifestyle and diet via internet. Fifthy students were served as control group and they were given health education via pamphlet. Measurement on BMI, waist circumference and body fat percentage was taken at baseline and after 12 weeks of intervention given. MANCOVA analysis found that obeseGO! is effective in reducing BMI (mean diff. =-0.39, CI;-0.59, -0.20, p¡0.001), waist circumference (mean diff.= -1.19, CI; -1.89, -0.50, p= 0.001) and body fat percentage (mean diff.= -0.59, CI; -0.93, -0.24, p=0.001) when the possible confounder such gender, race, physical activity level, pre measurement of BMI, Waist Circumference and Body Fat Percentage were controlled. Internet-based obesity intervention program may be an effective medium for promoting healthy diet and physical activity behavior to obese adolescents.

THE EFFECT OF SALIVA OFFICINALIS EXTRACTS ON CANDIDAL GROWTH IN VIRTO (COMPARATIVE STUDY)

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Abstract Objectives: Saliva officinalis is a natural product that has been given more consideration these days because of its beneficial health effect. There are a lot of active component in the Sage that is proven to improve persons health; the main component is camphor which found to have antifungal and antibacterial properties. Thus, the extraction of this compound from plant material has become an important industrial process. The aim of this research is to investigate antifungal ability of different types of Saliva officinalis extract in vitro, and to compare their potency. Materials and Method: Oil and water-based extracts of Saliva officinalis (sage) were used in this study in volume (5ml, 10ml and 15ml) .Disc diffusion method was performed in triplicate and the zones of inhibition around the disc within each petri dish were measured after 48 hours of incubation period. The results were recorded and evaluated. This experiment was repeated with different volume in comparison to Nystatin(100 units) as a positive control. Results and Conclusion: Oil-based extract shows lower antifungal activity compared to water-based extract, and this was compared to Nystatin. The higher the quantity of water-based Saliva officinalis extract used, the bigger the zone of inhibition recorded. From these results we suggest that water-based extract possesses a significant antifungal activity compared to oil based extract. Thus, water-based Saliva officinalis extract might be promising if used as a mouth wash to reduce fungal infection in oral cavity and the incidence of side effect that may occur with some synthetic product.

THE EFFECT OF YASIIN RECITATION ON THE HAEMODYNAMICS OF VENTILATED PATIENTS

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Background of Study: Recitation of Quranic verses to ill patients are practiced by many Muslims as a form of healing and worship. The effectiveness has been observed in many medical institutions; however, very few were objectively measured and documented. This pilot study was conducted to construct a methodological approach to evaluate the therapeutic effects of Yasiin recitation, a chapter in the Holy Quran, on the haemodynamics of critically ill patients. Materials and Methods: Ventilated Muslim patients in coronary care unit of a teaching hospital were evaluated. Yasiin was recited twice; by one of the researchers and then by the patients relatives. Mean arterial blood pressure (MABP), pulse rate (PR), oxygen saturation level (SPO2) and electrocardiographic changes (ECG), were observed. The difference of the parameters before and during recitation was analysed. Results: Five patients fulfilling the selection criteria were selected; two acute myocardial infarctions, two congestive cardiac failures, and a third-degree atrioventricular block. Statistical analyses were performed using a non-parametric two-related-sample test. The haemodynamic parameters were found not significantly affected by Yaasiin recitation. At the end of the study, two of the patients passed away, one patient was successfully extubated and survived. Two patients were still on ventilators upon completion of the study. Limitations faced during the study were observed and highlighted in explaining the equivocal results. Conclusions: The effect of Yasiin recitation on heamodynamics of critically ill patients was not proven in this study. Further refinements might be needed based upon the observation on limitations encountered. It is hoped that this humble effort would pave the way for further studies to explore this field.

THE IMPACT OF PHYSICAL ACTIVITY ON BODY MASS INDEX, OTHER PHYSIOLOGICAL PARAMETERS AND BASAL METABOLIC RATE IN YOUNG ADULTS

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This study was undertaken to examine the effect of daily physical activity on other physiological parameters in young healthy adults and conducted at Basic Medical Sciences Department laboratory in Kulliyyah of Pharmacy, International Islamic University Malaysia. Ninety nine undergraduate first year pharmacy students aged 20 to 23 years old both male and female with no known diabetes and other illness were included in this cross sectional study. The level of physical activities was categorized into 5 groups and value was ranked from 1.2- 2 in accordance with intensity of activity they have exerted. Their heights, weight, body mass index (BMI), waist circumference and systolic and diastolic blood pressure (SBP & DBP) were recorded serially. Pearson Correlation was analysed to detect the relationship between physical activity and other parameters. Fifty nine were female and 40 were male. According to the finding, 21 (21.2%) subjects were ranked into 1.2 as they were sedentary life without doing any regular exercise; 39 (39.4%) were lightly active (ranked 1.375), 27 (27.3%) were moderately active (ranked 1.55) and 12 (12.1%) were very active (ranked 1.725). Thus, 60 (59.6%) were less active. The mean value of BMI, fat percentage, waist circumference, SBP& DBP and basal metabolic rate in female are 22.03 4.02 kg/ M2 and 25.76 4.82%, 69.077.46 cm, 105.3512.76/66.5 8.51mmHg and 1349.60 106.91 while these value in male are 23.36 4.16 kg/ M2; 16.58 4.99%, 80.5450 9.92 cm, 119.3214.77/ 68.5110.33 and 1655.68 208.80 respectively physical activity was significantly correlated with BMI (r=.240*, P= .019), waist circumference (r=.416**, P= .000), waist hip ratio (r=.376**, P= .000), SBP (r=.255*, P= .011) and basal metabolic rate (r= .462**, p= .000) in these young adult group. Lack of physical activity may gain in BMI and increase energy storage lead to obesity towards the early onset of type 2 diabetes mellitus

THE READINESS OF NURSING AND MEDICAL STUDENTS OF IIUM TOWARDS INTERPROFESSIONAL EDUCATION

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Background: In both acute and primary care setting, patient reports higher level of satisfaction, better acceptance of care and improved health outcomes following treatment by a collaborative team. However, there might be some barriers for the healthcare professionals to collaborate well. Interprofessional education (IPE) can help to solve this situation by increase confidence, further understanding among profession and allows for better communication among and between professions. There is a crucial need of IPE, especially to the students. Objective: To measure the readiness of IPE among undergraduate students of Kuantan Campus, International Islamic University Malaysia (IIUM). Methods: This cross-sectional study conducted among 228 IIUM students; and the number of students determined through multistage sampling; stratified random sampling and simple random sampling to select sample from each year, with response rate of 100%. The Readiness for Interprofessional Learning Scale (RIPLS) Questionnaires and Potential Barriers developed from World Health Organization (2010) were used. Data was analysed by descriptive and bivariate; independent t test, ANOVAs test and Spearman correlation. Results: The result showed about 51.3% students were agreed that learning with other students will make more effective member of health and social care, 53.5% strongly agree that patient would ultimately benefit if students worked together and 55.3% strongly agree team working skills are vital for all health care students to learn. However, there were no relationship between demographic data (age, gender, course, year of study, weeks went for clinical skills and previous experience of IPE) and readiness of the undergraduate students. The difference in duration of study was identified as the most potential barrier (86 %) among the students besides other differences such as academic requirement (60.5%), academic calendar (82.5%) and accommodation (52.2%). Conclusion: The result showed that majority of undergraduate students of Kuantan Campus, IIUM are ready for the IPE. However, there are few potential barriers towards IPE among IIUM undergraduate students were identified. Therefore, it is crucial need to expose and introduce IPE to the undergraduate students and includes IPE into curriculum need to be considered.

THE REPRODUCIBILITY OF REMOVABLE PARTIAL DENTURE DESIGN AMONG DIFFERENT LEVELS OF DENTISTS

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Objectives: To assess the reproducibility and applicability of designs produced based on the RPD design principles learnt during undergraduate training, to identify the demo-academic background including experience and interest and their influence on designing RPD. Materials and Methods: Casts of patients attending IIUM dental polyclinic representing various Kennedy classifications were collected and duplicated. Equal numbers of dentists from the levels of Prosthodontists (P), Other Specialists (OS), General Dental Practitioners (GDP), First Year Dental Officers (FYDO) and Final year dental students (S), as well as dental technicians (Tech) were chosen to draw suitable designs on the casts given. Participants were chosen based on systematic random sampling method and purposive sampling method. Designs obtained where then assessed for reproducibility and applicability. Results: Based on the designs produced for 4 RPD cases, it was found that Prosthodontists had the most reproducible designs whereas other specialists designs had the least reproducibility. Applicability wise, 11 out of 12 designs by Prosthodontists were applicable, ranking them first, followed by GDPs, students and technicians in a tie, FYDOs and Other Specialists in sequential order. It was also found that a positive association exists between experience and mean total score of RPD design. Conclusion: This study has shown that different levels of dentists have produced designs that were variable in which the majority was applicable.

TOXICOLOGICAL PROFILES OF CARBAMAZEPINE, GABAPENTIN AND THEIR COMBINATION AT HIGH THERAPEUTIC DOSES IN RAT

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Combination therapy is an effective strategy in management of many health problems. There is some evidence which support a pharmaco-mechanistic way to antiepileptic drugs (AEDs) combination. The effectiveness of combination therapy as a treatment strategy for epilepsy and diabetic neuropathy is undergoing reassessment. This is a result of the increasing gratitude that all seizures and neuropathy pain cannot be managed by monotherapy in a significant percentage of patients, and of the development of a range of new AEDs some of these medications are well tolerated and less prone to complex pharmacokinetic drug interactions than their older generations. A combination of two antiepileptic drugs can be used when there is absence of benefit of one or two different monotherapy regimens. The main objective of this research is to investigate the unwanted effects of using high therapeutic doses in case of combination between two medications. Thirty five adult female SpragueDawley rats weighing 200225 g are used in this experiment. All animals were housed in groups of 2-3 in a temperature (221 c), relative-humidity (6070%) controlled room on a 12:12-h light/dark cycle and allowed free access to water and normal diet for rodents. Animal care complied with that stipulated by the local ethics committee. The rats were randomly divided into 5 groups of 7 animals each as follows: group 1= GBP (250mg/kg), group 2= CBZ (80 mg/kg), group 3=GBP+CBZ (250+80 mg/kg), group 4=GBP+CBZ (125+40 mg/kg), group 5= control (distilled water) (0.6 ml/day). Gabapentin (Neurontin, Pfizer, USA) was suspended in distilled water and administered 3 times daily. Carbamazepine liquid (Novartis, Switzerland) administered one times daily. Drugs were administered to rats by oral gavage method for one month. Animals from control and treated groups were sacrificed; dissected and small pieces of the liver and kidney were quickly removed, then fixed in 10% formalin. Following fixation, specimens were dehydrated, embedded, and then sectioned to 4 microns thickness. For histological examinations, sections were stained with Ehrlich Haematoxylin and Eosin. Blood samples are collected from all groups for biochemicals analysis. In conclusion, treatment with maximum therapeutic dose of GBP, CBZ and their combination may cause serious adverse effects. In spite of there is no pharmacokinetic interaction between these medications but there are many histopathological and biochemical abnormalities found in this study. Finally, combination therapies need to examine thoroughly regarding efficacy and unwanted effects to avoid any serious complications.

TREATMENT AND PREVENTION OF ALZHEIMER'S DISEASE: A PROPOSAL

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The concept that there are naturally occurring antidotes to combat diverse forms of human physical illnesses has long enthralled the human imagination. The discovery of the existence of antagonistic (opposite) couples among the chemical elements in the periodic table has opened up a promising avenue for investigation into combating the onslaught of Alzheimers disease and other illnesses involving toxic imbalance of chemical elements in the human body. There are also ramifications for applications in agronomy and water treatment.

TUALANG HONEY SPRAY VERSUS FILM SPRAY (OPSITE) AS POST–LONG BONE FRACTURE FIXATION WOUND DRESSING. A COMPARATIVE STUDY.

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Background of Study: Honey-based dressings have a potential benefit in treating wounds in implant-related surgery due to its anti-microbial activities and healing potentials. The study aims to compare Tualang honey spray with film spray (Opsite) as an alternative dressing material following long bone fracture fixations. This is a preliminary study in Malaysia on human subjects. Materials and Methods: This is a randomized, controlled trial involving trauma patients with closed fracture diaphysis of tibia or femur internally stabilized with either plates or intramedullary devices. Forty patients were randomly divided into three groups according to the dressing material used; film spray (Opsite) dressing (n=16), Tualang honey spray (n=13), and control group (n=11). Each group used a same wound protocol except for the control group in which involve application of non-adhesive film (Mepore) only. Dressing materials were applied immediately following surgery and on day three post-surgery after wound inspection. Assessment of wound performed on day 14 and day 42 post-surgery. Outcomes measured include wound complications, and the effects on skin commensals. On day 42, infection rate and scar formation were also evaluated. Results: A patient from the Opsite spray group had surgical site infection. Acinobacter was isolated from one of the patients under the control group. There was no statistically significant association between wound healing and dressing methods used. All wounds healed without any evidence of infection at the end of the study. Tualang honey spray have a significant influence in reducing the risk of hypertrophic scar formation. Wound outcomes were also similar compared to Opsite spray. Conclusion: Tualang honey spray is a safe alternative for wound dressing material comparable to the widely used Opsite* spray. It promotes good wound healing with a low risk of hypertrophic scar formation.

UNIVERSAL HEARING SCREENING FOR NICU INFANTS: A RETROSPECTIVE STUDY COMPARING RESULTS OF AABR AND PRESENCE OF RISK FACTORS FOR HEARING LOSS WITH AUDIOLOGICAL ASSESSMENT RESULTS

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Objective: Implementation of universal newborn hearing screening (UNHS) in the neonatal intensive care unit (NICU) at Royal Children Hospital (RCH) by the Victorian Infant Hearing Screening Program (VIHSP) provided an opportunity for Automated Auditory Brainstem Response (AABR) screening results to be compared with formal audiological assessment results. This study aimed to ascertain the performance of risk factors for hearing loss in relation to detecting permanent hearing loss as the risk factors available in other studies showed large variability. Design: In this retrospective study, 191 subjects were admitted to the NICU between 1 July 2005 and 31 December 2005. All relevant data was retrieved from the medical records and VIHSP database into data forms. The following risk factors were studied: number of days in NICU, gestation week, birth weight, APGAR score at 5 minutes, meningitis-encephalitis, in utero infaction, craniofacial abnormality, surgery, other diagnosis, mechanical ventilation, neurological insults, hyperbilirubinemia with exchange transfusion, syndrome associated with hearing loss, use of aminoglycosides, use of diuretics in combination with aminoglycosides and family history of congenital hearing loss. Results: Using Chi-square analysis, numbers of days in NICU, mechanical ventilation, neurological insults and hyperbilirubinemia with exchange transfusion showed significant association with referral for immediate audiological assessment in infants with passed AABR screening. Gestation less than 37 weeks, birth weight less than 1500 grams, surgery, other diagnosis, use of aminoglycosides and use of diuretics in combination with aminoglycosides showed no significant associations with the referral for immediate audiological assessment. Conclusion: The risk factors profile for NICU population at the RCH was number of days in NICU, mechanical ventilation, neurological insults and hyperbilirubinemia with exchange transfusion. As a significant number of infants who passed hearing screening were not referred for immediate audiological assessment, it raised possibility that presence of multiple risk factors can be one of the factors that influenced the referral.

UNRIPE CARICA PAPAYA PULP EXTRACT INCREASES IL-6 SECRETION BY PERIPHERAL BLOOD LEUKOCYTES AND SURVIVAL OF DENTAL PULP STEM CELLS

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Carica papaya leaf extract have been used in folk medicine for many years. One of the uses of the extract has been in the treatment of dengue patients. Administration of C. papaya leaf extract are used to treat dengue fever since it has been shown to improve platelet counts, which is reduced drastically when an individual is infected with the dengue virus. This study aims to study the potential molecular mechanism of pulp extract from unripe C. papaya. Hence we have evaluated the induction of one of the main cytokines involved in platelet production i.e., interleukin-6 (IL-6). Human peripheral blood was collected from healthy volunteers (n=9) and mononuclear cells (PBMCs) were separated using density gradient centrifugation. Once separated, the PBMCs were cultured in 24-well plates for 24 hours and treated with either 2%, 5%, 10% pulp extract or left untreated (control). Supernatant was analyzed for total protein content using the Bradford assay and IL-6 using ELISA. Higher concentration (10%) of the extract significantly lowered the concentration of total protein, compared to the control group ($p = 0.008$). In contrast, lower concentration (2%) of the extract stimulated significantly higher production of IL-6 by PBMCs, which ranged from 0.174 pg/g of protein to 0.918 pg/g of protein, compared to the control group which only recorded IL-6 in the range of 0.007-0.249 pg/g of protein ($p = 0.008$). We have also analyzed if the pulp extract can improve cell survival and differentiation of stem cells using dental pulp stem cells. It was observed that higher concentration of pulp juice (10%) helps both cell survival and differentiation. Taking together, these results suggest that unripe papaya pulp extract could boost platelet production, thus making it a viable treatment option for dengue patients. Acknowledgements: Authors wish to acknowledge the supports from the Basic and Applied Biomedical Research Unit, RMC IIUM, IUM Research Matching Grant Scheme 09-01 and Research Grant from UM (HIR/MOHE/DENT/02).

COMPARISON OF TUMOUR BIOMARKER C-ERBB-2 (HER2/NEU) BEFORE AND AFTER SURGERY IN BREAST CANCER PATIENTS

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Title: Comparison of prognostic biomarker c-erbB-2 (Her2/neu) before and after surgery in breast cancer patients Breast cancer is the most common cancer and a major cause of morbidity and mortality in women worldwide annually. The proto-oncogene Human Epidermal growth factor Receptor-2(HER-2/neu) (C-erbB-2) has been localized to chromosome 17q and encodes a transmembrane tyrosine kinase growth factor receptor. The activation of the Her-2/neu oncogene triggers a cascade of growth signals that results in gene activation, which contributes the uncontrolled growth and survival of cancer cells. Molecular biomarker of cerb-B2 (HER-2/neu) is the prognostic indicator to predict the outcome for women with breast cancer. The cross sectional descriptive study was carried out on 31 breast cancer patients admitted to Surgical Department, Hospital Tengku Ampuan Afzan, Kuantan for breast cancer operation, between January, 2012 and July, 2013. This study was approved by Medical research and Ethics Committee, Ministry of Health Malaysia and all the participants gave their written informed consent. The pre- and post-operative serum Her2/neu protein level in all types of breast cancer was measured by ELISA method. Histological grading was done according to Modified Bloom and Richardson Grading2. The data was analysed by using SPSS version 11.5. In 31 patients, the ages ranged from 38 to 77 years with a mean of 54 years. The mean serum concentrations of Her2/neu protein before and after operation were 1.88+1.527 ng/ml and 1.31+0.994) ng/ml, respectively. Paired Sample T test showed there is a significant correlation between pre- and post-operative serum level of Her2/neu (p=0.004). Mann Whitney U test analysis showed the pre-operative serum level of Her2/neu protein was associated with vascular invasion (p=0.009). However, there was no significant relation between prognostic biomarker Her2/neu and the clinical prognostic parameters of tumor size, lymph node involvement, lymphatic invasion, histological type and grade in all types of breast cancer. High HER-2/neu protein expression is associated with more ductal carcinoma in situ, invasive cancer, high cell proliferation rate, lack of response to hormone therapy, aggressive clinical behavior, development of metastasis, treatment resistance, cancer progression, decreased chance of survival and poor prognosis. However, Her2/neu overexpression tumours response to herceptin. Although the duration of study is short and the small size is small, serum Her2/neu protein level in breast cancer may predict the prognosis, response to therapy, and will be able to assist in breast cancer management.

CT COLONOGRAPHY: DETECTION OF LESIONS AND PATIENTS PREFERENCE CORRELATION WITH STANDARD COLONOSCOPY

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The aim of the study is to measure the prevalence and types of abnormalities on CT Colonography, and to assess the association between standard colonoscopy and CT Colonography. Another aim of the study is to determine the level of preference between standard colonoscopy and CT Colonography. Materials and Method A total of 24 patients were included in the study. All patients underwent a standard bowel preparation (phospho-soda/Fleet@). Patients underwent CTC within 4 hours after standard colonoscopy. Sufficient amount of air was insufflated through rectal tube for colonic distension prior to scanning. CTC was performed using a 4detector row helical CT scanner (Somatom Volume Zoom). Image acquisition was done in prone and supine positions. Scanning parameters were as per CTC protocal. The images were transferred to a remote syngo Colon Workflow Assisstant workstation for 2D and 3D data rendering. The endoluminal navigations were performed from rectum to caecum, in both retrograde and antegrade directions in order to visualize both sides of haustral folds. CTC findings were correlated with conventional colonoscopy findings, which were used as standard reference. For assessment of patients preference between CTC and standard colonoscopy, standard questionnaires were given to patients after both CTC and standard colonoscopy procedures. Results: A total of 24 patients were included in this study. Most of the patients were male (66.7%), and majority were Malays (70.8%). Age ranges from 20-70 years, but most of the patients were more than 40 years of age. Per rectal bleeding were the most common indication for colonoscopy (29.2%). Abnormal CTC results were detected in 62.5%. Abnormal results were due to tumour in 29.2%, polyp in 25% and diverticulum in 8.3%. Correlating with standard colonoscopy results, there is no significant association between the two studies (P value = 0.092). For level of preference between CTC and standard colonoscopy and final selection between these two procedures, most of the patients were satisfied with CTC procedure, which was 62.5%. Conclusion: Even though there were variations in the detection rates of CTC in various studies, results may improve further with ongoing technical improvements and increasing experience. As there is increasing demand of endoscopic units for colorectal cancer screening, CTC offers an effective alternative especially in symptomatic patients and may become an important screening method for colorectal cancer in future. Furthermore, CTC has higher acceptability to patients due to its advantages over standard colonoscopy.

EFFECT OF CONSUMPTION OF MIXED HERBS & SPICES IN CASE CONTROLLED TYPE 2 DIABETES MELLITUS (T2DM) PATIENTS

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Herbs and spices are believed to possess hypoglycemic effects in Type 2 Diabetes Mellitus (T2DM) patients. Twenty patients were recruited from the Medical Outpatient Department of Hospital Tengku Ampuan Afzan (HTAA) in Pahang, Malaysia. Ten patients were provided with placebo while the other 10 patients received four gram of mixed herbs and spices for 30 days. Blood samples were collected before and at the end of the feeding period. These samples were analyzed for parameters namely fasting blood glucose (FBG), glycosylated haemoglobin (HbA1c) and lipid profile concentration. The result shows that there was a significant (P¡0.05) reduction in the fasting blood glucose and glycosylated haemoglobin, HbA1c blood lipid profile remained unchanged. The present study indicates that the mixed herbs & spices tested in this clinical trial have some efficacy for hyperglycemia control .

EFFECT OF MIXED SPICES ON HYPERGLYCEMIA IN CASE CONTROLLED TYPE 2 DIABETES MELLITUS (T2DM): A PRELIMINARY REPORT

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Twenty type 2 diabetes mellitus (T2DM) patients were recruited from the Medical Outpatient Department of Hospital Tengku Ampuan Afzan Kuantan, Malaysia. Ten patients were provided with the Placebo and another ten were served with 4 gram of mixed spices daily for 30 days. Blood samples were collected before and at the end of the feeding period and analyzed for the parameters namely Fasting Blood glucose (FGS) and Lipid Profile. The collected data was analyzed using SPSS Statistical Software version 12. During the consumption period the patients tolerated mixed spices well with an improvement in their general well being. The result revealed that FGS and total cholesterol were significantly (p¡0.05) reduced. This preliminary clinical trial shows that the formulated spices have positive effect in the T2DM patients.

GENDER INFLUENCES ON PREVENTIVE DENTISTRY RELATED ORAL HEALTH SEEKING BEHAVIOUR AMONG WOMEN PATIENTS ATTENDING AT POLYCLINIC OF KULLIYYAH OF DENTISTRY, INTERNATIONAL ISLAMIC UNIVERSITY, MALAYSIA

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Background: Regular dental check-up is an essential and first step as preventive oral health seeking behavior to do screening for oral diseases. Oral health seeking behavior of the patients is determined by multi-factors including gender issues -gender difference and gender influence1. In Asian setting including Malaysia, the husband plays a major role in decision-making about family and household matter including seeking treatment for oral health2. However, there is limited published data regarding gender influences in terms of support and prohibition of spouse on preventive dentistry related oral health seeking behavior. Besides, practicing and conforming dental appointments given by oral health providers for treatment are desirable oral health seeking behavior. Objectives: To verify gender influence on preventive dentistry related oral health seeking behavior in terms of dental appointment and dental check-up for preventive dentistry. Materials and methods: A mixed method study was carried out by using a pre-tested verified questionnaire including open-ended questions in face-to-face interview with women patients attending Polyclinic of Kulliyyah of Dentistry, IIUM from July to November 2013. The participants from Conservative and Periodontics department who met inclusion and exclusion criteria were selected by volunteer sampling. Support and prohibition of spouse were considered as gender influence. Dental appointment and dental check-up were selected as indicators for preventive dentistry related oral health (PDR-OH) seeking behavior. Knowledge, attitude and practice of dental check-up were assessed. A cross analysis was done to infer gender influence on PDR-OH seeking behavior. Qualitative case analysis on a transcription verbatim of in-depth-interview with a significant case was done. Results: Out of 46 women aged between 20 to 45 years old with dental caries and/or periodontitis, 98% (45/46) of them got moral and/or physical (transportation, taking over wifes work) and/or financial support from their spouses to seek oral health care. Out of two women who were prohibited by their spouse to seek oral health care, one specified that the prohibition was transportation. Regarding dental check-up, 60% of them acknowledged the six-monthly dental check-up and had high attitude (96%), but practice was low (22%). Without getting spouse support, one woman fulfilled all the appointments given by the dentist and practiced dental check-up for her oral health care particularly for scaling. The husbands support and prohibition influenced on practicing dental appointment. Although there was statistically significant (p¡0.05) association between the husband prohibition and dental check-up practices, it was not significant with husbands support. Conclusion: Low practices of dental appointment among the patients; knowledge-practices gap and high positive attitude regarding dental check-up could be seen in the study. Women empowerment for oral health was noticed in the woman who fulfilled all the appointments given by the dentists and practiced dental check-up without her husbands support. Women are easier to come to dental clinics than man was mentioned. Promotion of dental check-up appointment system and empowerment of women in PDR-OH seeking behavior should be considered for preventive dentistry. A further study should be conducted to get more valid results. Keywords: gender influence, dental check-up appointment, preventive dentistry, Malaysia

HI-FIBRE AND HI-PFC FORMULATED HALAL BACCAUREA ANGULATA JELLY FOR ELDERLY GROUPS

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There is a global increase in the number of the elderly and aging population, with many older adults being at risk for under nutrition and malnutrition. As a result, individuals with eating problems regularly prefer soft, easily chewed foods and avoid whole grains, fresh fruits and vegetables, and meats which are nutritionally dense foods. Elderly groups are also more likely to become constipated. This study is thus aimed at producing a novel jelly product of high fibre and high phenolic, flavonoid and carotenoid (Hi-PFC) contents from Baccaurea angulata fruits, a new product that would be accepted and palatable to all consumers and especially the elderly people with constipation and malnutrition problems. Sensory evaluation was done using hedonic rating scale ranging from 1-9. (1= extremely like, 9= extremely dislike and 5= neutral). Mean differences were assessed at 5% level of significance (neither like nor dislike). All the novel formulated jellies were mostly preferred in spite of their highly accepted appearance, texture, odour, taste and overall liking (n=30). The novel high fibre halal jelly with all the morphological parts of Baccaurea angulata (whole fruit, skin and berry) contains the essential antioxidant nutrients including dietary fibre that are good in promoting human health and combatting constipation as well as counteracting oxidative stress particularly in the old folks. There is also a bright opportunity and marketable potential for the new high fibre and hi-PFC jelly product to be commercialized and sold to the aging populations and other risk groups. Islamic Perspectives: Allah (SWT) mentioned in the Holy Quran, And be kind and dutiful to your parents (Al-Israi (Quran 17) Verse 23). The prophet (SAW) also said: And when the cure matches the disease, the person recovers BY THE WILL OF ALLAH (Muslim & Ahmad).

ISOLATION OF A PROMISING ANTI-DIABETIC AGENT (5,7-DIHYDROXY-8-METHOXYFLAVONE) FROM THE LEAVES OF MALAYSIAN HERB TETRACERA INDICA AND ITS IN VIVO TOXICOLOGICAL STUDIES

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The prevalence of diabetes mellitus among Malaysians adults more than 30 years of age has escalated by more than twofold over a 20-year period. Diabetes mellitus is a chronic disorder together with other metabolic abnormalities, usually developed due to insulin resistance or deficiency as well as increased hepatic glucose output. On the other hand, many plants have been used for the treatment of diabetes mellitus in modern system of medicine and in other ancient systems of the world. As a result, plants are now-a-days regarded as promising and significantly attractive natural sources to enrich the current therapy options against diabetes. However, so far, not many active agents have been successfully isolated and extensively studied. Hence, in the current research, we are prompted to evaluate the antidiabetic potential of a flavonoid (5,7-dihydroxy-8-methoxyflavone) isolated from the leaves of Tetracera indica Merr., a Malaysian medicinal plant which is traditionally used to treat diabetes in Malaysia. The study was carried out using Sprague-Dawley rats (diabetic as well as normal) to evaluate antidiabetic potential of 5,7-dihydroxy-8-methoxyflavone at at 5 mg/kg b.w. and 25 mg/kg b.w. It exhibited significant anti-hyperglycemic activity in alloxan induced diabetic rats, however in normal rats, no hypoglycemic activity was observed, when compared with +ve and ve controlled groups. The antidiabetic activity was found to be comparable with glibenclamide (GLBC), a known oral hypoglycemic agent (50 mg/kg b.w.). The LD50of 5,7-dihydroxy-8-methoxyflavone extracts was found to be more than 500 mg/kgb.w.and no lethal toxicity was observed within this range. Three weeks later the In-vivo study, histopathology of kidney and pancreas from Alloxan-induced rats demonstrated the clinical manifestation of diabetic affected kidney and pancreas. It is concluded that the isolated flavonoid from the leaves of T.indica could prove useful in the management of diabetes.

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MATERNAL KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING BREASTFEEDING IN TEMERLOH, PAHANG, MALAYSIA

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Background: Although, breast feeding is the best way to feed infant by providing the psychological and health benefit to mother and child, prevalence of practicing exclusive breastfeeding (EBF) for 6months and continuing it up to 2-years varies between countries and within countries from 75% in DPR Korea, Seri Lanka, Cambodia and the Solomon Islands, around half in India and less than 20% were in Thailand and Viet Nam. In Malaysia, national EBF rate in 2011 was 23.7%. Objectives: Aim of this study was to assess maternal knowledge, attitude and practices on exclusive breastfeeding and continuing it up to 2 years including its influencing factors and reasons for discontinuation of breastfeeding before 2-years. Methods: A cross sectional study was carried among 500 mothers of children aged from neonate to 3 years who attended at Maternal and Child Care Clinic, Temeloh, Pahang between July and December 2012. A face-to-face interview was done by using a semi-structured, pre-tested questionnaire including opened type questions to collect data. A cross analysis was done to infer statistical significance of influencing factors which affect pattern of breast feeding in terms of age, occupation, educational level of mother and socio-economic status of family. Results: Out of 500 mothers, 96% of them have knowledge regarding benefits of breastfeeding in general and particularly in characteristics and value of breast milk (91%), mother-infant bonding (77%). Sources of their knowledge were health personal (45.1%), media (20%), family (16.3%), and friends (14%). Regarding attitude, all mothers agreed that breast feeding is ideal food for babies, followed by agreement to feed breast milk to next child (98.6%), being comfortable with breast feeding(96%), encouraging breast feeding by family (95.8%), causing diarrhoea diseases by bottle feeding in babies (79.6), affecting on marital status by breast feeding (37%), feeling embarrassed with breast feeding (30.5), allowing breast feeding at home by employers (27%) and taking leave for breast feeding (12.6%). Regarding practices, 81% of them had early commencement of breast feeding. Exclusive breast feeding rate and continuing breastfeeding up to 2 years of age were 37.2% and 34.5% respectively. The reasons for discontinuing breastfeeding up to 2 years of age were no breast-milk production (81.7%), working mother (63.4%), refusal to feed (46.2%), retracted nipple (14%), maternal sickness (13%) and others reasons (37.6%). Mixed and bottle feeding rate were 54.4% and 22% respectively. The reasons for bottle feeding were no breast-milk production (36.4%), working mother (24.5%), refusal to feed (20%), maternal sickness (5.4%) and others (14.5%). Influence of maternal employment status on EBF was significantly (p ¡0.05) found out. Monthly family income was related significantly with continuing breastfeeding up to 2 years. Conclusion: EBF rate of Temerloh, Pahang was higher than that of National figure. Nevertheless, need to find out the ways to supports mothers to get higher achievement. The other reasons which influenced on discontinuing breastfeeding should be clarified in further study to get more understanding on the mothers who are unable to provide exclusive breastfeeding and continuing it up to 2 years of their children.

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MODEL OF A CRITICAL SIZE DEFECT IN THE NEW ZEALAND WHITE RABBITS TIBIA

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Introduction: New Zealand White rabbit (Oryctolagus cuniculus) is frequently used as a model for in vivo studies of bone healing. However, no standard surgical protocol exists in the literature. This technical note attempts to present a surgical technique of a critical size defect (CSD) in the New Zealand white rabbit tibia. Methods: Sixty-one New Zealand White rabbits were used in this study. A critical size defect of approximately 4.5 mm (width) X 9.0 mm (length) was surgically drilled at proximal tibial metaphysis, approximately 1 cm from the knee joint. Results: This method showed less bleeding from the muscle covering the CSD observed. No mortality and other surgical complications were observed within 6 weeks, 12 weeks, 24 weeks, 36 weeks and 48 weeks. Conclusion: A simple and safe method for performing critical size defect was demonstrated and recommended as an approach for surgery on New Zealand White rabbits.

NEW DESIGN OF CONTRAST DETAIL PHANTOM'S HOLE: APPLICATION FOR STATIC AND MOVING PHANTOM AS RADIOGRAPHIC QUALITY CONTROL TOOL

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The true goal of image acquisition is to produce an optimum image quality that can facilitate the diagnosis, however, one of the challenge during performing radiographic examination lies in patients motion. Motion can eventually cause the projection to be repeated, thus introducing the patient to unnecessary radiation dose. It is crucial to investigate the effect of movement on image quality in terms of optical density values and the amount of radiation dose being detected. This objective can be achieved by altering the holes shape of conventional Contrast Detail phantom. This is due to inability of cylindrical shape to show the effect of motion on radiographic image effectively which leads to image degradation. Therefore, new invention in terms of hole design is developed. The new hole design consists of two different sizes of hole whereby the small diameter of hole is placed on top of big diameter hole. This phantom is a new radiographic quality control tool that can be used as static and also as moving phantom to measure the contrast-detail performance and radiation dose during radiographic examination.

NOVEL ANTI-ATHEROGENIC HALAL BACCAUREA ANGULATA FRUIT JUICE FOR HEALTHY HEART

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Background: Atherosclerosis is a serious condition where arteries become narrowed by a build-up of plaque. This progressive process silently and slowly blocks arteries, putting blood flow at risk. Atherosclerosis is the usual cause of heart attacks, strokes, and peripheral vascular disease, what together are called "cardiovascular disease. LDL oxidation and chronic inflammation are the two clinical (pathological) hallmarks of atherosclerosis. Therefore the aims of this present study were to investigate the potential antioxidant, anti-inflammatory and plaque-reducing activity of Baccaurea angulata fruit as a new anti-atherogenic plant. Methods: Thirty-six male rabbits of New Zealand strain used were randomly assigned to six groups: Group I (rabbits fed with normal pellet, n = 6); Group II (fed 1% cholesterol, n = 6); Group III (fed 1% cholesterol + 0.5 ml/kg/day whole fruit juice n = 6); Group IV (fed 1% cholesterol + 0.5 ml/kg/day fruit skin juice, n = 6); Group V (fed 1%cholesterol + 0.5 ml/kg/day fruit berry juice, n = 6); Group VI (fed1% cholesterol + 1.5 mg/kg/day Simvastatin drug, n = 6). The whole study lasted for 12 weeks. Blood plasma was taken at the beginning and end of the experiment. Antioxidant enzymes (Superoxide Dismutase (SOD), Catalase and Glutathione peroxidase (GPx)) as well as inflammatory markers (Vascular cell adhesion molecule-1 (VCAM-1) and Tumor necrosis factor (TNF)) were measured. Result: Baccaurea angulata juice has high antioxidant activities indicated by the increase in the SOD activity, Catalase and GPx activity when comparing the WF, BR and SK groups with the cholesterol (CH) group. In the CH group, there was statistically significant increase in both VCAM and TNF levels as compared to WF juice group with significant reduction in the level of VCAM and a slight increase in TNF. Also, BA juice reduced plaque or atheroma formation in rabbit aortas. Conclusion: Baccaurea angulata juice possesses the ability to counterbalance oxidation reaction, inhibit inflammatory markers and reduce atherosclerotic plaque, which in turn could prevent atherosclerosis. Key words: Baccaurea angulata, Antioxidant enzymes, Inflammatory markers, Atherosclerosis.

PHYSICAL HEALTH COMPONENTS AND CARDIOMETABOLIC RISK MARKERS AMONG ELDERLY: A CASE CONTROL STUDY

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Introduction: Cardiometabolic diseases remain the leading cause of death as well as disabilities in Malaysian population and the risk increases gradually with age. The challenge to the chronic health care in the clinical and research communities alike is to describe the suitable components of preventive, diagnostic, and therapeutic care especially for elderly in the society. Hence, assessing physical health components in the elderly may provide information to complement the physiological data and perhaps could be used to predict the health status among elderly. Beneficial effects of physical health on the risk of cardiometabolic diseases in elderly that may underlie this relationship are not well understood. Thus, the aim of this study was to explore the relationship between physical health components and cardiometabolic risk markers among elderly. Methods: Thirty-four patients with cardiometabolic disease and 34 healthy subjects aged 60-75 area Kuala Lumpur, Malaysia participated in this study. Participants had undergone a series of test which were cardiorespiratory endurance, muscular strength, muscular flexibility and agility. Blood pressure was measured on the following day. Ten milliliters of blood were collected after an overnight fast for analysis of cardiometabolic risk markers which includes high sensitivity CRP, lipid profiles, glucose, insulin and HOMA-IR. Spearman rho correlation was used to determine the relationship between these parameters. Results: Result showed a significant positive relationship between muscular strength with glucose (r=0.265, p=0.029) and muscular strength with blood pressure (r=0.318, p=0.008). Significant negative relationship were observed between muscular flexibility with insulin (r=-0.276, p=0.023), muscular flexibility with HOMA-IR (r=-0.291, p=0.061). Conclusion: Elderly with good muscular strength and flexibility components in physical health leads the potential of reducing the cardiometabolic risk markers as well as preventing the cardiometabolic diseases. Therefore, effective muscular strength and flexibility promotion strategies for physical health are urgently needed in preventing cardiometabolic diseases.

RADIOGRAPHIC EVALUATION OF BONE HEALING IN CRITICAL SIZE BONE DEFECTS IMPLANTED WITH OSTEOPASTE

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Introduction: The critical size defect (CSD) has been used in experimental animal models to determine the effectiveness of newly developed biomaterials. The aim of the present study was to evaluate the healing process of injectable calcium phosphate bone cement (Osteopaste) in rabbit tibia. Methods: Sixty-one New Zealand White rabbits were used in this study. The in vivo bone formation was investigated by either implanting the injectable calcium phosphate (Osteopaste), Jectos (positive control) or MIIG X3 (positive control) into a CSD model in the proximal tibial metaphysis. CSD without treatment served as negative control. The defects were assessed using serial plain radiographs immediately on day 1 post surgery, then in 6, 12 and 24 weeks. Results: There was direct contact between osteopaste material and host bone. The new bone was seen bridging the defect. Conclusion: The result implied that Osteopaste could become a new promising biomaterial for bone repair and has a potential in bone tissue engineering.

RELATIONSHIP BETWEEN EDUCATIONAL BACKGROUND AND PATIENT MOTIVATION TO SEEK DENTAL TREATMENT

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There is high prevalence of dental diseases shown in epidemiological studies, yet, not more than half adults visiting the dentist within a year. Majority of people seek dental treatment are mainly to reduce pain.1 Several factors that affect patients oral health seeking behavior includes education, gender, socio-economic status, rural characters, dental health insurance and the need for dental treatment.2 The barriers in regular dental care include dental anxiety, price, income, the distance of travel to get care and preference to preserve teeth.1 Objective: To determine the relationship between educational background and patient motivation to seek dental treatment. Material and methods: A cross-sectional study was conducted among 120 patients of 18-year-old and above who attended IIUM Dental Polyclinic by using simple random sampling method. A set of questionnaire consists of 13 questions with Likert scale3, was distributed to patients during clinical hours to assess their motivational level to seek dental treatment. The motivation levels were categorized into low (score below 26), moderate (score 27-51), and high motivation (score 52-65). An X2 and ANOVA test were applied to test the relationship between educational background and motivation level of the patients. Results: In the study, out of 120 patients, 89 patients (74.2%) showed moderate level of motivation, 31 patients (25.8%) showed high level of motivation and none (0%) showed low level of motivation. From high motivation level group, patients with certificate/diploma showed the highest percentage (38.7%), followed by first degree/higher degree (32.3%), SPM/STPM (29.0%) and below SPM (0%). While from moderate motivation level group, patients with certificate/diploma also showed the highest percentage (29.2%), followed by first degree/higher degree (25.8%), SPM/STPM (23.6%) and below SPM (21.3%). There was a significant association (p=0.048) between educational background and patient motivation to seek dental treatment. Conclusion: There was a significant relationship between educational background and patient motivation to seek dental treatment in IIUM dental polyclinic. Recommendation: Oral health education and promotion should be focused on people with low education background.

REPRODUCIBILITY OF MAMMOGRAPHIC PARENCHYMAL PATTERNS AND BREAST DENSITY ON FULL-FIELD DIGITAL MAMMOGRAPHY (FFDM): COMPARISON OF THE TWO CLASSIFICATION SYSTEMS (BIRADS AND TABAR)

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The aim of the study is to compare inter-observer agreement in the classification of mammographic breast density using TABARs pattern and BI-RADS classification systems on Full-Field Digital Mammography (FFDM). Materials and Method A 400 data set of mammograms in mediolateral and craniocaudal views was independently evaluated by three radiologists. Breast density was classified using BI-RADS and TABAR classification systems. The three radiologists interpreting the mammogram images were general radiologists with three, four and one years experience respectively. There was no special coaching conducted prior to data interpretation. Results: Inter-observer agreement for the BI-RADS are slight to fair (reviewer 1 vs reviewer 2: k=0.19, reviewer 1 vs reviewer 3, k=0.07 and reviewer 2 vs reviewer 3, k=0.49) and for TABAR is fair to moderate (reviewer 1 vs reviewer 2: k=0.23, reviewer1 vs reviewer 3, k=0.31 and reviewer 2 vs reviewer 3, k=0.50). Conclusion: Our study demonstrates that the assessment and classification of the breast density is difficult with slightly better performance using TABAR classification system compared to BI-RADS classification. If breast density is to be used as part of risk predictors of breast cancer, a consistent, quantitative and observer-independent method for characterizing mammographic breast density is needed in local clinical practice.

SURGICAL INACCURACY OF TUMOUR-RELATED PELVIC RESECTIONS AND IMPLICATIONS ON THE ONCOLOGIC OUTCOMES

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The rates of cure for pelvic tumours are still lower compared to tumours involving the long bones even with advancement in treatment modalities. Safe surgical margins, an important prognostic factor for oncologic outcomes, are difficult to achieve when performing surgical resections for bone and soft tissue tumours involving the pelvis. We evaluated the accuracy of surgical margins achieved in pelvic tumour resections, its associated factors, as well as the oncologic outcomes. Materials and Methods: 64 cases of pelvic tumours of various types, whom underwent internal (limb-salvage) or external hemipelvectomy in a single tumour referral center were included. Various clinicopathologic factors were analyzed in relation to achieving a negative microscopic margin in tumour resections. Analysis included survival time to local recurrence, distant metastasis, and disease-specific death of patients, as well as factors associated with the oncologic outcomes. Results: Mean age at time of surgery was 39.8 years (range 8 to 79 years). Majority of cases were primary tumours (76.56%), mostly were chondrosarcoma (n=14) and osteosarcoma (n=13). 23 patients underwent external hemipelvectomy and 41 patients subjected for internal hemipelvectomy of various types of resections. Majority (71.88%) of cases were treated with curative intention. 14 of 37 cases (37.84%) attempted for wide resection had positive microscopic margins. Incidence of positive microscopic margin was higher in cases with wide contaminated margins (56.25%). Factors associated with positive microscopic margin include tumour occurrence, tumour volume, tumour stage, types of surgery (amputation or limb-salvage) and types of pelvic resections. Local and distant recurrence rate were higher when margins were positive. Paradoxically the disease-specific death rate was lower in cases with positive margins. Conclusion: The probability of achieving a clear microscopic margin in attempted wide resections was as low as 50% only, similar to a previous published experimental study. Internal hemipelvectomy provides significantly better disease-specific survival rate, hence justified with proper indication and selection of patients. Microscopic margin was a prognostic factor for all three primary endpoints of this study, but was not statistically proven as an independent prognostic factor.

THE EFFECT OF CHRONIC PERIODONTITIS ON ORAL HEALTH-RELATED QUALITY OF LIFE (OHQOL) IN PATIENTS AT THE POLYCLINIC, KULLIYYAH OF DENTISTRY, IIUM

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Objective: To investigate the effect of Chronic periodontitis (PD) on oral health-related quality of life in patients attending the Periodontics clinic by using the Malaysian version of OHQoL-UK (United Kingdom).

Material and methods: A cross-sectional descriptive and analytical study was conducted among 80 patients who attended the Periodontics clinic Kulliyyah of Dentistry, International Islamic University from May to November 2013.

Patients who met inclusion and exclusion criteria were selected by using volunteer sampling method. Patients socio-demographic data and self-reported Periodontitis symptoms over past year were collected using validated semi-structured pre-tested questionnaires. The Malaysian version of OHQoL-UK index were used to assess the impact of Chronic periodontitis on four aspects of patients quality of life; symptoms, physical, psychological and social aspects. The diagnosis of Chronic periodontitis was established by periodontal specialist based on the American Academy of Periodontology 1999 Classification of Periodontal disease and condition. The relationship between severity of periodontitis and self-reported symptoms, with OHQoL-UK scores, were analysed using chi-square test and independent sample t test. Results: Among 80 patients, 56% (45/80) of them suffered severe Periodontitis and followed by moderate (34%) and mild (10%). Out of 8 patients self-reported symptoms (swollen gum, bleeding gum, sore gum, receding gum, loose teeth, drifting teeth, bad breath and sensitivity), OHQoL scores were significantly associated with past year experiences of receding gum (p¡0.04) and sensitivity (p¡0.00). The effect on OHQoL of the patients by Chronic periodontitis was significant across a broad range of physical, social and psychological aspects except eating in physical aspect; ability to relax, confidence and personality in psychological aspect; and ability to work and finance in social aspect. In addition, a statistically significant association was found between the severity of Chronic periodontitis and the level of OHQoL scores (p¡0.01). Out of 45 patients with severe PD, 51% of them mentioned that the disease severely effect on their OHQoL whilst 40% of them mentioned that there was no or low effect on their OHQoL. Sixty percent of the patients with moderate PD and 50% of mild PD patients mentioned that their OHQoL were severely affected. Conclusion: Overall, Chronic periodontitis impacts on life quality. Severe negative effect was most prevalent among study samples with severe Chronic periodontitis. Contrarily, a significant number of that group perceived no and mild effect. It may be related with their socio-demographic background, oral health seeking behavior and knowledge of periodontitis. A further qualitative study -In depth interview- needs to be conducted to explore this issue. A better understanding of the consequences of periodontal disease from individuals perspectives is important in planning periodontal care which address the patient needs and key concerns.

THE EFFECTS OF HIGH PERINATAL SODIUM CHLORIDE EXPOSURE ON THE BLOOD PRESSURE AND PLASMA RENIN ACTIVITY RESPONSE TO CHRONIC HIGH SODIUM CHALLENGE IN ADULT RATS

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An insult during a critical period of fetal development may result in increased risk for development of hypertension . One model of perinatal programming includes the effects of high maternal dietary sodium concentration on the offsprings blood pressure and plasma renin activity upon short term exposure to low and high salt diet in adulthood. This study aims at evaluating the effects of high maternal dietary sodium intake during pregnancy and lactation on their offsprings blood pressure and plasma renin activity at 16 weeks upon 1 month of high dietary sodium challenge in comparison to normal maternal dietary sodium concentration (1.0% NaCl). Normotensive female Sprague-Dawley rats were subjected to timed- pregnancy. Pregnant rats were randomly divided into two groups and were fed normal-sodium diet(NSD)(1.0% NaCl)(n=10) or high-sodium diet(HSD)(3.0% NaCl)(n=10) during pregnancy and 4 weeks of lactation. The offsprings were weaned at 4 weeks old. Thereafter, both groups were fed with normal-sodium diet (1.0% NaCl) until 12 weeks old and then challenge with 3% NaCl diet for 4 weeks. Blood pressure, heart rate, body weight and daily food intake were measured in the offsprings at 12 and 16 weeks old. There were similar mean daily food intake between week 12-16 (g/day) (22.840.09 vs 23.020.20) and mean body weight (g) at 12 weeks (384.792.28 vs 389.734.65) and 16weeks (434.553.00 vs 443.774.46) in the offspring of NSD and HSD dams respectively. At 12 &16 weeks old, the offsprings mean systolic blood pressure were significantly higher in HSD than NSD dams. No significant differences in mean heart rate at 12 weeks and upon high dietary sodium challenge at 16 weeks in the offspring. Systolic blood pressure and plasma renin activity response to high sodium challenge were similar in the HSD and NSD offspring. HSD offspring have greater propensity to develop higher blood pressure than NSD offspring at 12 and 16 weeks old. The underlying mechanism might not be related to alteration in renin angiotensin system as the plasma renin activity at baseline and upon challenge were similar between HSD and NSD group. The results suggest that there is a similar pattern of blood pressure changes in HSD and NSD offspring upon chronic high dietary sodium challenge. HSD offspring have greater propensity to develop higher blood pressure than NSD offspring at 12 and 16 weeks old.

THE EFFECTS OF VASECTOMY ON TESTICULAR TISSUE OF MICE: HISTOLOGICAL CHANGES AND DNA FRAGMENTATION STUDY

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Introduction: We aim to investigate the effect of vasectomy on the histology of the testis as well as to evaluate DNA fragmentation in testicular tissue of male mice. Methods: Bilateral vasectomy was performed on 20 mature male mice; 10 control mice underwent sham-operation. After 6 weeks, the testes were evaluated for histological changes and DNA fragmentation by single cell gel electrophoresis (comet assay). Results: Marked alterations were observed in the testes of vasectomized mice, including degeneration of spermatids, thickened basement membrane, dilatation of the seminiferous tubules, exfoliation of germ cells, reduction in the seminiferous cell population, vacuolated appearance of the epithelium in the tubules and marked interstitial fibrosis. Single cell gel electrophoresis showed a highly significant (P¡0.0001)increase in DNA damage among vasectomized mice (46.02%) compared with control group (%27.17)after six weeks of operation. Conclusion: Vasectomy induced deterioration in the seminiferous tubules associated with increased testicular cells DNA fragmentation.

THE EFFECTS OFMATERNAL DIETARY SALT INTAKE DURING PREGNANCY AND LACTATION ON THE OFFSPRING BLOOD PRESSURE IN RATS

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Perinatal programming is a concept introduced by Barker and colleague (1992).It refers to development of chronic diseases such as hypertension and cardiovascular diseases in adulthood as a result of abnormal environment or an insult during a critical period of fetal development during pregnancy and lactation. One model of perinatal programming includes the effects of different maternal dietary sodium concentration during pregnancy and lactation on the offsprings blood pressure. This study aims at investigating the effects of high (3.0%NaCl) and low (0.145%NaCl)maternal dietary sodium concentration on their offsprings blood pressure at 4 and 8 weeks in comparison to normal maternal dietary sodium concentration (1.0% NaCl).). Normotensive female Sprague-Dawley rats were subjected to timed- pregnancy. . Pregnant rats were randomly divided into three groups and were fed either low-sodium diet (LSD) (0.145%NaCl) (n=10), normal-sodium diet (NSD) (1.0%NaCl) (n=10) or high-sodium diet (HSD) (3.0%NaCl)(n=10) during pregnancy and 4 weeks of lactation. The offsprings were weaned at 4 weeks old. Thereafter, all the three groups were fed with normal-sodium diet (1.0%NaCl) for another 4 weeks. At 4 weeks old, the offsprings of HSD dams have significantly higher systolic blood pressure (SBP) compared to NSD group respectively (119.44mmHg 1.8 vs 103.65mmHg 0.92). There were no differences in the offsprings SBP between NSD and LSD dams at 4 weeks old. Nevertheless, at 8 weeks old, the offsprings of LSD dams have significantly higher SBP as compared to NSD dams (130.131.45mmHg vs 120.26mmHg1.09). Similarly, at 8 weeks old, the offspring of HSD dams have significantly higher SBP as compared to NSD dams (131.061.49mmHg vs 120.26mmHg1.09). However the SBP is still within normal range and LSD manifest higher SBP at later age as compared to HSD offspring. There were similar mean daily food intake between week 4-8 (g/day)(17.020.14;16.760.12;17.140.12) and mean body weight at 4 (92.120.44g; 92.690.57g; 93.010.73g) and 8weeks (299.391.51g;297.971.25g; 301.951.63g) in the offspring of LSD,NSD and HSD dams respectively. If these findings can be extrapolated in human, both too low and too high salt intake during pregnancy would be a risk factor for hypertension in the offspring. This suggest that there is an optimal level of dietary sodium intake during gestation and lactation.

THE STUDY OF PARAOXONASE (PON1) ACTIVITY, OXIDIZED LOW-DENSITY LIPOPROTEIN (OX-LDL) AND AUGMENTATION INDEX (AIX) AMONG HEALTHY POPULATION

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Arterial stiffness is a hall mark of aging and is also associated with a number of cardiovascular risk factors such as hypercholesterolemia, hypertension, diabetes mellitus and smoking. The goal of this research is to study the association between paraoxonase (PON1) activity, oxidized low-density lipoprotein (Ox-LDL) and augmentation index (AIx) among the healthy population in Chengal Lempong village. Apparently healthy subjects (n=85) of age (¿18 years) were randomly selected. PON1 activities towards substrates paraoxon, phenylacetate and diazoxon and lipid profile were analysed by standard methods. Measurement of (Ox-LDL) was done by using Mercodia Ox-LDL ELISA. The augmentation index (AIx), a surrogate measure of arterial stiffness, was determined by using SphygmoCor device (At Cor Medical, Australia). The results showed that mean age of the subjects were 408 years with male and female distribution were 38(45%) and 47(55%) respectively. 35.3% and 41.2% of the subjects were obese and overweight. As much as 62 (72.9%) and 23(27.1%) of them were nonsmokers and smokers. The age of the subjects showed weak negative association with augmentation index (AIx) (r= - 0.032, p=0.770). Mean AIx of female was significantly higher compared to male subjects [26.21(6.95), p¡0.05]. There was a significant negative correlation (r = - 0.441, p¡0.05) between height and AIx whereas weight was not significantly associated with AIx (p=0.439). There was a significant positive correlation (r=0.332, p¡0.05) between diastolic blood pressure and augmentation index. PON1 activities towards paraoxon, diazoxon and phenylacetate were not statistically correlated with augmentation index. There was no significant correlation between augmentation index and Ox-LDL (r=0.14, p=0.200). There was a significant positive correlation between Ox-LDL and arylesterase (r=0.251, p¡0.05) and diazoxonase (r=0.244, p¡0.05). Both basal paraoxonase and salt-stimulated paraoxonase were not significantly correlated with Ox-LDL. The present study demonstrates for the first time in association between PON1, Ox-LDL and augmentation index among the healthy population. Although these association did not reach statistical significant, our results among healthy population may support in clinical studies.

Information and Communication Technology(ICT)

A COHERENT FRAMEWORK FOR UNDERSTANDING SUCCESS FACTORS IN ICT PROJECT ENVIRONMENT

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Although there has been significant research on information and communication technology (ICT) project success, but there are still gaps around this field. Thus, further understanding to ensure level of the project success is still required in both theory and practice. The ultimate aim of this study is develops a coherent success factors framework for helping ICT project managers to deal with the complexity of the project dimensions which have influenced the shaping of project success. This poster presents one of its results. The four consideration points of the framework development are: first, based on a comprehensive success definition as guidance for measuring the critical connection between the success criteria level and the CSFs level; second, integrating coherently the five project dimensions for capturing the high content validity; third, presenting the alternating critical connection between the project success definition and the CSFs determination; lastly, adopting the project stakeholder perceptions from multiple levels of an ICT project organizations environment. The result is a coherent framework that combine the five ICT project dimensions and success perceptions of the stakeholders. However, it is a proposition concept, but this proposed framework is reasonable in the context for exploring new understanding in ICT project environment.

A COLLABORATIVE E-WORKSPACE FOR DIGITAL LIBRARY OF MALAY MANUSCRIPTS

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Philology studies are often associated with traditional methods of teaching and learning. This study shows the best tools that can be implemented in order to make a collaborative work among Malay manuscripts community. The Soft System Methodology (SSM) is used to guide the investigation. The manuscript community comprises lecturers, students and researchers in the field of philology. Data were gathered from interviews, focus group discussions and observations. Academy of Malay Studies, University of Malaya is the case study setting, focusing on lecturers who teach and students who enrol in a philology course as well as doctoral students researching on manuscript studies. The findings highlight the features and modules that are available in the Malay manuscripts collaborative e-workspace in order to improve teaching, learning and researching as well as utilizing digitized manuscript surrogates held in a digital library of Malay manuscripts

A MODEL FOR EVALUATING IT INNOVATION IMPLEMENTATION EFFECTIVENESS IN HIGHER EDUCATIONAL INSTITUTIONS

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Research on innovation in organizations has mainly focused on adoption phase as compared to implementation phase of innovation. Implementation is the critical gateway between the decision to adopt an innovation and the routine use of the innovation. In the case of IT innovation, while the development of IT innovation is relatively controllable, the actual implementation of IT is far more difficult to control as it involves complex interactions between people, technology and environment. Often times there is resistance in using the new technology and in many circumstances, the organization has to face IT implementation failure. In the context of higher education, there has been major transformation occurring in the formal education sector partly due to the development of IT innovation, as well as the form of networking, knowledge sharing and interactive learning that IT facilitate. Nevertheless, many universities are facing a lot of challenges in implementing IT innovation successfully. Although there have been some researches on the implementation of innovations in general, very few studies explored IT innovation effectiveness in the context of higher education. The purpose of this study is to develop and validate an HEI-IT Innovation Effectiveness Model. The model was validated using survey data of HEIs in Indonesia. The findings indicated that the proposed model has some predictive power and IT Innovation Implementation Effectiveness is influenced by top management support, and implementation policies and practices. The findings provides insights on effective implementation of IT innovation in the context of HEIs in a developing country.

A MODEL FOR REAL-TIME RECOGNITION AND TEXTUAL REPRESENTATION OF MALAYSIAN SIGN LANGUAGE THROUGH IMAGE PROCESSING

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In this model we discuss a stand-alone system to allow the deaf or hard-of-hearing people and normal people to communicate with each other easily and fluently. We purpose a model for recognizing Malaysian Sign Language through image processing techniques and converting the visual information into textual Information at real-time. In order to implement a real time hand gesture recognition system, video footage will be obtained from digital camera or cellphone camera, then hand position and location will be marked and cropping will be done to isolate them. Then the hand gestures will be recognized through image processing and matched to a prebuilt database of gestures which will be used for textual conversion on the screen. In the final step the normal person will type the text and its equivalent animation of hand gestures will be presented. Through this system, real-time recognition of Malaysian Sign Language and textual representation is done, giving more accurate results at least possible time. It will not only benefit the deaf and dumb people of Malaysia but also could be used in various applications in the technology field. This system provides the flexibility to learn Malaysian Sign Language at personal pace, at anytime and anywhere at home or at workplace.

ACTIVITY RECOGNITION THROUGH SMART PHONES

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Context awareness plays an important role in making digital devices more intelligent and more like human beings and less like conventional computers. One of its main component is activity context, besides time, location and identity. Accurate recognition of user activity can help a device to give more accurate response or feedback to the user based on what it is designed for, while inaccurate recognition of the context will only result to a dumber device that annoys user with incorrect behavior or response. One of the potential tool for recognizing user activities is accelerometer sensor, a sensor that is used to measure acceleration. Nowadays, the fast and rapid development of smart phone technology allow researchers to utilize smart phone as a tool to study and create activity aware application, instead of using the traditional independent or wearable accelerometer. Thus, in this study, we present our effort in creating an activity aware Android application by utilizing the accelerometer sensor available in smart phone.

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AN EMPIRICAL INVESTIGATION ON THE FACTORS THAT INFLUENCE THE USE OF AUDIENCE RESPONSE SYSTEM

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Majority of the earlier studies regarding the use of audience response systems have been devoted to higher educational level, with less attention given to secondary or high school level, and there is a dearth of research done on secondary education. To address the gap in the research literature, a study using quantitative survey has been used to explore and document the secondary students result outcomes on using the Audience Response System (ARS) vis--vis the traditional method, and to further explore if utilizing an ARS affects student performance outcome. At the end, the research examined the impact of ARS on student active learning, performance outcome and the task-technology fit of ARS in secondary level education. The major finding from this study shows that ARS add to a pre-existing active learning in secondary level education as well the students performance. Above all, the task-technology fit the implementation of this system in learning style of secondary school level.

AN INTEGRATED SOCIAL COMMUNICATION SYSTEM FOR PEACEBUILDING

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Information and Communication Technologies (ICT) have great potential for peacebuilding (PB) and combating terrorism activities around the globe. To do so, an effective communication system can play a pivotal role. The current peace related studies witness that violence related reports are communicated through various available channels such as, mobile phones, social media, blogs, E-news, websites and other Internet applications. People and victims of the conflicts (terrorism) make use of these systems to cast their concerns. However, the major setback of these channels is that, some people might upload information and other violent related evidences from their personal interests. Information without authentication leads to disarray and news spread around lead to delay in the PB process. The other problem with current systems is that all these channels are isolated and independent of each other. This research proposes an integrated communication system that combines all the technologies in unified media with the help of numerous tools and techniques such as FrontlineSMS, text messaging, automatic content analysis, clustering. These techniques can help in information authentication and prediction of the violence related incidents, and at the same time can be used by the peacekeepers for maintaining peace around the world, may it be natural disaster or manmade terrorism activities.

ANDROID CAR LOCK SYSTEM

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This project objective is to design, create and produce a prototype system to substitute a conventional car key to a digital key through an android mobile application. The main functions are to use an android mobile application to lock and unlock car. Car drivers no longer need car keys but now can use their mobile phones. The mobile phone application will send a digital key via an NFC to the car door micro controller to lock and unlock the car. All locking and unlocking activities are logged in the system for tracking and security purposes. The car owner or driver can check the date, time and location of the car from the mobile phone. With this system, car drivers do not have to bring their car key and additionally the system gives additional security and convenience to them by storing some information for tracking their car location.

AUTOMATIC ACCIDENT DETECTION SYSTEM

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This research is about an invention of accident detection system via GPS service. The detection of accident is automatically without call from the driver or any second party. When the nearby vehicle repair workshop has received the incoming accident alert signal, the operator will immediately call the tow service for the vehicle having accident.

AUTOMATIC FACE RECONSTRUCTION FOR IDENTIFICATION SYSTEM (FARIS)

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A face can be sketch by freehand based on the evidence of an eyewitness description which is necessary for the Detectives to tract the looks of the offender. This process is slow; moreover there are some factors which cannot be assumed by the artist, including weight, hair color and length, and eye color. However, if this process is conducted correctly, the result should bear a striking resemblance to the individual. As with composite drawings, an image of the resulting face can then be distributed among law enforcement personnel or to the general public. The reconstructed face should be photographed in such a way that there is no perspective distortion. This paper presents Face Reconstruction for Identification system; the approach is relatively same with the sketching by freehand. However, our system will reconstruct and generate the face automatically. This will create an effectiveness and efficiency in identifying and recognize the offenders

BUILDING AUTONOMOUS MOTIVATION TOWARDS KNOWLEDGE MANAGEMENT SYSTEMS ENGAGEMENT

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This study investigates how Socio-Technical factors inherent in organizational practices and the design of Knowledge Management Systems (KMS) lead to the emergence of autonomous motivation towards KMS utilization, and which in turn influences actual utilization and competency development as an impact of use

CELL BASED INTRUSION DETECTION IN RESIDENTIAL AREA USING WIRELESS MESH

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The main purpose of this project is to setup a wireless mesh network using Open Mesh on residential area and using wireless signal behavior on that mesh network to make a prediction intrusion classifier that provide more effective way to detect intrusion.

CLBT : CLUSTER-HEAD LOAD-BALANCING TECHNIQUE TO ENHANCE THE PERFORMANCE OF MANET IN DISASTER AREAS

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In this study we present a novel protocol to improve the performance of a Mobile Ad Hoc Network (MANET) in disaster areas. MANET is a collection of mobile nodes without the assistance of any centralized structures. The network is divided into clusters, each cluster has cluster-head which is used to distribute service and route packets in his cluster. Due to the variance between nodes activeness, the network may have highly loaded cluster-head and lightly loaded cluster-head. This may cause performance degradation, because the service distribution and routing mechanism are based on the cluster architecture. Therefore, we propose new technique to distribute the load between cluster-heads, which is called Cluster-head Load-Balancing Technique (CLBT). When there are loaded cluster-head and unloaded cluster-head, CLBT will be invoked to make load-balancing between cluster-heads, by adapting cluster-heads transmission range to redistribute their nodes fairly. Loaded cluster-head declines its transmission range until it dismisses the active nodes from its cluster; at the same time unloaded cluster-head raises its transmission range gradually to include the active nodes. The flexibility of CLBT provides an ideal communication tool in emergency and disaster relief services which helps to save lives and reduce losses.

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COLLABORATIVE SYSTEMS FOR MALAYSIAN HOMESTAY INDUSTRY

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Malaysia have tremendous wealth of tradition, culture and heritage that are attractive for tourist. These side of tourism normally served by Homestay Industry. Recently, the Homestay program have received a lot of attention and this situation led to economic improvement. However, besides the great potential of being developed as community-based economy,, the implementation of Information and Communication Technology in this business activities seem very limited to compared with other tourist activities such as hotel. As for that, the aim of this research is to identify the usage of ITs in Malaysian Homestay Industry specifically, and how its successful can be adopted to be implement in Malaysia Homestay Industry to help them enhancing their business level.

CONTEXT AWARENESS THROUGH IDENTIFYING USER ACTIVITIES AND POSITIONING

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Context awareness is an important element in the pervasive and ubiquitous computing. It involves the ability of the computing system to be aware of the context in which a particular target user is experiencing. This involves the location in which the target is, the activity that the target is doing, the identity of that target and the time in which the activity occur. The focus of the project is to determine the location and activity aspects that would be utilized in the prediction of the context of the user. It has been shown that accelerometer data could be used for activity recognition. i.e. knowing the users activities such as walking, standing, sitting etc. However, user location could be found using various methods, Geo-location being one of these methods. Once these two elements are known we propose the use of HMM to predict the context of the user.

DESIGNING AND IMPLEMENTATION OF ROBOT MAPPING ALGORITHM FOR MOBILE ROBOT

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Mobile robot (MR) is an automatic machine that is capable of movement in any given environment. Some of the capabilities of MR are the ability to move around based on the users input, avoid obstacle in front of it and calculate the path. In MR, robot mapping is one of the important task that need to be performed. Robot mappingis a discipline related tocartography. The goal for an autonomous robotto be able to construct (or use) a map orfloor planand to localize itself in it. It is also concerned with developing techniques that enable a mobile robot to construct and maintain a model of its environment based on spatial information gathered over time. Typically, the spatial information stems from directly perceiving the environment through external sensors. In addition, internal sensors like odometer provide information about change of location within the environment. Robot mapping is a challenging problem because of the uncertainty inherent in the available spatial information and in the model itself, which always is an approximation of the real world the errors can grow without bounds. In this research, we develop a mobile robot that can achieve robot mapping by proposing a robot mapping algorithm for localisation, navigation and obstacle avoidance. The robot and the algorithm have been tested in static environment and the result from the experiment shows that the robot can move from the goal to the destination following the set of rules specified in the algorithm.

DEVELOPING A SHARIAH-COMPLIANT MODEL FOR UNDERSTANDING USER TRUST IN E-COMMERCE

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The influence of religion on consumer behaviour is yet to be fully explored, especially, in the online environment where it is hard to find religious-based studies. So far empirically investigation into the different perceived behaviour of Muslims and Christians in the e-commerce environment has only being carried out on the ownership of e-commerce websites. This study employs the theories of plan behaviour with the possibility of developing a Shariah compliant model that is positioned to understand Muslim users trust in e-commerce. A randomly stratified sample of 330 respondents was drawn from employees of two public universities in the Klang valley in Malaysia to test the developed instruments in a survey. Trust of the online sellers was found to be strongly hinged on the integrity, competence, benevolence of the users as well as the website quality, third party assurance, trustors propensity and religious commitment. This study depicts that there is need for further study in order to understand more the Muslims disposition to online transaction and perhaps test the validity of the developed instrument

EEG AFFECTIVE STATE SYSTEM BASED ON THE 12-POINT AFFECTIVE CIRCUMPLEX (12-PAC)

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In affective computing research, the quantification of human emotions are mainly based on some approximation of the dimensional emotion model proposed by psychologists. Our empirical work has provided evidences that the use of a slightly detailed 12-PAC model may increase the precision of the proposed EEG affective system. The analysis may be later expanded for the construction of an automated tool for the understanding of childrens emotion during intervention sessions with psychologists. If such tool is to be developed, then the interpretation of emotions can be based on human physiological signals that are perceived as unbiased and much closer to biological responses, rather than relying on self-reported data that is subjective in nature and may have higher cultural contributions.

ELICITING PALEOGRAPHERS NEEDS AND MODELING A COLLABORATIVE WORKSPACE FOR DIGITAL LIBRARY MALAY MANUSCRIPTS

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The purpose of this research is to instrument the support for Malay manuscript community (paleographers) in teaching, learning and doing research on manuscript in an electronic environment utilizing an available digital library of Malay manuscripts. The main objectives of this study are to: (i) investigate the current process of teaching, learning and researching manuscripts in Malay manuscript community that mainly involve lecturers, students and researchers (or known as paleographers); (ii) investigate what are the issues and challenges related to teaching, learning and researching in manuscript studies community; (iii) propose a new environment as a solution that can support and improve the process of teaching, learning and researching in manuscript studies; (iv) evaluate the usability of the suggested solution and gain insight from the paleographers on its effectiveness. Soft System Methodology (SSM) was employed throughout the study using a case study approach conducted at the Academy of Malay Studies (APM), University of Malaya (UM). The data was obtained from several interview sessions, focus group discussions and observations. The findings highlighted a number of issues in the process of teaching, learning and researching manuscripts mainly on the transliteration work, difficulties to find the original manuscripts for the study and locating an expert paleographer for consultation purpose. As a result, a conceptual model of an electronic platform (named as E-Workspace) for learning and collaborative research activities for Malay manuscripts was proposed to improve the current practice. The E-Workspace was modeled to focus on facilitating the manuscript community in teaching, learning and researching Malay manuscripts, particularly in transliteration work. The usability of the E-Workspace in providing a teaching, learning and research platform that are conducive for the manuscript studies are reflected by the positive feedback on the user evaluation. The E-Workspace in general enhances the utilization of MyManuskrip as a resource that supports teaching, learning and researching manuscripts by providing a collaborative platform to conduct transliteration works electronically.

ENHANCING MOTIVATION WITH TABLET TECHNOLOGY FOR SLOW LEARNER LEARNING

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Introducing engaging applications with tablet technology may enhance motivation for slow learners to learn in a classroom. Slow learner is defined as someone that has limited cognitive capacity or low in intelligent quotient (IQ), information processing weakness, deprived of attention abilities with lack of concentration and low motivation in learning. The technology is believed to be able to motivate the children as it has broader colors of platform and media such as the images, multimedia and simulations able to be apply to teaching and learning. The challenge in this research is how the ability of the tablet technology and available application can assist and enhance the motivation to the slow learner in learning. Traditional method, based on the teachers experience will be revised to introduce the usage of technology, focusing on the tablet technology for option of the learning method in the classroom for the slow learner. Motivation is the main elements to be incorporated in the study as to achieve the objective of the research on evaluating the tablet technology usage able to enhance motivation of the slow learner student in the classroom setting.

ENRICHING HIERARCHIES IN MULTIDIMENSIONAL MODEL OF DATA WAREHOUSE USING WORDNET

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In Multidimensional Model of Data Warehouse (DW), dimension tables hierarchies play important roles in Online Analytical Processing (OLAP) analysis. Hierarchies in dimension table allow one to navigate from a detailed to a more general level of data. Data that are analyzed by using many levels of aggregation produce more meaningful analysis. Therefore, it is better for OLAP if dimension tables have rich hierarchies. However, a requirement of data to obtain rich hierarchies might not be captured by existing Online Transactional Processing (OLTP) systems. It is because OLTP usually have limited number of hierarchies levels in their database schema. As a result, DW schema design could not have hierarchies levels beyond what OLTP schema has. This study proposed a method to capture required hierarchies in operational data by using a lexical ontologys semantic relations among concepts. By identifying hidden hierarchies in operational data, new levels of aggregation can then be added into dimension table. As a result, dimension table hierarchies become richer. A prototype is developed to demonstrate the concept employed in this research work. The purpose of this study is to show that, process of enriching dimension hierarchies can be automated by extracting knowledge stored in a lexical ontology such as WordNet

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EVALUATION FRAMEWORK FOR INFORMATION TECHNOLOGY GOVERNANCE AND IT ALIGNMENT ON UNIVERSITIES PERFORMANCE

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Higher Education Institutions (HEIs) has to leverage on IT in their bid to transform education, learning and development. To leverage IT, HEIs need to govern their IT resources effectively and ensure the technology is well aligned to the institutional goals. Past studies either explore IT governance (ITG) or how IT is aligned to the business. Some examined how each one affect organizational performance. However, none empirically validate a model that examine the interactive effects of ITG and IT alignment on firm performance. Additionally, not many past research focus on ITG and IT alignment in the context of HEIs. This study attempts to fill the research gap by formulating a framework to examine how HEIs can achieve better performance from effective IT governance and well aligned IT and organizational goals. This framework will afford an opportunity for practitioners and researchers to have a comprehensive way of evaluating ITG in HEIs.

EVALUATION OF E-GOVERNMENT IMPLEMENTATION AMONG MALAYSIAN LOCAL AUTHORITIES

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The Malaysian Government has been implementing e-Government initiatives since 1997. This initiative by the government is in reality a product of the efforts under the Multimedia Super Corridor (MSC). It was designed to improve information flow and processes within the government, improve the speed and quality of policy development, and improve coordination and enforcement. This would enable the government to be more responsive to the needs of its citizens. One way that the government can demonstrate physically to meet public demands for greater transparency and accountability is to offer online services and products through the E-Government websites or portals. However, up to now there is not any empirical study being conducted that concentrates on the extent of implementation of e-government by local authorities in Malaysia. The local authorities that are more technologically advanced have started to offer various digital facilities to the public. For the purpose of measuring the generic aptitude of the local authorities to employ E-government, the Web Presence Measurement Model employed by the United Nations for the Global E-Government Survey 2003, will be used to evaluate the websites. The Web Presence Measurement Model is a useful tool in identifying the presence or absence of certain indicators which are related to the measures of sophistication or maturity of the websites. This paper was to study the implementation of the E-government among the local authorities in Malaysia which are under the jurisdiction of the local governments by using the Web Presence Measurement Model. The Malaysian local authorities are divided into three types, namely the City council, Municipal council and the District council. The findings showed that the City council came out top in terms of achievement for the five Stages of Web Presence while the District council came out last which means a good number of indicators are absent from the District council websites/portals. The findings also showed that the local authorities operating in Selangor were much more advanced in term of representation for their websites/portals as compared to those found in the State of Sabah which is located at the bottom of the list. It is expected that the evaluation of the local authorities websites will provide a clear indication as to the extent of E-government implementation among local authorities in Malaysia.

EXPLORE MALAYSIA: HALAL-BASED TRAVEL RECOMMENDER SYSTEM

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In this global world, travelling to another country is becoming a necessity. When travelling to a non-Muslim country, the unfamiliar place, situation, and conditions will create problems for upholding the Islamic principles, such as finding the mosque to pray, praying time, qibla direction and halal food. Therefore, the objective of this paper is to develop a web application which aim to solve such problems, in which the online application will provide the user with sufficient information about Malaysia such as the nearest mosque, prayer time, available Halal restaurants in the area, and also suitable accommodations. It is expected that the developed system can be beneficial to the Muslim traveller.

GATEWAY SELECTION SCHEME FOR MANEMO

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The MANEMO architecture results by combining the infrastructure-less Mobile Ad hoc Network (MANET) and the infrastructure Network Mobility (NEMO)to guarantee the continuous mobile communication is still facing many challenges. This research aims to propose a gateway selection scheme for MANEMO based on different criteria that addresses network loops, ensures load balancing and selects the optimum gateway of the network regardless of routing protocol used. The proposed scheme will be evaluated using OPNET Modules and mathematical analysis.

GPS TRACKED CAR ANTI-THEFT SYSTEM (TCATS)

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GPS TRACKED CAR ANTI-THEFT SYSTEM (TCATS)

IMPLEMENTING P2P WEB APPLICATIONS USING REAL-TIME COMMUNICATION BETWEEN BROWSERS

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We present an alternative method to client-server web applications using peer to peer real-time communication between browsers. We describe an algorithm to create an overlay network constructed by peers connected to each other through the browser. We show how peers connected to each other can provide better scalability and reduce bandwidth in developing demanding web applications by taking advantage of storage and processing capabilities of other peers within the peer to peer overlay network. We describe how our method can be used in producing more scalable cloud services within the web.

IMPROVING AUTOMATIC TEXT SUMMARISATION USING NMF BASED FEATURE EXTRACTION

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The challenging performance in any Automatic Text Summarizer (ATS) is the identification of important sentences from a given text. This is possible only when the correct features of the sentences are identified properly. Hence this work proposes a Conditional Random Field (CRF) based ATS which can identify and extract the correct features. This is the main issue that exists with the Non-negative Matrix Factorization (NMF) based ATS. Results of CRF based ATS indicates that the newly proposed approach produce significantly better results of summarization than existing approaches.

INADVERTENT LEAKAGE OF ORGANISATIONAL INFORMATION THROUGH ONLINE SOCIAL NETWORKING

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The advent of online social networking (OSN) amongst employees represents new fundamental challenges to organisations. As employees are bringing their own mobile devices to the workplace, which allow them to engage in social media activities at anytime and anywhere, reported cases involving leakage of organisational information through OSN are on the rise. Despite its opportunities, OSN has the tendency to blur the boundaries between employees professional and personal use of social media, presenting security issues for organisations to protect the confidentiality of their valuable information.

INVESTIGATION OF MOBILE DEVICES USAGE AND AUGMENTED REALITY APPLICATIONS AMONG OLDER PEOPLE

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Mobile devices such as tablets and smartphones have allow users to communicate, entertainment, access information and perform productivity. However, older people are having issues to utilise mobile devices that may affect their quality of life and wellbeing. There are some potentials of mobile Augmented Reality (AR) applications to increase older users mobile usage by enhancing their experience and learning. The study aims to investigate mobile devices potential barriers and influence factors in using mobile devices. It also seeks to understand older people issues in using AR applications.

ISLAMIC ETHICS FOR AUTISM CHILDREN ON IOS

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This project involves designing, modelling, rigging and animating 3D Animation Application on Adab (3DAAA) for high functioning autistic students in Akademi Al-Fakih Intelek (AFI). The animation is converted into an application in iOS platform so that it can be viewed through the iOS devices such as iPhone, iPad and iPod. The main objective of this project is to allow high functioning autistic students to learn about adab (manners) through interactive and fun method according to their own pace. This project would help students getting Islamic knowledge and values using the utilised mobile technology in their learning method assist by their parents and teachers.

IT RISK, INFORMATION SECURITY & GOVERNANCE PRACTICES IN MALAYSIA IHLS

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Risk is a common terminology adopted in every field including IT/IS. IT risk nature depends largely on types of assets or projects. Each IT hardware, software, system or project has its own inherent and incidental risk associated to it. We classify IT risk into three types, namely: 1) technical and operational risk; 2) data and information security risk; and 3) organisation, project and human risk. Enterprise risk management enables management to effectively deal with uncertainty and associated risk and opportunity, enhancing the capacity to build value. The study adopts interviews and survey as methods od data collections. Based on the field findings and literature, IT risk management in Malaysia IHLs has been implemented to some extent depending on each organisations ICT policies and governance. While many developed IT risk management frameworks are available, each organisation is unique and need to customize its own model. In addition, this study provides the theoretical foundation on IT risk components and management framework for Malaysia IHLs. Our future work is focused on longitudinal study and to perform comparative practices between developing and developed world organisational contexts. The implication for policymakers is to arrange for all government agencies to formulate an IT risk management and governance frameworks and implement them in their organisations urgently.

MALAYSIAN HALAL HUB SYSTEM (MHHS)

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Malaysian Halal Hub System (MHHS) is a system that provides a medium or platform for managing and delivering information on the halal status of products including additives, food, hotels and premises kitchens, pharmaceutical products and slaughter houses. The MHHS allows the information to be periodically updated to support the Department of Islamic Development Malaysia (JAKIM) in publishing and verifying Halal certification status of products. Several studies have been conducted to identify the possible improvements that can be made to the existing Halal system. This project is established using the Hypertext Markup Language (HTML), PHP with the support of Cascading Style Sheets (CSS) and JavaScript, along with MySQL as the database. One Desk Requirement Management Tool is used by the system to manage the MHHS requirements.

MASJID LOCATOR & NETWORKING SYSTEM

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As the need of performing search to obtain the results for a certain query becoming significantly important, thus the same applies for the system that is responsible to provide results upon the search of a query. Recently, the concept of geo-location has been widely used for the development of applications that provides a real-time geographical position of an object that is located on the surface of the globe. Integration of geo-location principle intended to route the user to the nearest Masjid (mosque) together with the social site of a particular Masjid helps to provide not only the physical location of a certain Masjid on a map, but also a manner of connecting all the Masjid within a certain scope of region as a group of collective interest with mutual objective. This research aims to build a tool that aids Muslims to locate the nearest route to the Masjid available from the users current location. Furthermore, this system also allows all Masjid to connect among each other thus forming a whole new system of networking that allows the sharing of information and also the daily activities of a particular Masjid with another so that the system is continuously available to both the administrators of the Masjid and also to the public. Purpose of this research directly contributes towards the creation of an official page or profile of a Masjid that is available on the locator system that allows public to constantly get updated with the daily routine of the Masjid. In addition to that, tourists can be able to obtain information about the Masjid via their official social profile be it on Facebook or Google+ while the Masjid administrators can post notifications or current updates on all the current happenings that took place at a particular Masjid so that its readily available whenever needed. This system helps users to effectively locate the nearest Masjid and allowing themselves to be connected to the Masjid of their choices in order to better serve the community by indulging in social collective community services. This system also saves the huge amount of costs required to build for each individual Masjid available throughout the country by using social sites that are readily available for free. The integration of both social site and a location service allows users to share multiple locations across social networking sites to promote the importance of performing obligatory prayers among netizens today. This system is developed mainly using HTML5 and CSS3 since it is intended to be developed as a Web-based application in order to provide better functionality and accessibility across various mobile platform and operating systems that are available today. This tool also defines a Masjid-to-Masjid and Masjid-to-User relationship mechanism.

MIDIMEW-CONNECTED MESH NETWORK

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Midimew-Connected Mesh Network (MMN) is a MInimal DIstance MEsh with Wrap-around links (MIDIMEW) network of multiple basic modules, in which the basic modules are 2D-mesh networks that are hierarchically interconnected for higher-level networks. In this poster, we present the structure and Network-on-Chip (NoC) implementation of the MMN. It is shown that the proposed MMN with innovative combination of diagonal and hierarchical structure, possesses several attractive features, including constant degree, small diameter, small average distance, moderate bisection width than that of other conventional interconnection networks and requires less amount of wires for the implementation of the physical links. For the implementation of NoC of MMN at least four layers are needed to implement all links of MMN level-3 network which is feasible with current and future VLSI technologies.

MOTION ANALYSIS AND PROCEDURAL ANIMATION OF QUADRUPED CHARACTER USING HYBRID MODEL

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In this paper we discuss the technique of performing Quadruped Motion Analysis from the original video footage of quadruped character in motion. The motion analysis involves calculating the footfall patterns and plotting the diagram, along with generation of Motion Gait Graphs for each leg showing the swing and stance phase of each leg in motion. The developed hybrid system for procedural animation proposes the use of Inverse Kinematics along with Dynamic Controllers .The desired motion control input, comes either from the user or from a higher level motion planning system. A motion planning system uses the gait graph and footfall pattern information to produce the desired animal behavior. In our case, the motion control input consists of the desired values for the bodys velocity, and the heading determined by the yaw angle. The dynamic controller computes the aggregate force Fr and torque Tr that should be applied to the body at the center of gravity. The problem can be formulated as a linear constrained minimization and is solved using the Simplex method for linear programming. The leg subsystem is controlled by the kinematic gait controller. Based on these forces, a forward dynamic simulation is performed to compute the new state of the body.

MYE_MOSQUE, AN ISLAMIC ANDROID COMPANION

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Currently the Jemaah performes most of their Ibadah in the mosque using the physical or the hard copy of Al-Quran Mushaf, the Dua compilation, and references or booklets on the Sunnah prayers, which the Mosque has to provide or the Jemaah has to bring themselves. When the Jemaah enters the Mosque, they often forget to turn their hand phones on silent mode. Handphones ringing in the mosque is likely to disturb the other Jemaah members. myE-Mosque System is targeted to be a pocket companion application that people could bring with him or her all the time. This application is mainly aimed to help Muslims to perform their Ibadah especially in mosques.

MYKICT POCKET

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In this present day, handheld device users has a GPS navigation system application to aid them in navigating their surroundings. But not many apps are meant for indoor buildings. Other than that, people in the building often do not know the exact location of venues including regular visitors. With the help of Wi-Fi Access Points, geospatial information, & the Dijkstra algorithm, we have developed a smartphone application to aid user navigating inside the building from user current location until up to their destination by following a routing path provided overlaid the buildings floor plan. The main objective of this project is to guide user in KICT to find classes or other venues in Kulliyah of Information & Communication Technology (KICT) with MyPocket KICT Map. This Android application will be able to show route from point A to point B and guide the user to reach its destination without doubt via using Android Smartphone or tablet.

NEURO COMPUTATIONAL CEREBELLUM MODEL FOR EMOTION CLASSIFICATION IN HUMAN BEHAVIOR PROFILING

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Several feature extraction (FE) techniques have been employed to extract features from EEG signals for classifying emotions. Such techniques are not constructed based on the understanding of EEG and brain functions, neither inspired by the understanding of emotional dynamics. Thus, the features are abstract and hard to interpret. This study proposed a new feature extraction technique using a brain inspired computational model, namely Cerebellar Model Articulation Controller (CMAC), by which features are derived from self-organizing feature map that is adjusted during training. Multi-Layer Perceptron (MLP) was then employed to perform classification on the extracted features. Classification performance of features derived from other techniques such as Kernel Density Estimation (KDE), Mel-Frequency Cepstral Coefficients (MFCC) and Power Spectrum Density (PSD) are also presented. Results have indicated that features extracted using CMAC are classified better using MLP.

NEURO-COMPUTATIONAL MODEL OF ARTIFACTS ANALYSIS DURING SLEEP FOR AUTOMATIC DETECTION OF EPILEPTIC SEIZURE

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Electroencephalography (EEG) is the most common clinical neurophysiology method that is widely used in diagnosis of various neurological disorders. EEG is used to detect evidence of epilepsy, in the form of epileptiform transients (ETs), also known as spike or sharp wave discharges .ETs appear in different morphologies and these morphologies have similarities with different kinds of artifacts. Due to this the task of detection of ETs becomes difficult and false detections are often made. At the same time the detection of various artefacts and separating these from normal background activity and ETs is a difficult task. The development of reliable, accurate and robust system that enables detection of ETs , separating it from artefacts and normal background activity could assist physicians and neurologists in interpreting EEG and hence lead to more accurate diagnosis. Here we propose a combined model for detection of ETs and artefacts from normal EEG activity. The feature extraction process in this model makes use of statistical features of EEG signals that give a measure of morphology of EEG waves that can be best discriminative of various types of EEG activity.

NONTERMINAL COMPLEXITY OF WEAKLY CONDITIONAL GRAMMARS

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A weakly conditional grammar is specified as a pair K=(G,G') where G is a context-free grammar and G' is a regular grammar such that a production rule of G is only applicable to the sentential formif it belongs to the language generated by G'.The nonterminal complexity Var(K) of the grammar K is defined as the sum of the numbers of nonterminals of G and G'. This poster studies the nonterminal complexity of the weakly conditional grammars, and it proves that every recursively enumerable language can be generated by a weakly conditional grammar with no more than 10 nonterminal. Moreover it shows that the number of nonterminal in such grammar without the erasing rule lead to an infinite hierarchy of families of languages generated by weakly conditional grammars

REMOTE AUTOMATED MONITORING SYSTEM FOR SEWAGE TREATMENT PLANTS(STPS)

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The purpose of this project is to develop a continuous centralized monitoring system to help the experts detect system faults and flaws when they occur and act upon the information provided in IIUM. The project initially reviews previous studies and works regarding the monitoring of sewage treatment plants (STP). Sewage treatment plants monitoring is a very serious matter. The mistreatment of these STPs can lead to environmental pollution as well as public health threats. The current monitoring system in IIUM is conducted by making periodic regular checks to the sites. In addition, these manual visits to the sites are time consuming. Besides, the current system is inaccurate and the interval time between the visits may lead to late system failure detection. The result of this project is to detect faults and flaws remotely as well as determine the exact location of the fault.

RESEARCH FRAMEWORK ON KMS USE: AN APPROACH ANCHORED ON THE INTERPLAYS BETWEEN ENGINEERED AND EMERGENT ORGANIZATIONAL FACTORS

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The frequency at which value-based products and services are demanded by dynamic market trends make it mandatory for organizations to continue to manage available knowledge in other to survive in the midst of stiff competition. Thus, in keeping with the market pace; Knowledge Management System (KMS) has widely acknowledged as an essential tool in managing knowledge. The challenge therefore is in its effective utilization. Thus, this research framework provides an attempt to explore the interplays between engineered and emergent organizational factors that can facilitate effective and efficient utilization of KMS

SCENARIO MANAGEMENT AND REQUIREMENT TOOL (SMART)

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The aim of this project is to develop a Scenario Management and Requirement Tool (SMaRT) to assists all users involved in managing the Requirement Engineering (RE) process. Previous RE tools did not focus on scenario-based methodology and were lack of some important features. SMaRT improves existing RE tool features to further support scenario-based RE methodology and completely covers every RE aspects i.e. elicitation, analysis and negotiation, documentation, validation, and management.

SELF-HELP MAQAM-BASED SEARCH SYSTEM

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A search system will soon progress into the wisdom level. Currently such works include the social wisdom for search and recommendation (e.g. Schenkel et al., 2008), words-of wisdom search e.g. based on positive-negative degree by Takaoka & Nadamoto (2010) and based on multi-dimensional sentiment vector by Takaoka & Nadamoto (2011), and web information credibility analysis system (WISDOM) by Akamine et al (2010). However, access to a search system offering a self-help assessment of a persons current state (maqam) with an opportunity to learn ways of improvement is not yet available. Teaching of tasawuf has been growing in Malaysia and Turkey. Tasawuf taught as knowledge for practices has been established in Malaysia either at pondok schools or in many lectures series and seminars at modern institutions. In Turkey, NGOs and Universities are encouraging spiritual development. Al-Ghazali being recognized as the prominent contributor influencing this branch of knowledge (i.e. Tasawuf) has written many publications including the Ihya Ulumuddin, Tahafut al-Falasifah and Minhajul Abidin among others. In 2012, works of Al-Ghazali has been celebrated worldwide in conjunction to his 900 years in memory. Thus there is a need to offer a search system with tasawuf as the foundation and content for spiritual improvements. The system consist of the texts, states of each maqam, transitions, questionnaire for self-help maqam analysis, and an effective user interface. This research aims at establishing a preliminary work on testing the self-help maqam-based search system resulted from the finite state machine filled by the Seven Maqam in reaching the highest level of faith with spiritual definition as given in Minhajul Abidin (The Methodology of the Worshippers) by Imam Ghazali (RA). Maqam is defined here as the level of faith and sincerity to Allah the All Mighty.The research objectives are to investigate the use of finite state machine for self-help maqam analysis, assess the relevancy of the texts on Tasawuf against the passing level of the desired maqam, investigate the transition level set as the passing level of the maqam, and make recommendation based on the evaluation of the self-help maqam-based search system. The methodology includes Finite State Machine modeling; Case development and Maqam analysis; Search system development; and evaluation test. The outcome is a search system that involves self-help maqam analysis. This research produces one PhD student and one MLIS student; with 2 journal articles (under review); and 1 International Conference paper, and submitting for patent/UI and trademark. The novelty includes finite state model based on maqams, and scale-based transitions of positive-negative attributes. Industrial applications include search system for self-help/self-improvement. This research is funded under ERGS12-027-0027; RM70,000.00.

SELFSECURING ARCHITECTURE FOR FEDERATED CLOUDS

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Cloud computing has recently emerged as a new paradigm for hosting and delivering services over the Internet. It is evolving as a key computing platform for sharing resources that include infrastructures, software, applications, and business processes. Cloud computing facilitates its users with services through web and network infrastructure which make it is prone to attacks. The cloud environment is required to have efficient security techniques as it contains precious assets such as data, users, technologies, resources and business transactions. The IT giants such as Google, Amazon, Microsoft, IBM have started their cloud computing infrastructure but security issues for instance, data loss, phishing and botnet and many others are causing the delay in adoption of cloud computing. Current cloud implementations are often isolated from other clouds causing in lack of resources collaboration and inefficient strategies to cater with cloud attacks especially malicious attacks and auditing of those attacks. For example, an isolated cloud is attacked by some malicious or trusted entity (user or any object) and it got success in destroying the assets or infrastructure of cloud. The same malicious or trusted entity can also attack some other clouds in future and since other clouds dont have history information of that entity so the clouds can be easily victimized. Also, the cloud auditors will not have sufficient information regarding the attacker, so identifying and blocking that entity is nearly impossible. The aim of our research is to design such a federated cloud architecture that can collaborate with each other for sharing resources. And whenever a cloud is attacked, it can pass information about the attacker to other connected clouds before its own crash. This information will help other clouds to save themselves from that entity. Also, based on the received information from victim cloud, cloud auditing will be efficient to identify and block that entity round the globe.

SHARIAH COMPLIANT E-COMMERCE TRANSACTIONS: A REVIEW OF AMAZON.COM

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Studies have elaborated the issues from Islamic viewpoint, none of them provides an empirical investigation on e-commerce transactions in the light of Islamic law of contract. Library research by the means of investigating classical and contemporary literature is employed to examine the permissibility of online transactions from the context of Islamic law of contract. Amazon.com is chosen as a case study to provide a basis for understanding the applicability of the Islamic law of contract in the context of online transactions. Findings indicate that Amazons online transactions generally satisfy the Shariah requirements of a valid contract except in two scenarios; (i) transactions involving impermissible (non-halal) products such as alcohol, pork, non-halal food and beverages, tobacco and tobacco-related products as well as Shariah non-compliant entertainments or music, and (ii) payment modes using conventional credit cards (riba).

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SMALL MANUFACTURING EFFICIENCY RECOMMENDER SYSTEM

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Manufacturing industries are typically characterized by a large number of equipment, machines, labor, functional units and product variations. In order to monitor the efficiency of from one to another end in production chain, huge amounts of data are created daily. However for most small and medium scale manufacturing industries these data are collected manually i.e. by filling a number of forms and then entered to spreadsheet for analysis. As a result, recording and keeping track of data over a period of time is tedious and problematic. Not to mention organizing all of this data to acquire useful information becomes very challenging for SMIs. Therefore, it is the aim of this study to develop a prototype of production chain management system would assist the textile manufacturing industry in managing production and inventory data, as each batch of raw materials (cotton yarn) passes through the production chain (Yarn Control, Production, and Quality Control) to eventually become finished fabric.

S-RATER: WEB APPLICATION FOR SUKUK RATING

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Islamic finance and capital market is one of the fastest growing segments of international financial markets. Recent innovations in Islamic finance and capital market have changed the terrain of the landscape of the financial industry. One of them is Islamic securities which are known as Sukuk. The use of Sukuk as the alternative to the existing conventional bond, has become increasingly popular in the last few years. They are used as a means of raising government finance through sovereign Sukuk issues, and means through which companies raise funds by issuing corporate Sukuk. In addition, theoretically there should be some differences in rating methodologies for bond and Sukuk because these two instruments are different in nature. Thus, it is the aim of this study to identify the important determinants in Sukuk Rating using data mining approach. The final model is then implemented into web application, called S-Rater.

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STUDY ON THE EFFECTS OF EEG AND ECG SIGNALS WHILE LISTENING TO QURAN RECITATION

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Brain and heart are the most important organs in the human body where they perform the most important functions and actions; due to that reason many research and studies have been conducted to investigate those two organs and their effects in different fields. Electroencephalogram (EEG) and Electrocardiogram (ECG) are the techniques used to record the brain and heart electrical activities. There is a study have been conducted to analyze the temporal effects of EEG signal during listening to Quran recitation, where it is concluded that Quran recitation can make a person always in relax and calm condition (Azian Azamimi Abdullah & Zainab Omar, 2011). From this perspective this research was conducted to study the effects of both EEG and ECG temporal signal during listening to Quran recitation. In this study, the EEG and ECG signal from three subjects are captured in special environment and studied procedures. Data analysis was conducted from different points of view, for EEG signal analysis, special methods and algorithm have been applied to study the effects in the frequency domain. Whereas ECG signal was analyzed in time domain.

THE AUTOMATIC RE-ANNOTATION OF WEB IMAGES FOR IMPROVING ACCESS FOR BLIND USERS

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The Internet has become the dominant means of communication in modern society. Increased use of and dependence on such things as email and the web has speeded up communication and allowed for a wide range of new ways in which we can communicate. The use of social media and Internet based shopping are amongst the most common forms of this development. Images are particularly common in such media. They are used for all sorts of purposes from displaying products or pictures of individuals to decorations of all sorts. Blind people have the same rights and needs to use these modern technologies and so making sure that they can gain benefit from the images contained on these media is vital. The World Wide Web Consortium has drawn up specifications for the ways in which such images should be adaptable for best value by blind users. However, a large proportion of authors of web content do nothing to annotate the images they use in a way that would be of value to blind users. A number of attempts have been made to create adaptation processes in which descriptions can be added to images after the page has been created. All of these methods use information and activity outside of the process of loading the pages often involving large amounts of human effort. The work for this research has identified that it is possible to take the information that is already available inside the web pages themselves to enable valuable descriptions to be added to all image elements within pages in such a way that the usefulness of the images is improved for blind users. The software developed has made use of an algorithm which can define image purpose. In addition the algorithm uses mining of local data on the web pages to determine the relationship between the images and the text on the page to create an annotation of the images which is meaningful. An ethnographic study has revealed that the image descriptions should be clear, precise and meaningful and this has been the major aim of the software that has been developed. The mechanism was tested with two groups of blind users under different conditions. The first test revealed inadequacies in the software. These were tackled and the second test showed that the software enabled all users to gain better access to images in web pages that were adapted by the software than they were able to achieve for non-adapted web pages. A number of possible extensions to the work have been established

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THE USE OF WEB APPLICATIONS BY QUANTITY SURVEYING UNDERGRADUATES IN LEARNING PROCESS

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A web application is an application utilizing web and [web] browser technologies to accomplish one or more tasks over a network. Some researches uncovered that web applications or web-based tools, if effectively deployed, could enhance students learning experiences. This study aims to examine the awareness, level of usage and perceived usefulness of educational related web applications among Malaysian Quantity Surveying undergraduates. A questionnaire survey was conducted to achieve the objectives of this study. The data for this study were collected from 130 Quantity Surveying undergraduates in Malaysia. The findings reveal that Quantity Surveying undergraduates are generally well exposed to educational related web applications except online portfolio and podcast. They have high usage on web search, social network website, email, course website and web translator. The top three most useful web applications in their learning process are web search, social network website and online storage.

UNDERSTANDING THE IMMUNE RESPONSES IN GRANULOMA FORMATION THROUGH AGENT-BASED SIMULATION

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This paper is attempted to provide our initial investigation on studying the formation of granuloma, a process in immune systems that destroys unwanted substances, pathogen as well as enhancing immunity. In performing this task an agent-based simulation, which is a class ofcomputational modelsforsimulatingthe actions and interactions of autonomous agents with a view to assessing their effects on the system as a whole is prepared. In the simulation, the interaction between main cells during the formation of granuloma namely macrophages and T-cells with their signalling mechanisms are captured. By having the simulation, a better understanding of the process of granuloma is obtained .

USER GENERATED CONTENT ON THE WEB: AN ISLAMIC PERSPECTIVE

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The World Wide Web at present has become a domain for the common user to join the computer savvy in contributing to the online content on the Internet. This is evident in the popularity of blogs, media sharing and social networking sites that allows the Web user to also play the role as the content creator. This situation raises some challenges with the responsibility now being more in the hands of the user in the activity of generating content for the Web. For Muslim web users, assuming this role and its responsibilities would require some guidance from the Islamic perspective in order to promote a healthy and beneficial use of the Web.

VESSEL ANOMALY DETECTION CLASSIFICATION USING SUPPORT VECTOR MACHINES (SVMS)

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The surveillance of the large sea areas typically involves the analysis of huge quantities of heterogeneous data. In order to support the operator while monitoring maritime traffic and reduce operators cognitive load, the identification of anomaly behavior and prediction of the future situation might need further investigation. It is worth acknowledging that existing applications that support the identification of such said behavior and prediction are rarely used for maritime surveillance. The research is devoted to supervise method approach to identify the vessel anomaly behavior in waterways using the Automated Identification System (AIS) vessel reporting data. In this work, we present the use of SVMs to detect the vessel anomaly behavior. The result of this work will show that the SVMs technique is applicable to be used for the identification of vessel anomaly behavior.

VISUALIZATION QUALITY OF 3D MOBILE INTERACTIVE PEER-LOCATION SYSTEM

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Previous studies have shown some key factors that influence the success of visualization quality for Three-dimensional 3D objects of 3D map on Personal computers (PCs) and Laptops, crucial to that is the 3D computational processing capabilities of PCs and Laptops. Unfortunately 3D applications on mobile devices are hindered by the lack of efficient mobile rendering interfaces, low computational resources and direct 3D rendering at interactive rates. Although recently there are several attempts of building complicated 3D map visualization tasks on mobile devices, yet there is still problem of visualization quality of 3D objects of 3D map on a mobile device, this could be attributed to salient features which this paper try to uncover. An experiment that is aimed at investigating how people visualized 3D objects and orient themselves with the 3D map view on a mobile device for navigation assistance was carried out. The result indicates that the size and shape of 3D objects of 3D map significantly aided orientation, but there are no significant differences between the size and color. The 3D map view can increase the users sense of presence; however, 3D map projections tend to represent familiar scenes by collections of their 2D views. There are visual variations of complex 3D map scenes on small-screen mobile devices, with a single object-centered 3D map projection

WEB BASED INVOICING AND CLIENT MANAGEMENT SYSTEM

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Invoicing and billing application for different business purposes helps mainly the service providers and freelancers to manage, send professional invoices online, and track its status. This research intended to design, implement and develop and open source Online Invoicing System which is known as E-Invoicing System for the use of small and medium scale bussiness operators. Taking into account manual invoice generation take huge amount of turn around time, goes through few stages of approval, lack of integrity between different departments, time consuming for error corrections or updates and many more issued in manual invoicing system. The task become more time consuming if there are huge invoices need to be generated in a day. With the fast moving world, clients are becoming impatient to wait for invoices by fax , emails or postages, this newly proposed online invoicing system is an essential to uplift the bussiness operation of small and medium scale bussiness operators. The current available solutions such as transforming all documents to electronic format is no longer applicable. While other solutions like LAN based HRM, Accounting, INvoicing System is limited to geographical location, complicated with many unused features and lack of intergration. While the online invoicing system has limited functionality , limited user levels and many are based on Western bussiness modules. Such development of an E-invoicing targeting for small, medium level bussiness operator, online merchants to maintain the database of sales and purchase , client information, is timingly suitable.

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WEIGHTED WATSON CRICK AUTOMATA

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We define new variants of Watson-Crick automata, called weighted Watson-Crick automata, developing theoretical models for molecular stochastic and fuzzy processes. We define weighted Watson-Crick automata by adapting weight restriction mechanisms associated with formal grammars and automata. We also study the generative capacities of weighted Watson-Crick automata, including probabilistic and fuzzy variants. We show that weighted variants of Watson-Crick automata increase their generative power.

WISEMANTIQ: WISDOM- & SEMANTIC-BASED SEARCH SYSTEM FOR QURANIC TEXTS ON THE WEB

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Maktabah Syamilah offers simple search features for al-Quran, Hadith and 30 versions of Tafsir. Thematic-arranged and kalimah-based project (i.e. earlier project upscaled as WiSeMantiQ) produced an ontology for Quranic texts performing at 98% precision for the original Quranic texts and the tafsir of Surah al-Fatihah and Surah al-Baqarah. The Qurany browser claimed to develop the ontology for al-Quran aiming precise search results. Googles Caffeine displays search results as a list; while information visualization of a social network analyzed relationships in the absence of contextual meaning and intellectual structure. Qurany Browser performed at 58% precision even though an ontology-based search should produce high precision results. Its ontology is intended for semantic-based search, but results still contain ambiguity. WiSeMantiQ is a prototype of a search system running on grid and cloud computing for the larger scale collection of ontology construction as seed for crawlers and indexing, with visualised search results requiring high computing power for rendering. WiSeMantiQ should enable the search results of Quranic Information on the Web into 2 main visualized clusters: (1) authentic sources and (2) doubtful content. Ontology is derived from the wisdom elements of the Quranic texts and the semantic consisting of concepts from the exegesis and domains of Islamic Finance and Banking and Islamic Family Law. Crawling and indexing techniques, and system relevance are built upon the ontology. Clusters are developed based on positive and negative uses, and information visualization on degree of sensitivity. Search system based on wisdom and semantic that will produce high precision values, and 2 visualized clusters of authentic sources and doubtful content running on grid and cloud computing. The research objectives are to design a wisdom and semantic-based ontology, index and crawl the Quranic information and categorize into 2 clusters: authentic and doubtful content. The methodology includes ontology construction, indexing, crawling and searching techniques. This research produces one PhD student and one MIT student (know-how); with 2 journal articles (under review); and 1 UI and 2 trademarks filed. The novelty includes the ontology to assist in the indexing and crawling techniques, authentication measures; and clustering criteria, and the core features of the prototype. The outcome are the ontology constructed at the wisdom and semantic levels for use in crawling, indexing and searching; and informational search results in 2 clusters: authentic and doubtful content. Wealth creation: WiSeMantiQ offers 95% error-free ontology ready for commercialization, and feeder for other research works on Quranic information in languages other than English and Malay. WiSeMantiQ also offers search services to institutions with in-house collections. Quality of life: WiSeMantiQ offers ethical values as the basis for selecting quality information, and ways to filter abusive use and misinterpretation of Quranic texts and information. New industries: WiSeMantiQ contributes to the Knowledge-based Economy through knowledge discovery, acquisition and sharing, moving towards Web 3.0. This research is funded under PRGS12-007-0007; RM220,000.00.

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WISEMANTIQTM: WISDOM- & SEMANTIC-BASED SEARCH SYSTEM FOR QURANIC TEXTS ON THE WEB

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Maktabah Syamilah offers simple search features for al-Quran, Hadith and 30 versions of Tafsir. Thematic-arranged and kalimah-based project (i.e. earlier project upscaled as WiSeMantiQ) produced an ontology for Quranic texts performing at 98% precision for the original Quranic texts and the tafsir of Surah al-Fatihah and Surah al-Baqarah. The Qurany browser claimed to develop the ontology for al-Quran aiming precise search results. Googles Caffeine displays search results as a list; while information visualization of a social network analyzed relationships in the absence of contextual meaning and intellectual structure. Qurany Browser performed at 58% precision even though an ontology-based search should produce high precision results. Its ontology is intended for semantic-based search, but results still contain ambiguity. WiSeMantiQ is a prototype of a search system running on grid and cloud computing for the larger scale collection of ontology construction as seed for crawlers and indexing, with visualised search results requiring high computing power for rendering. WiSeMantiQ should enable the search results of Quranic Information on the Web into 2 main visualized clusters: (1) authentic sources and (2) doubtful content. Ontology is derived from the wisdom elements of the Quranic texts and the semantic consisting of concepts from the exegesis and domains of Islamic Finance and Banking and Islamic Family Law. Crawling and indexing techniques, and system relevance are built upon the ontology. Clusters are developed based on positive and negative uses, and information visualization on degree of sensitivity. Search system based on wisdom and semantic that will produce high precision values, and 2 visualized clusters of authentic sources and doubtful content running on grid and cloud computing. The research objectives are to design a wisdom and semantic-based ontology, index and crawl the Quranic information and categorize into 2 clusters: authentic and doubtful content. The methodology includes ontology construction, indexing, crawling and searching techniques. This research produces one PhD student and one MIT student (know-how); with 2 journal articles (under review); and 1 UI and 2 trademarks filed. The novelty includes the ontology to assist in the indexing and crawling techniques, authentication measures; and clustering criteria, and the core features of the prototype. The outcome are the ontology constructed at the wisdom and semantic levels for use in crawling, indexing and searching; and informational search results in 2 clusters: authentic and doubtful content. Wealth creation: WiSeMantiQ offers 95% error-free ontology ready for commercialization, and feeder for other research works on Quranic information in languages other than English and Malay. WiSeMantiQ also offers search services to institutions with in-house collections. Quality of life: WiSeMantiQ offers ethical values as the basis for selecting quality information, and ways to filter abusive use and misinterpretation of Quranic texts and information. New industries: WiSeMantiQ contributes to the Knowledge-based Economy through knowledge discovery, acquisition and sharing, moving towards Web 3.0. This research is funded under PRGS12-007-0007; RM220,000.00.

Islamic Finance and Economics(IFaE)

ALLEVIATION OF POVERTY AMONG OIC COUNTRIES THROUGH SADAQAT, CASH WAQF AND PUBLIC FUNDING

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This paper discusses the design of an efficient and optimal cooperation and unity among OIC countries for the integration of waqf properties and sadaqat and public funding as a viable instrument to alleviate poverty rate among Muslims globally. Poverty is rampant and common among Muslims globally and their financial constraints call for urgent, collective and concrete efforts among OIC countries to improve the conditions of poor Muslims regardless of their colour, gender, nationality, and sect since Islam simplifies unity. The study analyses the types and nature of investment that can be invested in with integrated charities such as waqf properties, sadaqat and public funding to create employment in order to reduce the poverty rate in concerned and targeted nation. It will further analyze how the financial status of Muslims can be improved.

APPLICATION OF CASH WAQF IN THE EMPOWERMENT OF WIDOWS IN MALAYSIA

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Cash Waqf is a form of Islamic endowment that has enormous un-utilized potential for its application in fulfilling the unmet social needs of the community. One such need is for the establishment of more effective schemes to alleviate the struggles faced by widowed women such as poverty, unemployment, and lack of support. The objective of this paper is to examine how Cash Waqf can be channelled into various mediums, instruments, and projects that will assist in empowerment and improvement of needy widows and their dependent children. The research uses a qualitative approach to examine the applicability of Cash Waqf funds for this purpose and presents a case for innovative avenues through which Waqf funds can be effectively mobilized towards this end. The paper proposes strategies through which Cash Waqf can be used for the creation of resources and tools for empowerment of widowed women such as through educational funds, creation of employment opportunities, and provision of tools for entrepreneurial activities.

APPLICATION OF THE CONCEPT OF BENEFICIAL OWNERSHIP IN THE SUKUK STRUCTURES: A SHARI'AH LEGAL ANALYSIS

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Asset is an important feature in sukuk structures to the extent that sukuk are often described as asset-based. This is especially true for sukuk al-ijarah, which was the most preferred sukuk structure in the early days. However, later sukuk structures in the like of sukuk al-musharakah, sukuk al-mudarabah and sukuk al-wakalah may be considered to be more asset-light because at the beginning, there may not be a requirement for an asset to issue the sukuk, though the asset will be built or acquired later in order to generate return or cash flow to the sukukholders. Yet, a recurring and contentious issue regarding the underlying sukuk asset is the actual nature of its ownership and the legal implications that it has on the sukukholders and other parties in the sukuk transaction. In most of the sukuk structures, the transaction in the asset results in a transfer of beneficial ownership only, whilst the legal title is retained by the originator or trustee. Since sukuk represent proportional undivided ownership of the underlying asset, do the Sukuk holders really own the underlying asset, thus entitling them to its full enjoyment and recourse, when the ownership is categorized as beneficial instead of legal? This research attempts to look into this issue. It begins with an examination of the meaning, origin and status of beneficial ownership under the law, English law in particular. This is followed by a brief discussion on ownership (milkiyyah) from the Shari'ah perspective and a deliberation on the status of beneficial ownership under the Shari'ah. Finally, the paper analyses the use of beneficial ownership in sukuk structures and its implication on the sukukholders and other parties in the sukuk transaction.

ARE TAKAFUL OPERATORS AT THE SYMPATHY OF RETAKAFUL OPERATORS IN MALAYSIA?

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The concept of insurance is novel and excellent since it tries to help the participants in the case of misfortune. It is prohibited from the Islamic aspect because the practice of insurance involves interest, uncertainty and gambling. Takaful has been introduced as an alternative to insurance and at the same time, Retakaful has emerged as an alternative to reinsurance. Unfortunately, due to the limited number of Retakaful operators and over reliance of the Takaful operators on the Retakaful operators seem to create Takaful operators helpless except to follow the demand of the Retakaful operators. In addition, they have more bargaining power than Takaful operators. This paper provides the evidence that higher proportion of general Takaful contribution goes for Retakaful expenses. Thus, it is time for the Takaful operators to realize that they are at the sympathy of Retakaful operators and the former one needs to find an alternative Retakful method, for example Retakaful pool method, apart from the traditional way of ceding their risks through Retakaful operators.

ASSESSING THE CONTRIBUTION OF ISLAMIC FINANCE TO ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM MALAYSIA

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This paper empirically examines the contribution of the Islamic banking and financial institutions (IBFIs) to economic growth in Malaysia. Focusing on the post-1997 economic turmoil period, the study relies on several time series tests such as Auto-Regressive Distributed Lag (ARDL), Vector Error Correction Model (VECM) and Variance Decompositions (VDCs). The study documents a significant role played by the IBFIs in Malaysian economy. Specifically, a significant unidirectional causality was found from the IBFIs development to economic growth, supporting the finance-growth led hypothesis or the supply-leading view. In view of this finding, continuous efforts should be undertaken to promote further development of the IBFIs in Malaysia.

BALANCED SCORE CARD APPROACH FOR BETTER SHARIAH CORPORATE GOVERNANCE

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Islamic financial institutions have emerged due to the non-Shariah compliant nature of conventional financial from interest, uncertainty, gambling and prohibited activities from the Islamic perspective. In order to achieve the mission of Shariah compliance, organizations such as Accounting and Auditing Organization for Islamic Financial Institutions, Islamic Financial Services Board and countries like Malaysia have provided Shariah governance guidelines. However, there are some court-cases regarding non-Shariah compliant issues and consequently, this has tarnished the reputation of the Islamic financial institutions. There is no guideline on Shariah performance measures available to find out to what extent Islamic financial institutions meet its mission. This study tries to fulfill the needs of the industry by providing the balanced score card for Shariah governance. This proposed score card is designed based on the concepts of accountability, responsibility, independence and competency of the Shariah board members. It suggests measures how any Islamic financial institutions discharge their fiduciary duty towards shareholders, depositors, participants of Islamic industry. The main drive towards Islamic financial institutions is to provide fair and just financial system free insurance, borrowers and society with the expectation of long-term success of the institutions within the Shariah framework. The proposed balanced score card is developed based on the opinions of 7 representatives from Islamic banks and 5 representatives from Takaful (Islamic Insurance) Operators. It is expected that this score card can be used as a platform for improving the Shariah corporate governance of Islamic financial institutions.

CUSTOMER SATISFACTION STANDARD IN ISLAMIC INSURANCE: A CASE STUDY OF TAKAFUL MALAYSIA LTD.

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Islamic insurance (takaful) is very essential at the present time as the traditional insurance has proliferated worldwide. The insured people are getting tremendous benefits from different types of insurance schemes and policies. The only problem is that the traditional insurance is practiced based on riba (interest) which is prohibited in Islamic religion as vehemently mentioned in surah Al-Baqara, verse 275 wherein Allah says, Taking usury has been prohibited for you but trade has been permitted for you. Hence, Islamic scholars have generally accepted the validity of takaful (Islamic insurance) as an alternative to the traditional interest based insurance.

DETERMINING FACTORS AFFECTING NON-MUSLIM CUSTOMER INTENTION TO USE ISLAMIC BANKING SERVICES

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The purpose of this research is to determine factors that influence non-Muslim customers intention to use Islamic banking services (IBS) in Malaysia. It is known that non-Muslims do patronize Islamic banks but little is known on what are the factors that influence them to use these services. A questionnaire was developed and data was collected from 252 conveniently selected non-Muslim respondents in the Klang Valley. Data obtained was analyzed using descriptive analysis, factor analysis and structural equation modelling. Through the use of confirmatory factor analysis, five factors i.e. religiosity, switching cost, recommendation, attitude and subjective norm that influence intention to use IBS were identified. Using structural equation modelling, all the hypotheses tested were supported. Religiosity, switching cost, recommendation, attitude and subjective norms are all statistically significantly related to intention to use IBS among non-Muslim consumers. 59 percent of the variance in intention to use IBS can be explained by attitude of non-Muslim consumers and almost 50 percent of the variance in attitude can be explained by religiosity, switching cost and recommendation by others. Findings from this research can enhance greater understandings of these factors and can assist Islamic banking providers to better understand their non-Muslim customers and assist them to create marketing activities that are more inline and relevant to their respective target segments.

DETERMINING THE ROLE OF RELIGIOSITY IN DIFFERENTIATING EARLY AND LATE ADOPTERS OF DINAR AND DIRHAM

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The aim of this research is to determine the role of religiosity in differentiating early and late adopters of Dinar and Dirham as a mode of currency for everyday transaction. A structured questionnaire was developed and used to collect data from 204 conveniently selected respondents during an event of Souq Qafilah that was held in the compound of Masjid Al-Husna in Bandar Sunway. Majority of the respondents were male (62%), single (53.9%), between the ages of 19-25 (39%), have at least a bachelor degree qualification (40.7%) and working (49.5%). Findings from this study showed that social influence, perceived behavioural control, religiosity and self-efficacy were significantly related to intention to adopt dinar and dirham. Only attitude was not found to be significantly related. All the five factors explained 71 percent of the variance in behavioural intention. Of the five factors only religiosity was found to be significant between early and late adopters of dinar and dirham. These research findings contribute to the greater understanding of the adoption of dinar and dirham and extent the body of knowledge in this area.

DEVELOPING A MODEL OF MEASURING ISLAMIC RELATIONSHIP MARKETING PRACTICE FOR MALAYSIAN TAKAFUL INDUSTRY

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Abstract. Purpose - The main objective of this research is to develop a model of measuring Islamic relationship marketing among Takaful agents. This research basically explores the underlying dimensions of Islamic relationship marketing practice in the Takaful industry. Design/methodology/approach - Few approaches were performed to explore the dimensions and measures of relationship marketing to the context of Takaful industry. The first approach was done by reviewing the previous marketing literatures, second approach took place when three focus group discussions were held with industry experts, and the final approach is conducted on the empirical survey of 755 Family Takaful customers. Findings - Based on structural equation modeling (SEM), the results indicate that the proposed constructs which are Islamic ethical behavior, social, structural, and financial bonds is significantly measured the practice of Islamic relationship marketing in the Takaful industry. The practice of these constructs has significantly influenced the retention of Family Takaful customer in future. Research limitations: This research lacks specific literatures in the context of Takaful to support its conceptual framework. This limitation however, was resolved by adopting and adapting from literatures of related academic fields to the context of the Malaysian Takaful industry. Practical implications: The results of this research imply that some marketing aspects should be given priority by marketers in the Takaful industry. Their responsibility is not limited to offering Takaful products. They should also be encouraged to build strong relational bonds with their customers, and in doing so, act in accordance to Islamic ethics. Originality: The theoretical framework of this research is built on the basis of Islamic norms; in addition to suggestions from previous marketing researches. All measurement items were confirmed by industry experts and the overall framework were tested using primary data obtained from a survey on the Family Takaful customers.

DOES HALAL CERTIFICATION MEDIATES THE PURCHASE INTENTION TOWARDS HALAL LABELLED FOOD PRODUCTS AMONG NON-MUSLIM CONSUMERS IN MALAYSIA?

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This research is undertaken to understand purchase intention of halal labelled food products among non-Muslim consumers in Malaysia as not much is known and understood on what influence non-Muslim consumers intention to purchase halal labelled food. Therefore, the objective of this study is to investigate non-Muslim consumers purchase intention towards halal labelled food products and to determine if halal certification mediates the relationship between interest, safe and clean and purchase intention. A survey was conducted in Kuala Lumpur, Malaysia where 472 non-Muslim consumers were interviewed by way of a structured questionnaire. Data were analyzed using descriptive statistics, factor analysis and structural equation modeling. Through the use of exploratory factor analysis, three factors that influence consumer purchase intention were identified namely interest, safe and clean and halal certification. Findings from this study indicated that non-Muslim consumers are very much aware and can recognize halal labelled food products on the market. They were made aware mainly due to the product advertisements and of the opinion that halal product are easily available. The halal certification is a symbol of quality and gave non-Muslim consumers confidence when they buy halal labelled food. However, they feel that certification body for halal labelled food products are still not at par with the global standards. 50 percent of the respondents have used halal labelled food products before and 28 percent of them intend to buy halal labelled food products in the near future. Although they have high level of awareness but interest in halal labelled food products among non-Muslim consumers are relatively low. The findings also suggest that halal certification partially mediates the relationship between interest and safe and clean and non-Muslim consumers purchase intention towards halal labelled food. These findings provide food manufacturers with a greater understanding of the factors that influence consumers purchase intention towards halal labelled food. Thus, allowing them to produce food products that can enhance trust and confidence among consumers and satisfy their needs and wants and at the same time increase their profits.

EXPLORING THE NEED TO SHIFT FROM DEBT-BASED TO EQUITY BASED FINANCING IN ISLAMIC BANKS: THE CASE OF MALAYSIA

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The objective of this study is to analyse the use of various modes of financing by several Islamic banks in Malaysia, particularly the extent of equity-based financing. Due to the prohibition of interest in the Islamic financial transactions, the Islamic banks should be involved more in equity-based financing which rely on the concept of risk and profit sharing rather than debt-based financing which is similar to the conventional banks. As such, financing instruments such as Mudarabah and Musharakah supposedly become the major financing instruments offered by the Islamic banks. However, as argued in the literature, the Islamic banks today concentrate more on the debt-based financing, particularly Murabahah and Ijarah contracts (Mohd. Ariffin et. al., 2009; Khan and Ahmed, 2001; Al-Omar and Iqbal, 1999; Al-Omar and Abdel Haq, 1996). In achieving its objective, this study aims to assess the perceptions of the bankers with regard to issues on concept, pricing and compliance of Shariah for the use of equity-based financing in Islamic banks in Malaysia, investigate the challenges for equity-based financing in Islamic banks in Malaysia, and examine the current practice of Musharakah Mutanaqisah that has been applied by few Islamic banks in the country.Findings of the study are expected to shed the lights on the extent of involvement of the Islamic banks in Malaysia in equity-based financing and enable some recommendations on the possible ways to shift from debt-based financing to equity-based financing in the Islamic banks, particularly on the needed financial infrastructure to support the adoption of the equity-based financing by the Islamic banks.

FACTORS AFFECTING CREDIT RISK AND ITS RELATIONSHIP WITH FINANCING STRUCTURE IN ISLAMIC BANKS: THE CASE OF INDONESIA

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Credit risk is deemed to be the leading source of problems in banking institutions. However, the factors affecting credit risk, particularly in Islamic banks, have been little studied. Empirical literature on credit risk has mostly focused on conventional banks. This study aims to investigate the factors affecting credit risk and the relationship between credit risk and financing structure in Islamic banking operations in Indonesia. The study uses panel data from 11 full-fledged Islamic banks and 24 Islamic business unit (windows) in conventional banks in the period 2004-2012, taking into account both macroeconomic variables and bank-specific variables. The macroeconomic variables consist of real GDP growth rate, unemployment rate and inflation rate. While the bank-specific variables consists of bank capitalization, financing growth, cost efficiency, bank size, diversification, bank profitability, ownership concentration and financing structure. The Generalized Method of Moments (GMM), as proposed by Arellano and Bond (1991) and generalized by Arellano and Bover (1995) and Blundell and Bond (1998), is utilized to estimate the model. The results of the study reveal the determinants of credit risk and the relationship between credit financing structure in Indonesian Islamic banks . Although this study takes the Indonesian Islamic banking industry as a case study, its empirical studies and findings are hoped can be applied to other countries that have the same Islamic banking industry. The finding from the study would be useful to the policymakers and regulators in making informed decisions and formulating policies that will indeed contribute to the bottom-line of the banks and indirectly help to prevent systemic risk.

FINANCIAL FRAGILITY OF MALAYSIANS IN URBAN HOUSEHOLDS

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Household debt in Malaysia has been on an upward trend and increasing at a relatively fast pace which increases households exposure to shocks. This study examines the level of financial fragility among individuals in urban households in Malaysia and factors that contribute to their financial fragility. Using a recent strictly random sample, it is found that Malaysians are financially vulnerable. Only 11.5 percent of the individuals are resilient to shocks related to unemployment, physical disability, divorce, death, or changes in interest rate or stock market. More than a fifth of the households the individuals live in are not able to survive for at least three months if the household income is cut off. Additionally, more than a fifth do not have enough savings or any other source to turn to if there is a need to raise RM10000 within a short period. The inability to cope with financial shocks differs across age and ethnic groups. Initiatives must be undertaken to assist the individuals and households in facing these challenges and for them to exercise financial prudence. Additionally, household debt must be closely monitored to ensure that it is sustainable.

FRAMEWORK FOR RETAKAFUL POOL FOR TAKAFUL OPERATORS IN MALAYSIA: EXPERTS OPINIONS

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Malaysia is trying to position itself as a hub of Islamic finance and the government is promoting the Islamic finance industry. Takaful industry is rapidly increasing however, Retakful industry is not catching up with the dynamic and complex needs of Takaful industry. In addition, the existence of the limited number of Retakaful operators causes Takaful operators not much bargaining power in negotiating the Retakaful agreement and normally, Takaful operators have no option except to follow the requirements set by Retakaful operators. Thus, this paper intends to propose framework for Retakaful poot mechanism by seeking the opinions of experts in Malaysia. By introducing Retakaful pool among the Takaful operators, it will create mutual and friendly business environment among them and reduce dependency on Retakaful operators. In addition, the experts believe that Retakaful pool will bring more benefit to the Takaful operators, compared to the traditional Retakaful method, i.e. engaging with Retakaful operators.

GHARAR IN EQUITY WARRANTS MISPRICING? MALAYSIAN EVIDENCE

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This study investigates the existence of gharar element in equity warrants/options transactions as claimed by some Islamic scholars. By using the Black Scholes Option Pricing Model, this study detected cases of significant equity warrants mispricing in the Malaysian warrants market due to market inefficiency in disseminating information to market participants. The mispricing of equity warrants in the Malaysian market indicated speculative activities which may contain gharar (uncertainty) and maysir (gambling). These are all prohibited in Islam as they violate the concept of adl (justice), do not serve the maslahah (public interest) and do not follow the maqasid al Shariah.

GLOBAL FINANCIAL CRISIS AND INTEGRATION OF ISLAMIC STOCK MARKETS IN THE DEVELOPED AND DEVELOPING COUNTRIES

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This study aims to determine the impact of the 2007 global financial crisis on the integration among the Islamic stock markets. Seven Islamic stock markets are selected based on the countries level of development and geographical factor. The period of analysis is being divided into the pre-crisis period (January 9, 2005 to July 22, 2007) and during crisis period (July 29, 2007 to January 10, 2010). In methodology, the study relies on the Auto-Regressive Distributed Lag approach and multi-variate Vector Error Correction Mechanism. The global financial crisis 2007/2008 was found to cause the changes on the integration level of the Islamic stock market. Both the level of development and geographical factor are found to have significant influence on the integration nature of the Islamic stock markets during the crisis and non-crisis periods. The findings have important bearings on formulation of financial policies, in which co-integrated Islamic stock markets suggest that there is a need for policy coordination among these markets to mitigate the impacts of financial fluctuations. Financial reforms, including the reduction or removal of trade and investment barriers, will be essential if these countries were to exploit the advantages of financial interdependence.

HOW COMPETITIVE IS THE SECONDARY EDUCATION OF THE OIC COUNTRIES ?

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The purpose of this study is to investigate the level of technical efficiency of secondary education in 16 selected OIC countries (including West Bank and Gaza). Education efficiency has become an important issue given the pressing levels of public deficit and debt of many countries. Since the educational sector always receives high priority in budget allocations, an evaluation of whether the allocations made for education has been technically efficient is important. With budget constraints and high expectation by the public to see a continuous improvement in students academic achievement, the educational sector has been put under pressure to deliver. The study employs TIMSS 2011 data, involving 40 countries. The technique used to calculate the level of technical efficiency is Data Envelopment Analysis (DEA). Almost all of the 16 selected OIC members are technically inefficient in utilising their educational resources to achieve better TIMSS results in comparison with the non-OIC countries. Even after controlling for the environmental factors, secondary education in the OIC countries remain technically inefficient.

INVESTIGATING STUDENTS AWARENESS AND USAGE INTENTION TOWARDS HALAL LABELED COSMETICS AND PERSONAL CARE PRODUCTS IN MALAYSIA

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This research focuses on the consumers awareness, usage and intention to use halal cosmetics and personal care products in Malaysia. A self-administered questionnaire was designed as an instrument to gather personal information on university students behaviour. A survey was conducted and 573 students responded to the questionnaire. Reliability test, descriptive statistic and chi-square analyses were used to analyse the data collected. The results indicate that most respondents were aware about the halal cosmetics and personal care products in Malaysia. The results also showed that there were significant differences among the respondents race and awareness towards halal cosmetics and personal care products. Furthermore, the students year of study and study in religious school is a strong indicator of consumers usage and intention to use halal cosmetics and personal care products. This study will provide cosmetic industries with a greater understanding of the consumer behaviour relating to halal cosmetics and personal care products. This will help them to produce cosmetic products which can satisfy consumers needs and wants and at the same time increase their profit and corporate social responsibility.

INVOLVEMENT OF CORPORATE ENTITIES IN WAQAF MANAGEMENT: EXPERIENCES OF MALAYSIA AND SINGAPORE

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The main focus of this paper is to examine the corporate management models of selected waqaf entities in Malaysia and Singapore. The waqaf entities involved in this study include two corporate waqaf institutions namely Kumpulan Waqaf An-Nur Berhad and IIUM Endowment Fund and one corporate waqaf institution in Singapore namely Warees Private Limited, Majlis Ugama Islam Singapore. It also analyzes how these waqaf entities finance the development of their waqaf property, especially land. Such a comparison is necessary considering the diverse experiences of these selected corporate waqaf entities in view of the differences in their endowments and different corporate management models. The paper concludes that these three corporate waqaf entities have adopted a more structured approach in financing the development of their waqaf properties and experimenting new ways of managing and investing waqaf assets. They have created opportunities for the improvement of waqaf institutions and revitalize the potentials of these waqaf assets to yield greater benefits to the society.

ISLAMIC BANKING AND ECONOMIC GROWTH: THE INDONESIAN EXPERIENCE

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Purpose This paper examines the short-run and the long run relationships between Islamic banking development and economic growth in the case of Indonesia. Design/methodology/approach Using quarterly data (2003:1 2010:2), this paper utilizes the bound testing approach of cointegration and error correction models, developed within an autoregressive distributed lag (ARDL) framework. Findings The results demonstrate a significant relationship in short-run and long-run periods between Islamic financial development and economic growth. The relationship, however, is neither Schumpeters supply-leading nor Robinsons demand-following. It appears to be bi-directional relationship. Originality/value This paper uses empirical evidence to show the role of Islamic banks financing towards economic performance of a country. To the best of the authors knowledge, the study on the role of Islamic banking development towards economic growth is limited, particularly in the context of Indonesia.

ISLAMIC FINANCIAL SYSTEM & ITS ETHICAL VALUES: A SOLUTION TO FINANCIAL DILEMMAS

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The fundamental practice of the modern financial system is debt-credit relationship between financiers and customers. Loan mechanism is seen as a platform to generate interest. Essentially, loan and interest-based are two main components of the said mainstream system. In addition, the goal embedded in the capitalist financial system is the ideology of profit maximization of shareholders value. However, due to this concept of maximization, the interest of other stakeholders is being undermined. The modern financial system has undeniably allowed the market players to behave unethically as it is mostly driven by greediness and often disregards the wellbeing of the society. This is reflected in one of the prominent financial dilemmas, the downfall of Lehman Brothers. The root problem lies in the case of Lehman Brothers is the practice of subprime mortgage loans and its attempt to raise liquidity. It is followed by the unethical practices by several personnel driven by the pressure of the mortgage system and the feeling of greediness. It is also mostly pursued by the ideology of maximization of shareholders value which has led to being individualistic and selfishness.

MEASURING WEALTH DEVELOPMENT BASED ON MAQASID AL-SHARIAH: HIFDH AL-MAAL INDEX (HMI)

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Maqasid al-Shariah provides a comprehensive framework that can be used to measure development. This framework is represented by the five universal values or essential elements which are (i) al-Deen (religion), (ii) al-Nafs (human life), (iii) al-Aql (Intellect), (iv) al-Nasl (family institution) and (v) al-Maal (wealth). The conventional view of the level of development of wealth typically refers to the level of wealth (usually measured by GDP per capita), or perhaps extended to the distribution of wealth. However, a review of the literature on maqasid al-shariah indicates that Hifdh al-Maal (the preservation of wealth) is more comprehensive as it encompasses the protection of ownership and property from damage, harm, theft, exploitation or injustice, and the acquisition and development of wealth by making it available through circulation and equitable distribution and through opportunities for employment, as well as preserving the wealth through investment and good governance. This study constructs an index of Hifdh al-Maal to measure development of wealth from the maqasid al-shariah perspective by selecting appropriate indicators to represent these various dimensions. The index is computed for all countries for which data are available and the countries rankings based on this index are compared to those based on only GDP per capita.

PRIORITIZING ISSUES IN ISLAMIC ECONOMICS AND FINANCE

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The purpose of this study is to investigate the opinion of scholars of Islamic economics and finance upon which issues should be given higher priority based on its roles in achieving the ultimate goals of Islamic economics and finance. Library study is firstly used to determine research areas in Islamic economics and finance. Afterwards, the pairwise comparison matrix is developed and distributed among the Islamic economics and finance scholars in Malaysia. Analytic hierarchical process technique is used as the means to rank the importance of alternatives based on defined research areas and small sample size. The library study found that there are six major research areas in Islamic economic and finance i.e. Islamic banking, other Islamic financial institutions, zakat-waqaf and poverty alleviation, Islamic monetary system, philosophical issues and fiqh almuamalat al-maliyyah. Using Analytical Hierarchy Process, the result shows that area of zakat-waqaf and poverty alleviation is considered as the most important area followed by monetary system including Islamic currency. Despite the large number of studies done in Islamic banking, the respondents have considered that the area is not able to answer or give solution to the ultimate goal of the establishment of Islamic economic and finance.

RAISING FUND FOR WAQF DEVELOPMENT VIA ISLAMIC REAL ESTATE INVESTMENT TRUST (I-REITS)

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This paper attempts to explore the possibility of using Islamic real estate investment trusts (I-REITs) as one of the potential financing method for waqf development. This paper identifies several ways on how I-REITs issuance can be used to tap money from the generous Muslim donors and the investors for the development. The funds raised by the issuance of I-REITs not only meant to finance the initial stage of waqf land development but are also expected to generate continuous cash inflows to the State Religious council. The paper aims to focus on the sustainability of the funds that can be used to finance the development of waqf land.

RANDOM TRINOMIAL TREE MODELS AND GOLD FUTURES OPTIONS:HOW TO SURVIVE THE FINANCIAL CRISIS WITH MATHEMATICS

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Trinomial tree model is a very important method to calculate the price of options. In this paper we introduce and study random trinomial model. The usual trinomial model is prescribed by triple of numbers (u, d, m). We call the triple (u, d, m) an environment of the trinomial model. A triple (Un, Dn, Mn), where Un, Dn and Mn are the sequences of independent, identically distributed random variables with 0¡ Dn ¡ 1¡ Un and Mn = 1 for all n, is called a random environment and trinomial tree model with random environment is called random trinomial model. The effectiveness of this new model is tested by using the Commodity Exchange (COMEX) Gold futures call options data. The empirical results reveal that this new model can provide a more accurate price estimate on gold traded in the COMEX. Furthermore, the study emphasizes the significance of this new model by analyzing the historical returns on gold during the recent global financial crisis.

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REALITY AND CHALLENGES OF FEMALE SHARIAH COMMITTEE (SC) MEMBERS IN ISLAMIC FINANCIAL INSITITUTIONS IN MALAYSIA

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In these earlier days, the SAC members at the Central Bank as well as the Shariah Committees in the first Islamic bank and Islamic windows were mainly dominated by male advisors. Only during the new millennium, the first female involvement as a Shariah Committee (SC) was traced, particularly after the establishment of the second Islamic bank on 1st of October 1999. The critical needs for more competent Shariah advisory and supervisory experts were very apparent when Bank Negara Malaysia review called for setting-up the Islamic subsidiary in 2003. To date, there are about 17 female Shariah Committee members advising various Islamic financial institutions in Malaysia. The issuance of the Shariah Governance Framework (SGF) on 1st January 2011 and Islamic Financial Services Act 2013 which have outlined greater requirements onto the Shariah Committee for the purpose of enhancing their competency, accountability, consistency and independence in the course of discharging their advisory and supervisory duties. Their duties are not only confined to business transactions, but are extended to cover any other affairs which are related to the performance and reputation of the Islamic institutions. Admittedly, having competent and experienced SC on board is a real challenging process for any financial institution. Keeping them committed with the institutions is another challenge. Therefore, the institutions must undertake necessary considerations in facilitating the SCs needs and welfare, particularly the interest of female SC/SAC members. This study discusses the present scope of Shariah advisory functions in the light of the Shariah Governance Framework and Islamic Financial Services Act 2013. The central idea of the study is to address potential challenges faced by the female SC members in discharging their responsibilities accordingly in meeting more demanding expectations by the Regulator, Management and Board members of the Islamic financial institutions as enshrined in the above newly passed regulations.

SHARIAH GOVERNANCE APPLICABLE TO ISLAMIC BANKS IN MALAYSIA: EFFECT OF ISLAMIC FINANCIAL SERVICES ACT 2013

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Shariah governance can be considered as part and parcel of corporate governance principles. The objective Shariah governance is to ensure that application and adherence to the principles or tenets of Shariah is not compromised at any cost. The prefix attached to the phrase Islamic banking mandates it to comply with the principles of Shariah that is mainly derived from Quran (the Holy Book) and the Sunnah (Prophet SAWs traditions). There are many other sources of Islamic law too. Public interest (maslahah), equity (istihsan) and custom (uruf) are also considered among the secondary sources of Islamic law. Purpose This research aims to explore the Shariah governance rules applied in the Malaysian Islamic banking arena and the effect of Islamic Financial Services Act 2013 on it. Design/methodology/approach This is a legal exploratory study primarily focused on library research. Findings Shariah governance is a concept that has been developed and applied gradually in Malaysia and the new Islamic Financial Services Act 2013 has taken it to the next level. However, this does not mean that it has resolved the problems in Shariah governance that existed before the enactment of it.

SHARIAH CORPORATE GOVERNANCE: THE NEED FOR A SPECIAL GOVERNANCE CODE

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With the advent of Islamic banking, a new species was added to the banking system which was then, only dominated by the conventional banking. Islamic banking expanded in the world within the last decade and as a result, Islamic nance emerged as an alternative to the conventional nance. This created Islamic companies and Islamic nancial institutions which operate based on the principles of Shariah or Islamic Law. These Islamic corporate bodies, like the conventional corporate bodies do need good governance rules. In other words, they also need a good, sophisticated Shariah Governance Code which would be based on the principle of Islamic Law. This is mainly because the objective of the conventional and the Islamic Corporate governance is different as conventional corporate governance structure is more focused on the protection of the rights of the stakeholders; while Islamic corporate governance focus on retaining the Islamicity of whole corporation. The objective of this research is, as the title suggests, proposing the reasons why a special governance Code for Shariah corporate bodies are needed. This paper would suggest a proper governance structure to the Islamic companies and will also discuss why the conventional corporate governance Codes are unsuitable for the Islamic companies.

SPIRITUALITY AND LEADERS EFFECTIVENESS: A PERSPECTIVE FROM THE HOLY QURAN

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This research is an attempt to reveal leadership concepts from the Quran. Despite decades of ongoing inquiry and increasing interest, research on leadership has ignored religious elements, especially form the Quran as a source of knowledge. Based on the characteristics of the Motaqeen according to the Quran, the concept of Taqwa has been operationalized as having two distinct components, that is, Spirituality and Responsibility. This study tries to examine the relationship between the first component i.e. spirituality and leaders effectiveness. A cross-sectional field study was carried out in which spirituality was a self-constructed measurement while leadership effectiveness was constructed from existing scales in the literature. Multiple regression and hierarchal regression techniques using SPSS were used to test the hypotheses utilizing sample of 206 companies. The results show that leaders level of spirituality influences the leaders effectiveness, where one dimension of Spirituality, that is Belief, was found to predicate business leadership effectiveness. In the light of findings of present research several recommendations are made to improve the Spirituality of leaders within the organizational culture.

THE APPLICATION OF RATING SYSTEM IN MALAYSIAN SHARIAH-COMPLIANT SCREENING PROCESS

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The study realized that the status of Shariah compliance do not really help investors to differentiate the quality of the investment if most of it are Shariah compliance. If majority of the listed companies are Shariah compliance then most of the investors are buying the stock without they appreciate the benefit of holding the share under Shariah-compliant counter. In order to make Shariah status more meaningful to the investors, the process of Shariah screening should be more comprehensive and applies tight benchmark. The stock then will be segregated into a few tiers. This rating process will differentiate stock with the most Shariah compliance with those who just meet the minimum requirement.The study proves the connection between each Tier with the IPO initial performance. The significant result from Tier 1 group performance really shows that the IPO with highest level of Shariah compliant performed better (35.93%) than non Shariah group (17.81%) and also with those in other Tiers.

THE CONCEPT AND CHALLENGES OF TAKAFUL INVESTMENT IN MALAYSIA

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The concepts of mutual assistance and charity often come to mind when the concept of takaful is mentioned. This is understandable given that takaful played the role of an essential risk-sharing mechanism in Muslim history. In addition to risk sharing, new features have been added to the modern concept of takaful : investment and saving elements. This is mainly due to the fact that takaful participants who join a takaful arrangement not only seek protection but are also interested in the investment and saving services. However, the investment activities carried out by takaful operators have raised a number of questions. Some argue that it is inappropriate for takaful to incorporate the investment features as it will contradict the social and charitable nature of takaful . Others are of the view that there is nothing wrong with the investment activities undertaken by takaful operators as long as the investment activities are in compliance with Islamic law and the technical contractual requirements are satisfied. The issue of investment activities in takaful raises certain concerns and has resulted in various challenges to the way they are being practiced. The prevailing Shariah issues highlighted in this paper relate to investment of the Participants Risk Fund (PRF), charging a fee to manage the mudarabah-based investment fund, the fee paid to the fund manager, and income purification. Meanwhile, the main operational and legal challenges addressed in this paper include the participants involvement in the investment process, the limited investment avenues, investment fund monitoring, cross-border investments, asset-liability matching, and treatment of underwriting surplus and investment profit. The paper proposes certain guidelines to specifically address the Shariah and operational issues in takaful investment. Finally, this study suggests to the takaful operators that they must be very vigilant in knowing and fulfilling their duties as reflected by the contracts or the operating model adopted. This is necessary so that essential Shariah principles are adhered to in the course of managing both takaful and investment activities.

THE DETERMINANTS OF SECURITIZATION ACTIVITIES AMONG SELECTED BANKS IN MALAYSIA

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This study investigates the factors that drive securitization activities among Malaysians banks. A sample of 39 banks consisting of 15 Islamic banks and 24 conventional banks covering the period 2004-2011 are involved in this study. The finding of the Dynamic GMM model suggested that, liquidity motive, risk transfer motive, capital arbitrage motive and the need to enhance performance are the driving force of securitization activities among banks in Malaysia. Based on this finding, securitization activities pose a potential risk to the banks due to the possibility of banks relaxing their lending standard to originate more loans.

THE IMPACT OF ISLAMIC BRANDING ON CONSUMER PREFERENCE TOWARDS ISLAMIC BANKING SERVICES

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People think that Islamic branding influences customers to adopt Islamic banking and financial services. However, the reality is that it is not only the Islamic branding which influences customers to receive Islamic banking services but there are other factors which also influences adoption of Islamic banking services. Some of the researchers have collected data and found that there are different factors which influence customers to adopt Islamic banking services. In this research four independent factors have been selected to investigate whether they influence Islamic banking services or not. These four independent factors are i. Islamic branding of services; ii. Perception of Islamic banking services; iii. Convenience of Islamic banking services and iv. Ethical organization. From the data collection and analysis we find that independent variables such as perception of Islamic banking services and convenience of Islamic banking services influence customers more than Islamic branding to adopt Islamic banking service.

THE IMPACT OF MACROECONOMIC VARIABLES ON ISLAMIC BANKS CREDIT RISK

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Credit risk is the most anticipated risk in the banking system. It is one of the key elements to assess systemic risk and stress testing financial fragility which is very helpful to come up with macro-prudential surveillance in financial systems. Unlike the conventional banking system, there is dearth of empirical study on macro-credit risk in relation with Islamic banking. As such, further research regarding the stability of the Islamic banking industry has become imperative. Accordingly, this paper is aimed at determining and assessing the long run vulnerabilities of Islamic financing sustainability in term of its response to changes in key macroeconomic variables by using time series econometric approaches of cointegration and vector autoregression (VAR). Based on the result of simulating variance decomposition (VD) and impulse response function (IRF), it is found that, sufficient evidence of long-run relationship between credit risk ratio in Islamic banking industry and the selected macroeconomic variables exist. The exchange rate, supply side-inflation, and growth have been indicated to negatively influence credit risk rate in Islamic banking, while money supply and Islamic interbank money market rate positively affect the risk rate.

THE INFLUENCE OF TAWHIDIC PARADIGM ON THE DEVELOPMENT OF A UNIFIED THEORY OF THE FIRM

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This study argues on the influence of Tawhidic paradigm to a unified theory of the firm from for a comprehensive theory to describe the nature of the firm, the scope and boundaries of assessment on organizational environments, and the assessment of internal organizations to formulate, implement and evaluate organizational strategies. The conventional approach to the theory of the firm is not adequate to respond to external, internal, and human dynamism. The study used qualitative method via personal interview with 15 senior managers of Islamic financial institutions that listed in Bursa Malaysia. The informants argued that the vision, mission and objective statements differentiate the shariah compliant and non-shariah compliant companies. The shariah-compliant companies apply Tawhidic paradigm in terms of companies continuous improvement in all functional aspects, value added services to the stakeholders, and enhancing social welfare to the humanity. The use of qualitative method through personal interviews is appropriate for exploratory nature of the study to develop a unified theory of the firm. Nevertheless, the findings cannot be generalizable. However, the study contributes a contemporary framework of the theory of the firm from Tawhidic paradigm, which adds into the sustainability principles and business continuity.

THE INTEGRATED DEVELOPMENT INDEX (I-DEX): A COMPREHENSIVE APPROACH TO MEASURING HUMAN DEVELOPMENT

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Standard economics and policy prescriptions adopt the modernization thesis at its base, which says that developing countries can modernize by undergoing secularization and westernization. However, Muslim countries, including Malaysia, have shown that more economic development and progress can take place together with a renewed manifestation of Islamic values and norms. This important departure from the modernization thesis reflects a potential alternative transformational development model. However, conceptual and theoretical frameworks of this alternative development model is still lacking. There is an urgent need for Muslim countries to develop this alternative model that represents a more holistic and inclusive concept of development that integrates the physical/material, intellectual and spiritual dimensions of human beings. This study proposes to develop an integrated Islamic development framework and index based on, and representing the Maqasid al-Shariah or noble objectives of the Shariah and to compute this index for OIC and non-OIC countries. The final expected outcome of this study is a Maqasid-based Integrated Development Index (I-Dex) that willl better represent holistic development and well-being according to Islamic benchmarks, hence providing academics, students and policymakers in Muslim countries with an alternative measurement of progress.

VIABILITY OF ISLAMIC INSURANCE (TAKAFUL) IN INDIA: SWOT ANALYSIS APPROACH

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Takaful (Islamic insurance) has been widely accepted as an alternative to conventional insurance and offered in many Muslim and non-Muslim countries. The unique feature of Takaful is that is suitable and acceptable for anyone regardless of the religion to our surprise, Takaful has not been introduced in India. India has the third largest Muslim population after Indonesia and Pakistan and second largest population after China. In terms of economic development, Indias GDP growth rate is 6.3% and it is expected that in coming years and it is believed that India will be one of the leading countries for the world economy. Thus, the objective is to examine the viability of Takaful in India by using SWOT analysis approach. Questionnaire has been distributed to both Muslim and non-Muslims to find out the awareness, acceptability, prospects and challenges of Takaful products. Interviews have been conducted to examine the opinions of ten insurance operators, fifteen Shariah advisors and five consultants regarding the prospects and challenges of introducing Takaful in India. The findings from 333 respondents show that awareness of Takaful is still at the minimum level. However, they are willing to participate if Takaful is offered in India. In addition, the findings of the interviews highlight that the Takaful has a good potential in India. However, it can be offered if the government supports it. Due to time limitation, the opinion of the regulators has not been examined and thus, future research should focus on it.

Islamic Sciences and Disciplines(ISaD)

A QURANIC ACCOUNT OF BIODIVERSITY

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Species diversity has been the hallmark of biosphere and invaluable resource for human being as well as for the natural environment. In order to appreciate and conserve these diverse species, different values have been proffered from different frames of references . This study examines biological diversity from the Quranic perspective in an attempt to explicate the kinds of value conferred by the Quran on non-human species among the animals and plants. Collating ayat (verses) of the Quran related to nonhuman species and analyzing key conceptual terms the Quran employs in reference to their diversity, the study found that nonhuman species are presented in the Quran as signs of Allah (s.w.t) and as communities (umam) of worshipers worthy of existence and conservation.

A QURANIC FRAMEWORK FOR SPIRITUAL INTELLIGENCE

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This research examines the perspective of the Quran on spiritual intelligence in an attempt to understand its meaning and nature, foundations, and derive its indicators, in an effort to develop a competency-based criterion for it. It draws on some illustrations that effectively highlight the Quranic perspective on the subject of spiritual intelligence. The research concludes that spiritual intelligence developed in accordance with a Quranic framework that incorporates spiritual consciousness into a system of belief, worship, morality and social responsibility. The understanding of the Quranic perspective helps uncover some of the broad underlying theoretical principles and values of Islamic spiritual intelligence which shapes much of Muslim spiritual undertaking with relation to a wider spectrum of interaction with faith-groups and society; effectively developing more inclusive models of evaluation and capacity-building in contemporary multi-religious societies.

AN EVALUATIVE STUDY OF AN ARABIC TEXTBOOK FOR TEACHING ARABIC TO NON- ARABIC SPEAKERS FROM THE PERSPECTIVES OF TEACHERS AND STUDENTS (PH.D ED.)

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The purpose of this study is to contribute to the enhancement of Arabic course textbook to non- Arabic speakers in general and to the innovation of the three volumes of Arabic series for non- Arabic speakers, Silsilah Talim al-Arabiyyah li ghairi al-natiqina biha[The Essential Arabic book,] which has been offered by Quranic Language Division [QLD],CELPADsince2002 .This research,employed more quantitative than qualitative method. The data were processed by SPSS Windows and crossed examined with the qualitative output by citing interview excerpts.

ARABIC IDIOMATIC PHRASES LEARNING COURSEWARE FOR NON-NATIVE SPEAKERS

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Idiomatic phrases are words that have hidden meaning different than the literal meaning of the words. In this sense, Arabic language is similar to English language as it has thousands of idioms that are used quite extensively in conversations, movies and especially in writings as a better way to express the thought and emotion that does not fit into words. The problem is Arabic idioms are rarely becoming a center of focus in class lessons, whereas there are only few books available for the learners as a guide to idioms and its usage, and the same goes to learning courseware. The objective of this study is to design and develop a prototype of computer-assisted courseware for Non-native Arabic learners in learning Arabic Idioms based on the difficulties encountered by the using a survey of Learners Need Questionnaire. Feedbacks of learning strategy, learners early perception, suggestion and comment towards the design and the development of the prototype courseware are also collected through the same questionnaire. The sampling population of this study consists of randomly selected 70 students from Department of Arabic Language and Literature at International Islamic University Malaysia (IIUM), lecturers and experts in subject-matter (SME) and instructional design (ID). The method used in this study is a descriptive and analytical method. The design and the development of the prototype courseware are based on Behavioral Theory by Skinner and Cognitive Theory of Multimedia Learning by Mayer, while the ADDIE Model is chosen as a generic ID model in designing and developing the prototype courseware. Findings from this study indicated that students who faced the difficulties in learning Arabic Idioms are due to few factors such as; Arabic Idioms were not specifically being taught in class as well as there is no separate subject focusing in teaching Arabic Idioms. In addition, learners appear to read less Arabic books which does not help them in identifying Arabic Idioms encountered in text and the most noticeable reason is Arabic Idioms is highly related to the Arabs culture and the way they convey the ideas are unique to a particular region or country or society. Plus, the analysis from qualitative data showed that learners preference for using this courseware in learning Arabic Idiomatic phrases based on their comments on the usability, learning contents and effectiveness. Suggestions and comments are collected from learners open-ended survey and incorporated with the findings of this study as a future guide to enhance this prototype of computer-assisted courseware for learning Arabic Idiomatic phrases.

ADTH, THE IMAMATE IS FROM QURAISH IN THE FACE OF CONTEMPORARY CHALLENGES

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The meanings of certain prophetic aadth are ambiguous as a result of an apparent conflict with the spirit of the age. Among such aadth is the adth advocating that the imamate is from Quraish. There are several prophetic aadth advocating that the highest level of political leadership belongs to Quraish. Furthermore, there is a consensus among the companions and tbin to this effect, in addition to a general agreement among the majority of scholars. It would seem that only the Kharijites and some Mutazilites and Asharites would disagree with this. However, this concept faces a number of challenges in todays age in light of the spirit of equality and equal opportunity. The adth the Imamate is from Quraish faces a number of challenges. A number of contemporary scholars have rejected this adth due to the pressures of the age, citing a number of excuses. This merits a reconsideration of this adth to determine the validity of the views of those who reject, in addition to identifying an understanding of the adth that does not conflict with the spirit of the age.

ISLAMIC BIOETHICS OF ORDINARY AND EXTRAORDINARY MEANS OF MEDICAL TREATMENT

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This study attempts an exposition of different perceptions of obligation to medical treatment that have emerged from the Islamic theological understanding and how they contribute to diversity of options and flexibility in clinical practice. Particularly, an attempt is made to formulate an Islamic perspective on ordinary and extraordinary means of medical treatment. This distinction is of practical significance in clinical practice, and its right understanding is also important to public funded healthcare authorities, guardians of the patients, health and life insurance institutions, and employers who provide health care coverage to their employees. Not only these parties, but also lawyers and justice administration functionaries such as public prosecutors and judges are in need of understanding this distinction to deal with relevant litigations. The distinction could be made regarding terminally ill patients and non-terminally ill patients separately. The essential factors that matter in making the distinction between ordinary and extraordinary means of treatment are: (1) patient capacity (2) expert advice, and (3) nature of medication. Regarding terminally ill patients, medical treatment can become extraordinary because of (1) patient capacity and (2) nature of medication. In both these case the deciding condition applies: the expert advice taken from a group of physicians. In regards to non- terminally ill patients, extraordinary medical treatment includes three cases: (1) treatment that is known to be useless and futile, (2) treatment that endangers the life or cause more harm than what it removes, and (3) useful treatment, but the patient is unable to bear the cost.

ISLAMIC CHRONOLOGY AND CHRONOMETRY WITH TABULAR SYNOPTIC LUNI-SOLAR CALENDARS

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The Christian Era (CE), used nowadays globally even by non-Christian majority of the world, is very defective an inaccurate calendar for scholars. In 1576 CE, a papal council of Roman Catholic clerics discovered that the months of Julian calendar, used by them for making holy days of Christianity, are miscalculated. In this calendar (invented by Julius G. Caesar in 45 BCE marked in the 20th century historical literature as BC = Before Christ) every fourth year was a leap year, so that, in the 16th century of the western Christendom, the days of every month were ten days in advance of the accurate dates. The pope Gregory XIII ordered the return to the old Roman seasonal dates of 325 CE in his bull Inter gravissimas. The fifth day of October, 1582 CE was declared as October 15th. So that, ten days evaporated from the Christian history of Europe by a stroke of papal quill, and with usage of his chronometric reform, from the history of the world. It cannot be accepted by the Muslim scholar or reader of history of the Muslims. My research will help to calculate and convert correctly dates from the Muslim annals into the Gregorian CE, and vice versa. The Gregorian New Style, accepted by the Roman Catholic states, was not recognized by the Eastern Orthodox and Protestant sects until the 18th century CE. The German Lutheran rulers acknowledged it in 1700 CE. In 1752 CE, the British Kingdom decided to adopt the Gregorian reform by deleting 11 days between Sept. 2nd and 14th, this, the September 3 of 1752 CE became fourteenth day of this month in Great Britain and its colonies or factories in America, Africa and Asia were 11 days of their history disappeared by the edict of the English monarch. In 1753 CE, Swedish king issued similar edict which deleted 11 days from history of Scandinavia. The Japanese emperor-westernizer ordered to use the Gregorian calendar in 1873 CE. In 1908, the dictators of the Young Turks wiped out 11 days from history of the waning Osmanli sultanate and after the fall of Ottoman Empire during the WWI, the Orthodox (Greco-Catholic) Bulgars (1916 CE), Rumanians (1919) and the Greek king after the end of Balkan Wars and WWI (1923). The Bolsheviks abolished the Julian calendar after their coup detat of the Red October, 1917 CE. By Lenins dictum, the Communist-ruled new Eurasia lost 13 days (February 1 of 1918 became February 14). Such chronological frivolity of westernizers cannot be functional in the measurement of time by the Muslims obliged to Muslims obliged to follow well-established calculation of Ramadan. My study deconstructs the western controversy of the New Style calendar.

ISLAMIC EDUCATION: THE PHILOSOPHY, AIM, AND MAIN FEATURES

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Islam has put greater emphasis on the importance of acquisition and dissemination of knowledge (ilm) than any other human activities. In fact, it makes it compulsory (far) upon its adherents, regardless of gender, to learn and disseminate knowledge. The obligation of seeking out knowledge is binding upon every Muslim by the command of the Quran and Sunnah of the Prophet (PBUH). Education from Islamic perspective is often defined by Muslim scholars from three different dimensions which are reflected in different concepts introduced, important among them are; tarbiyyah the process of education that gives emphasis on physical and intellectual development of an individual; tadb the process of education that gives emphasis on nurturing good human beings with noble codes of conduct/ethics approved by Islam, so that he may conduct and position himself in society with justice; and talm the process of education that is based on teaching and learning. The concept of education in Islam must take into consideration of all the dimensions stated above. No matter which one of the above concepts is preferable to scholars, it should not be used as a pretext for controversy and intellectual acrimony among scholars, because what does it matter is not the concept, but the practice, methodology and its objectives. Education occupies a significant position in Islamic civilization. The first revelation to Prophet Muammad (PBUH) in Srah al-Alaq (verses 1-4) is about the divine instruction to reading by the name of God, thus underscores the tawd philosophy that education in its essence is not purely a mundane activity, but an integral part of faith. Recently, the concept of education in Islam has been influenced by secularism since the time of colonization and the collapse of the Ottoman Empire, which consequently resulted in the failure of the Muslim Ummah in its quest for nation building and development according to Islamic perspective. The purpose of education in Islam is to produce a good human being (al-insn al-li), who is capable of delivering his/her duties as a servant of Allh (abdullh) and His vicegerent (khalfah) on earth. This paper is aimed at highlighting the main features of Islamic education, its methodology and objectives in comparison with the current system of education, which is predominantly secular in its philosophy and methodology.

LINGUISTIC ARGUMENTATION AND LOGIC: AN ALTERNATIVE METHOD APPROACH IN ARABIC GRAMMAR

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This research emphasises the relationship between linguistic argumentation and logic . Linguistic argumentation is a language system which uses the meaning of expressions in a sentence to draw a complete meaning of the sentence, as there lies a dependence between expressions. In fact, this connection between expressions enhances the overall meaning from the very fundamentals of the sentence structure in the logical relationship between ideas; where there lies a relation between words and the mind which is dependent on the logic of combined utterances. In order to signify the above concept of thinking, the researcher has turned to the theory of the early system of Arabic grammar which focuses more on analogical approach rather than anomaly. The analogical approach in the system is based on the underlying theory which implies the aforementioned relationship, even though some modern views may disagree on the interpretation of this issue. To round out the discussion, the researcher has included similar existing theories on Latin grammar which have shown the logical approach to be a result of the connection between linguistic argumentation and logic. As a result of this discussion, the connection between words and logic is shown to be a universal concept.

LOVE AND BEAUTY: A STUDY OF JALALUDDIN RUMIS WRITINGS

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This research presents an detailed analytical study of the primary sources written by Jalaluddin Muhammad Rumi (d.1273) , i.e. the Mathnawi, Diwan-e Shams and Fih-ma-Fih . It addresses love at various levels physical and spiritual, earthly and divine. We have studied the subject through categorizing it under three main heading: 1) Under Ingredients, elemental topics such as self, knowledge and beauty are conversed. 2) Under Stages, various levels and categories of love - personal, social, romantic, spiritual and divine - are discussed. 3) Under Experience the concept of taste (dhawq in Rumi's terminology) has been deliberated upon, which is regarded as the most profound level, incorporating all stages and ingredients at their various intensities and purities.

MAINTENANCE AS A MEANS OF SOCIAL SECURITY TO RELATIVES (QIRABAH) UNDER ISLAMIC LAW

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Duty to maintain ones relatives is less emphasized particularly in Malaysia nowadays. Under Islamic law, next of kin or relatives are other categories of people who deserve maintenance from their relatives especially during necessity or where they are not capable of maintaining themselves while at the same time other relatives are capable and rich. It is a common scenario in Malaysia that in the case of maintenance of children for example, whenever parents are dead or incapable, duty to maintain children will shift to the government. Even though the law provides for ones duty to maintain relatives, it was not enhanced or utilized for the purpose of assisting the needy relatives. Research in this particular area is very significant as it can discover and highlight on maintenance to a persons relatives or next of kin. It will also provide justification that maintenance is not merely the relatives rights but provide them with a social security. Furthermore, so far there is no research done that thoroughly highlights on maintenance to the relatives. Therefore, this research will discover and discuss in details of maintenance to relatives under Islamic law to significantly contribute to academic knowledge in particular and the protection of relatives.

MALAYSIAN URBAN INDICATORS NETWORK (MURNINET) AS AN UMMAH SOCIO-DIGITAL SUSTAINABILITY ASSESSMENT

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MURNInet is one of the examples of socio-digital aids when it serves as a tool to assess sustainability of cities in Malaysia. A set of data embodied in eleven sectors via its fifty-five indicators is required for this purpose as prescribed in the Garis Panduan dan Manual Penggunaan Petunjuk Bandar Malaysia (MURNInet), 2005. This data input is to be done by each Local Planning Authority in Malaysia for the area to be assessed its sustainability. Definitely this exercise requires effective indicators to ensure the results reliability. Since Islam is the way of life, the research aims to study the integration of sustainability concept in Islam and the practice in Malaysia with reference to MURNInet, within a context of Maqasid al-Shariah. The research offers (1) to examine the present concepts of sustainability, (2) to identify Islamic principles affecting sustainability (3) to map out the urban sustainability framework i.e. MURNInet with Maqasid al-Shariah and (4) lastly to make recommendations for the integration of MURNInet and Maqasid al-Shariah. This research employs qualitative and quantitative research paradigms. Besides content analysis, questionnaire survey and focus group discussion are used to achieve the research objectives. For that purposes, Majlis Bandaraya Shah Alam, Majlis Perbandaran Bentong and Perbadanan Putrajaya which achieved sustainable cities in year 2008, 2009 and 2010 respectively are been used as case study together with Jabatan Perancangan Bandar dan Desa of related states. The research founds that the basis/foundation of the formulation of MURNInet and its indicators need to be realigned towards Maqasid al-shariah. In doing so, knowledge/understanding of Maqasid al-Shariah among person involved is very crucial and need to be propagated. Finally, the research proposed a framework to situate the current urban sustainability indicators into the framework of Maqasid al-Shariah. By doing that, the disintegrations can be traced and remedial actions can be taken. It notes that by having urban sustainability indicators which the formations are in accordance with Shariah, it then will sustain our built environment.

MODAQQEEQ SARFIY : A SPELL CHECKER TOOL FOR ARABIC LANGUAGE LEARNERS

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The lack of using computer-assisted technology in the Arabic language classrooms was discussed by Mohd Feham & Isarji (2000), Ashinida, et. al. (2004), Mohd Feham (2006) and Zawawi (2008). Mohd Feham (2006) further indicates that there have been less inventions and innovations in the field in Arabic language learning and several reasons have limited the numbers of educational software and courseware in the Arabic language. Majority of Arabic language teachers were found incompetent in using computer and courseware in teaching process due to poor computer literacy especially among the veteran generations (Zawawi, 2008) and lack of computer training (Ashinida, et. al, 2004). Furthermore, there is the difficulty to find the Arabic courseware. (Mohd Feham & Isarji, 2000; Mohd Feham, 2006; Zawawi, 2008). Thus the of technological production of machinery for Arabic language teaching and learning is very important as it is currently dominated by the American-English language, whether it is software or hardware (Wahba, Taha & England, 2008). This project will focus specifically on designing and developing a prototype of Arabic writing skill among non-Arabic speakers via interactive prototypes, which could enhance the learners self-motivation and language skill as the followings : 1- Problems of teaching and learning Arabic among non-Arabic speakers especially in writing skill. 2- The needs to DESIGN AND DEVELOP special courseware for teaching and learning Arabic among non-Arabic speakers especially in writing skills through self-learning. 3- To motivate learners of non-Arabic speakers in learning Arabic by using interactive multimedia courseware that enhance writing skill through self-learning.

NEED ANALYSIS OF TEACHING ARABIC FOR TOURISM

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The aim of this study is to investigate the needs for Arabic language for the purpose of tourism and lesson content design. Two hundred and ninety-two questionnaires were distributed and 59 interviews were conducted with 29 Malaysian and 30 Arab tourists. The questionnaire was used to find out the needs for the four main skills of Arabic proficiency specially in language course aimed at tourism. The respondents were also asked to suggest the vocabulary relevant to the needs of tourism. The results of the analysis on the Arabic language needs for the purpose of tourism can be used to design lessons. Student-centered learning processes through- problem solving, critical thinking, and self-learning were suggested. In addition, for lesson content design, the researcher used methods from Hutchinson and Water (1987), Ahmed Rushdi To'eima (2003) and Toba (1962), which touched on objectives, content, teaching methodology and evaluation. The researcher concludes that tourism requires teaching and learning needs in its contents. The findings of this research show the following: First, speaking skill is crucial for accurate information. Second, accents such the Saudi Arabian or Egyptian, have been recommended by most participants. Third, tourism encompasses development in economic and eco-tourism, politics, culture, education, and geography. These have sub-elements which can be used for lesson content design. Therefore, the researcher recommends that Arabic language be used in tourism sector in Malaysia.

NON-VERBAL LANGUAGE ACTION AFFECT LISTNERS CONTINUERS: MALAY BACKCHANNELS

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Nonverbal communication is the process of communication through sending and receiving wordless (mostly visual) cues between people. Many researchers have conducted differences of conversational style (CS) between Japanese and English. The number of CS analysis between Japan and other languages such Korean and Chinese have increased. According to Tannen (1984) everybody has a certain CS and the style varies according to individuals, sex and culture. This study aims to investigate the - NON-VERBAL LANGUAGE ACTION AFFECT LISTNERS CONTINUERS - conversational style Malay (backchannels). The study used conversational method; 20 groups of females were participated for Malay students. The result showed some similarities and differences in usage of backchannels among Malay participants. We findings can also be used in our teaching and learning.

PERCEPTION OF IIUM DENTAL STUDENT REGARDING THEIR PERFORMANCE IN EXAMINATION DURING RAMADAN

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Aims: To evaluate IIUM dental students perception on their performance in examination during Ramadan Method: 81 IIUM dental students perceptions about their performance in examination during Ramadan were evaluated by answering the questionnaire. The subjects were specifically selected as all of them used to take examination during Ramadan. The questionnaire consists of 12 questions where it was divided into 3 sections, which are before, during and after the examination. Basically the questions were asking about how Ramadan really affects themselves in term of preparation for exam, capability in answering the examination and the result of their examination. Results: Almost all (87.21%) students gave a positive perception (p¡0.05) regarding their performance in examination. Conclusion: Ramadan is a blessing month and could inspire and motivate people especially in facing challenge in their life.

READABILITY INDEX CALCULATOR FOR GENERAL ARABIC TEXTS

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Many factors affect comprehension. One of them is the appropriateness of text difficulty level to a particular group of readers. Texts which do not suit students needs and instructional demand may not help expand their competency in the language learnt. One of the ways of evaluating text complexity is by assessing the reading ease of the texts chosen. For English texts, many readability tests are available online for teachers to use. However, Arabic teachers do not have this option available for them. This paper presents the prototype of a web-based readability index for Arabic language. A number of factors were considered in the formulation of the index. This includes word frequency, Arabic morphological structure and lexical density. The Arabic readability index was computed based on a corpus of Arabic language. How the formula was computed will be discussed in the presentation.

READING COMPREHENSION STRATEGIES USED BY NON-NATIVE ARABIC LEARNERS AT CELPAD, IIUM

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Second language curriculum developers put into consideration the learners proficiency in the target language, and the dominant trends in Language Learning when selecting curriculum content .Therefore knowing the reading processes and strategies adopted by learners, and identifying the difficulties they face, will contribute to innovations in reading curriculum. This research has focuses on the reading comprehension strategies of Arabic academic narrative text used by learners in CELPAD. The study covers intermediate, advanced and bachelor levels.

RELIGIOUS ETHICS ON INDUSTRIALISATION PROCESS : A DISCOURSE FROM ISLAMIC PERSPECTIVE

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The most important matter in ethics and values in industrialization process according to Islam is the matter of existence itself and how it is to be defined. Another issue is the matter concerning resources and how it is to be utilized. Therefore, this study deals with both basic issues by exploring the general guiding principles and values in the process of industrialization.

REVELATION AND ILMI (SCIENTIFIC) MIND: HOW QURAN LEADS THE CONSTRUCTION OF ILM

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The emergence of scientific thinking in Islam traces its origin back to the sources of Revelation which advocates the truth (al-haqq), proof (al-burhan), and integrity and reliability (al-sidq). The Quran also exhorts man to explore the universe and to further understanding the reality while believing in God and obeying His commands. This requires Muslim scientists today to define their position and role carefully, to be fully aware of the global impact of science and changing environment while clearly defining science, its learning process and regulatory policies. Often those initiatives are found to be very simplistic and generally based on descriptive tasks involving incorporating justifying quotations or adoptions,and also activities of bridging,reminding,motivating, arguing,or just depending on the arguments of the miracles of the Quran and the Sunnah.What continues to be lacking nonetheless, is the need to raise serious questions about the relationship of scientists with the Quran, define satisfactory answers dealing with the process of learning, teaching and application of science. This inter-disciplinary research adopts textual analysis and thematic approach to Quran based on early and contemporary Quranic exegeses in order to explore some of those challenges. The current study examines the Quranic position and contribution to the making of science, and its potential response to much of the work of scientists. This would allow us to lay down the foundational relationship associating scientists with the Quran and also help us better understand of the effect of the Quran on scientists in the various fields of spirituality, cognition, well being and societal order, as well as the natural covering the worldview and divine laws.

STRATEGI PERMOHONAN MAAF ANTARA PELAJAR TEMPATAN DAN PELAJAR ARAB

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Kajian yang dilakukan bertujuan mengkaji aspek kesantunan berbahasa dalam kalangan pelajar tempatan iaitu Melayu dan pelajar Arab. Objektif kajian adalah mengkaji pola dan strategi maaf dalam kalangan pelajar lelaki dan perempuan Melayu dan Arab. Data kajian ini menggunakan pola dan strategi maaf berdasarkan model CCSARP (Cross-Cultural Study of Speech Act Realizations Patterns). Pengkaji menggunakan 30 responden dari pelajar tempatan dan pelajar Arab dengan menjawab 10 situasi yang berbeza. Hasil dapatan mendapati pelajar perempuan dan lelaki Arab serta Melayu menggunakan jenis bentuk pola maaf yang berbeza. Jika dilihat pada pelajar lelaki Melayu lebih menggunakan pola penjelasan kepada pendengar. Sifat ini sesuai dengan diri lelaki Melayu yang mempunyai ego dan tidak mudah untuk mengakui sesuatu kesalahan. Pelajar lelaki Arab pula lebih senang menawarkan maaf kepada pendengar. Responden lebih gemar menggunakan perkataan Insyaallah sebagai janji tidak akan mengulangi sesuatu perbuatan. Kajian juga mendapati pelajar Arab juga mempunyai sikap suka menyalahkan pihak pendengar. Data ini berbeza dengan pelajar Melayu yang tidak akan menyalahkan pendengar apabila melakukan kesalahan. Berbeza pelajar perempuan Arab pula, mempunyai pola lakuan bahasa maaf sama seperti pelajar perempuan Melayu. Sifat perempuan yang mudah memaafkan kesalahan dilihat mempunyai sifat yang lembut dan mudah memaafkan kesalahan.Perbincangan kajian diakhiri dengan impikasi dapatan dan cadangan kajian dalam konteks lakuan bahasa maaf.

THE AL-AMIN'S ANTHOLOGY IN DESCRIBING THE PROPHET MUHAMMAD'S (P.B.UH) LIFE

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This article revolves around the content of the meaning in the compilation of al-Amins poetry. In fact, the birth of Al-Amin is seen as an effort that needs to be appreciated, as it is the longest poem so far, which records the entire life history of our beloved Prophet Muhammad p.b.u.h in the form of a poem. It tells almost all events in Prophets life, encompassing his birth, his early life, his experience in business, his marriage with Khadijah, his acceptance of revelation, facing opposition from the Quraisy and challenges he and his companions faced, migration to Habsyah, the event of Isra and Miraj, story of his fellow companions, like Abu Bakar As Siddiq, migration to Yathrib, building an Islamic government based on the Medina Charter, betrayal of the Jews from Bani Qainuqa in Medina, the main battles Prophet participated in, his life with his wives, and the time of his death. The main ideas of Al-Amin highlights the Islamic values as the main content revolves around the life history of a great fighter, a role model for all Muslims. Through the meaning of poems, it almost describes all events play a big role in Prophets (P.b.u.h) life. Briefly, this article reveals almost full information about the life history of the Prophet p.b.u.h in poetry style of writing to proves that A. Samad Saids persistence in making an Islamic poem that is almost comprehensive.

THE EFFECTIVENESS OF FIELD TRIP IN THE TEACHING OF EOP TO BUSINESS MANAGEMENT AND ICT STUDENTS AT IIUM: A CASE STUDY

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Malaysia is currently experiencing an emerging trend to focus on workplace specific language needs. This is to meet the present demands of social and economic development where employers are seeking young vibrant employees with high English language proficiency, coupled with strong interpersonal skills and confidence, as an essential condition to work in todays global context. In line with this, a survey conducted by the Federation of Malaysian Manufacturers (FMM, 2007) among its members revealed that the top five difficulties in recruiting fresh graduates were; (1) lack of industrial training, (2) communication problems/weak command of English, (3) weak problem solving skills, (4) job hopping and (5) lack of self confidence. This paper investigates to see if the field trip activity, which is one of the components in the English for Specific Purpose (EOP) syllabus for the Business Management and ICT final year students, can help graduates meet the requirements of the incumbent employment market. The main objective of this study is to show that it is imperative for all higher learning institutions to prepare students with sound communicative, interpersonal and problem solving skills before they go into the workplace. The methodology used in this study consists of pre and post survey questionnaires to investigate students preparation emotionally and physically before the field trip and their experience after the field trip. Findings from the research do not only indicate that students were more prepared and confident to face people in the workplace, but also made them realize the importance of mastering the English language to land a better job opportunity.

THE ETHICAL IMPLICATIONS OF THE MODERN PROGRESS IN SCIENCE

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Moving from the known to the unknown, creation of devices, and prophecy of the future are the distinguishing features of human species. Throughout the course of history only mankind has been able to comprehend the world and interpret its natural and historical events. On the other hand, the scientific discovery has been possible because the Creator has made the entire universe in perfect orders and precise measures. Hence, nature has been the inspiring and motivating source of knowledge. The systematic processes of nature shifted attention of man to the Creator of the universe and to the research method, since nature functions only in certain modes. The Divine originated mechanisms, such as protein and cell, have guided human talent to the discovery of new technologies. Scientists, motivated by systems in the natural world, and inspired by engines of living creatures, have shown great interest to make new discoveries. The ability to rearrange objects, therefore, lies at very foundation of systematic research and advanced technologies introduced by scientists and technologists. The main objective of modern science, as established by Francis Bacon, is to dominate nature through understanding the procedures which nature follows. This paper primarily aims to present the human ability to unfold the unknown of the natural phenomena and the ethical implications of scientific progress. The article, also, aims to introduce the Islamic epistemology as a potential philosophy of science.

THE GENESIS OF SCIENTIFIC THINKING IN THE QUR'AN

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This research project proposes the Qur'anic conception on objective method of inquiry in the natural phenomena. It aims to elaborate the genesis of scientific thinking based on Qur'anic approach. It is well known fact that the Holy Qur'an have been an important source of inspiration to investigate in nature. While its basic objective was to establish faith and to create a united moral society, the Qur'an has discussed many issues related to physical world. It talks about astronomy, cosmology, creation of mankind, creation of the universe, and astrophysics. This Qur'anic approach on nature inspired and motivated many of earlier scholars from various nations, ethnicities, cultures, and from different religious backgrounds, to investigate in the natural phenomena. The two generative aspects that needed for innovative research, especially in the natural phenomena, are curiosity and scientific thinking. The dawn of scientific knowledge had begun with curiously and observation. Driven by these two factors, mankind has been trying to find unity and regularity in the diversity of the natural processes. His major objective for investigation in nature has been the same; that is to uncover rules that govern the natural phenomena and to appreciate the Power behind the rules. By curiously, man begins to observe and from observation he formulates theories and builds great history and glorious civilization. The basic objective of this article is to explain genesis of scientific thinking in the Qur'an. The paper especially focuses on the general epistemological parameters in the Qur'anic approach, such as the concept of (Taqdir) and concept of (Sunnatullah), which are necessary for systemic engagement for knowledge inquiry and to establish the foundations of research method. The Qur'anic approach on research motivation, creative and critical thinking will be elaborated.

THE IMPORTANCE OF INTER-RELIGIOUS DIALOGUE IN BUILDING MUSLIM-CHRISTIAN RELATION IN NIGERIA

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WESTERN COLONIALISM, AND THE EXTENT OF ITS IMPACT ON LITERARY FIGURES, INTELLECTUALS AND ISLAMIC CULTURE

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الاستعمار الغربي، ومدى تأثيره في الأدباء والمفكرين والثقافة الإسلاميّة

This article discusses about some Muslim literary figures were and still under the influence of the West. During the colonial periods, through education and cultural encounters, a new generation of locals who were imbued with Western orientation emerged. The newly westernized locals later occupied significant positions the society and government. On the other hand, there were also a handful of Muslims who went to the West and studied but remained comfortable with their own culture and were hardly westernized. They remained Islamic and were moderate. Upon their return, they benefitted their people and society.

DERIVATION AND ITS IMPORTANCE IN THE DEVELOPMENT OF THE ARABIC LANGUAGE AND HOW TO TEACH IT TO SPEAKERS OF OTHER LANGUAGES

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الاشتقاق وأهميته في تنمية اللغة العربية وكيفية تعليمه للناطقين بغيرها

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Abstract This study addresses various issues in relation to the derivations, concepts, roles and importance in developing Arabic language, expansion of words or vocabularies, language teaching for non-native speakers, and discussing related point of views and extrapolating them. In addition, this study is also mentioning some discoveries and suggestions that can be used with appropriate arguments, and offering some of the proposed terms for use in our recent time in various fields, especially in education. The Arabic language is in need to development in line with the present demand and prospects. The Arabic of Jahiliyyah was limited as it addressed the needs of the Arabs at that time. The development of this language is crucial to the non-Arabic speakers. Its development is also necessary to make it dynamic and not rigid in facing the requirements that we are facing now while maintaining its core.

MULTILINGUALISM AND CULTURAL ROLE IN THE DEVELOPMENT OF MALAYSIA LESSONS LEARNED FOR ARABS AND MUSLIMS

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التعدد اللغوي ودوره الحضاري في تنمية ماليزيا دروس مستفادة عربيًا وإسلاميًا

تهدف هذه الدراسة إلى عرض أهمية اللغة الوطنية في تنمية ماليزيا وتطورها، نظرًا إلى الدور الحضاري المهم للغة الملايوية في بناء الوطن ما بعد الاستقلال. كما يقتفي هذا البحث أثر تجربة ماليزيا اللغوية الناجحة في تنمية المجتمع الماليزي المتعدد الأعراق واللغات، لاسيما في عهد القيادة الحكيمة برئاسة محاضير محمد التي بجست تنمية مركَّبة ومستقرة تقودها لغة الملايو الناجحة إداريًا، فاستفاد منها جميع الأعراق التي تتحدث باللغات الثلاث الرئيسة: الملايوية، والماندرين، والتاملية، في الوقت الذي تحسِن التواصل فيما بينها بلغة الملايو أصحاب الأرض الجامعة. و تخلص الدراسة إلى أن أهم شيء يستفاد من التجربة الماليزية المتعددة الألسن، هو اعتبار الإنسان اللغوي، أيًّا يكن عرقه، هو القيمة الحضارية الإنمائية الأولى في مشروعات المستقبل؛ مما جعل المنظومة التعليمية التي يقودها إنسان محترم لا تصطدم بتعدد اللغات، بل إن التوحد مع تعدد الألسن واستيعاب ظروفه التاريخية كان سببًا في إفراز عقول مستوعبة لتعدد النماذج الإنمائية العالمية والإفادة منها، فلم يتأثر المجتمع الماليزي المتعدد الألسن سلبيًا بالعولمة اللغوية التي وجدت البيئة اللغوية الماليزية تتلاءم مع طموحاتها الإنمائية.

THE ISLAMIC MEASURE TO ANALYZE DATA

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المقياس الإسلامي لتحليل البيانات

تعتبر الدراسات الببليومترية التي تعنى بتحليل خصائص النتاج الفكري من الوسائل الناجحة للتعرف على اتجاهات هذا النتاج، والتعرف على خصائصه البنيوية والمنهجية، وصولا إلى وضع أسس لتقويم هذا النتاج والتعرف على توجهات المؤلفين وتعاملهم مع أوعية المعلومات المتاحة في مختلف العلوم، والكشف عن أهم الدوريات في هذا المجال نظرا لعدم وجود برنامج آلي يعمل على الويب يتيح للباحث أو المؤسسة الأكاديمية تحليل خصائص انتاجهم بأنفسهم دون الحاجة إلى اللجوء إلى شركات وقواعد بيانات تقوم بالتحليل بمبالغ باهضة، ياتي هذا المشروع ليكون أول مشروع اسلامي مفتوح المصدر يدعم الباحثين والمؤسسات الأكاديمية لتحليل ومعرفة خصائص انتاجهم الفكري، سيعتمد المشروع على بعض القوانين الببليومترية وتطبيقها على بعض العناصر. يهدف البحث إلى إنتاج أول مشروع اسلامي مفتوح المصدر لتحليل الانتاج الفكري ويدعم اللغة العربية واللغات الأخرى.

A COMPARATIVE STUDY BETWEEN MASLAKI AL NAZZAM AND AL- JAHIZ IN THE MATTER OF MATTER OF SARFAH

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دراسة مقارنة لمسلكي النظَّام والجاحظ في مسألة الصَّرْفة

دراسة مقارنة لمسلكي النظَّام والجاحظ في مسألة الصَّرْفة الدكتور رضوان جمال يوسف الأطرش
قسم دراسات القرآن والسنة كلية علوم الوحي والتراث الإنساني الجامعة الإسلامية العالمية ـ ماليزيا
قضية البحث: يتناول هذا البحث بالدراسة والتمحيص مسلكي النظَّام والجاحظ في مسألة الصَّرْفة
والتي من خلالها ألغى النظام مفهوم النظم من قائمة وجوه الإعجاز، بينما عده الجاحظ وجهاً رئيساً
لذلك، وتعمَّق الخلاف بين الأستاذ وتلميذه حول تحديد مفهوم الصَّرْفة، والبحث ركز على أوجه الاختلاف
والتشابه بين مسلكي هذين العَلَمين حول هذا المفهوم. منهج البحث: يتبع البحث منهج الاستقراء
والتحليل والمقارنة بين موقفي النظَّام وتلميذه من الصَّرْفة باعتبارهما رمزين من رموز المدرسة الاعتزالية.
أهداف البحث: ١. كشف اللثام عن مفهوم الصرفة وتحريره علمياً وبيان نشأته التاريخية.
٢. بيان المكونات العلمية لشخصيتي النظام والجاحظ وأسباب تعمق الخلاف بين الأستاذ وتلميذه حول مفهوم الصرفة.
٣. استظهار نقاط الاتفاق والاختلاف في موقف الرجلين من الصرفة وعلاقة ذلك بنظم القرآن.
٤. الرد العلمي على موقف العلَمَين من الصرفة. نتائج البحث:
١. توصل البحث إلى أن علماء الاعتزال كانوا أكثر الناس إثارة للكلام في إعجاز القرآن،
ومن بينهم النظَّام، حيث ذهب إلى أن القرآن غير معجز، وإنما كان إعجازه بالصرفة، فكان بذلك
أول من أذاع هذه الخبر عن القرآن القادم من الثقافة الهندية ورجالات البراهمة في كتابهم المسمى الفيدا.
٢. إن مفهوم الصرفة كما ذكره النظَّام لم يكتب له الرواج، نظراً لأنه يسلب النص القرآني إعجازه الذاتي،
ويدعى أنه في طوق العرب، لو لم يصرفهم الله عن معارضته.
٣. إن مفهوم الصرفة عند الجاحظ مغاير لمعناه عند النظَّام، فالنظَّام نفى النظم عن آيات القرآن بينما
الجاحظ أثبته، بل وألف كتاباً في نظم القرآن، تحدث فيه عن علم البلاغة.
٤. إن سر مخالفة الجاحظ لشيخه النظَّام يأتي من باب اعتزازه بنفسه، وبغضه للتقليد. كما أن الفلسفة
لعبت دورها في الخلاف، حيث قل أو ندر أن يجتمع فيلسوفان على فكرة واحدة مجتمعة دون أن يعطراها
بالخلاف والاجتهاد والزيادة والنقصان.
٥. أظهر البحث أن علماءنا المسلمين ردوا على هذه الفكرة بيسر، واقتلعوها من جذورها، ومن هؤلاء الخطابي،
والباقلاني، والجرجاني، وغيرهم، فقد ركزوا على أن الله سبحانه وتعالى طالبهم بأن يأتوا بسورة من مثله،
مقتصراً على التحدي بالنظم والعبارة واللفظ.
٦. إن القول بالصرفة يلزم منه تراجع العرب عن حالهم البلاغي، وأنهم ممنوعون من الإتيان بمثله،
ولو عرف ذلك لجاء التصريح منهم دون حياء، وقالوا: إنا كنا نستطيع قبل هذا الذي جئتنا به،
ولكنك سحرتنا، واحْتَلْت علينا، ولما لم يحصل ذلك منهم، دل ذلك على أن القول بالصرفة قول فاسد.

CRITICAL STUDY OF THINKING THE ARABIC NAHU

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دراسة نقدية في التفكير النحو العربي

يهدف هذا الكتاب إلى إبراز الأفكار النقدية التي ترد في بعض المسائل في النحو العربي، وهي المسائل التي تركز على بعض الأفكار المنطقية والفلسفية مع بعض القواعد الفقهية وأصولها في استنباط الأحكام والقواعد النحوية. وعلى جانب ذلك، يناقش هذا الكتاب أيضاً المسائل النحوية الخارجة عن القياس النحوي أو ما سمّاه النحويون: باب الشاذ عن القاعدة، وهو المدرج تحت باب السماع.

وكما أن الدراسة التي قام بها العلماء في هذا المجال هي دراسة استقرائية دقيقة في جمع المعلومات الصافية بعيدا عن التأثيرات الأجنبية، فمن أغراض هذا الكتاب الردّ على أقوال بعض المستشرقين من أن النحو العربي قد تأثر بالنحو الإغريقي أو اليوناني أو السرياني أو الهندي، وقد عرضت الباحثة بعض الأدلة العلمية والعقلية التي تؤيد كلامها.

THE DYNAMIC OF JAPANESE EXPERIENCE IN COMBINED DEVELOPMENT

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دينامية التجربة اليابانية في التنمية المركبة

يحلِّق هذا البحث في آفاق دينامية التجربة اليابانية المعاصرة في التنمية الاقتصادية، ويتساءل عن الدروس التي يمكن أن يستفيد منها العالم العربي والإسلامي في تحقيق الإنجازات، والحفاظ على استمراريتها؛ إذ نقيم في ساحتها العريضة مقارنةً على مستوى الإفاده بين اليابان، والعالم العربي الإسلامي (= الجزائر وماليزيا). إلى جانب ذلك، يقدِّم هذا البحث مقاربةً وصفيةً للشروط الموضوعية من أجل استثمار هذه التجربة للتخلُّص من حالة الجمود الضاربة أطنابها في العالم العربي والإسلامي، وبيان دور الفاعل الإنساني الياباني في صناعة المستقبل الإنمائي، وكيفية الإفادة منه في العالم العربي الإسلامي.

ARABIC LANGUAGE CURRICULUM AT AL-AZHAR UNIVERSITY AND THE AMERICAN UNIVERSITY IN CAIRO: AN ANALYTICAL STUDY

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مناهج تعليم اللغة العربية في جامعة الأزهر والجامعة الأمريكية بالقاهرة: دراسة تحليلية

لم تعد اللغة العربيّة خاصة بالعرب بل أضحت لغة عالميّة ويطلبها ملايين المسلمين في العالم اليوم. وازداد إقبال الدّارسين عليها. ومن هذا المنطلق، ظهرت المؤسّسات التعليميّة الكثيرة التى تهدف إلى تعليم اللغة العربيّة لغير الناطقين بها وتنوّعت المناهج في تعليمها واختلفت الطرق والاستراتيجيات في تعلّمها وإتقانها. وخاصة في جمهوريّة مصر العربيّة حيث أن الإقبال كبير على تعلّم اللغة العربيّة. فيحاول البحث الكشف عن المناهج المستخدمة في تعليم اللغة العربيّة لغير الناطقين بها في هذه المؤسّسات التعليميّة المنشورة وهماجامعة الأزهر الشريف والجامعة الأمريكيّة بالقاهرة.

HADITH TEXTUAL CRITICISM AMONG THE PROPHETS COMPANIONS: THE EXAMPLE OF 'AISHA

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نقد متن الحديث عند الصحابة: السيدة عائشة رضي الله عنها نموذجاً

يحاول هذا البحث تسليط الضوء على جانب مهمّ من علوم الحديث ألا وهو نقد المتن.
ولقد تناول البحث الموضوع من خلال بيان الجذور التاريخية لهذا الفن، وارتباطه الكبير بالصحابة
منذ العقود الأولى لهذا الدين، كما أشار إلى تلك العقلية النقدية التي تميز به حملة الحديث،
ورواته من لدن عصر النبوة إلى العصور المتأخرة.
لأجل ذلك اختار البحث نماذج تطبيقية من خلال كتاب الإجابة للزركشي لاستدراكات الصحابة
بعضهم على بعضهم، وخاصة السيدة عائشة رضي الله تعالى عنها.
وقد تَمَّ التركيز على بيان المناهج المستعملة في نقد النصوص واستنباطها ووجه الاستشكال فيها،
وموقف العلماء من ذلك كله.
ولقد جمع البحث بين المنهجين التحليلي والنقدي؛ لتناول الجوانب المختلفة للموضوع.

Science, Engineering and Technology(SEaT)

3D DESIGN AND MOTION SIMULATION OF TWO-WHEELED WHEELCHAIR USING SOLIDWORKS

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Wheelchair on two wheels is considered as a high nonlinear and complex system, which mimics double-inverted pendulum on a moving base. 3D model of the system has been developed using SolidWorks. The advantages of tilting mechanism have been proved using SolidWorks motion simulation. The prototype of the model has been built and tested.

A COMPARATIVE STUDY OF PHOTOCHROMIC DYE PERFORMANCE USING MIXED FACTORIAL DESIGN

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The performance of three photochromic dyes, namely 1,3-Dihydro-1,3,3-trimethyl-6-nitrospiro[2H-1-benzopyran-2,2-(2H)-indole] (SP), 1,3-Dihydro-1,3,3-trimethylspiro[2H-indole-2,3-[3H]naphth[2,1-b][1,4]oxazine] (NO), and 3,3-Diphenyl-3H-naphtho[2,1-b]pyran (NP) were compared using mixed factorial design. The behavior of these dyes were observed in absolute ethanol before and after UV irradiation, at different dye concentration. From the analysis of variance (ANOVA) result, both the type and concentration of the dyes gave significant effect on the absorbance change. The interaction of both factors was also significant. Moreover, the NP compound displayed highest change in absorbance intensity, followed by SP and NO. Apart from that, larger increase in absorbance spectra were obtained at higher dye concentration.

A MATHEMATICAL MODEL OF RARE MUTATIONS AND CHAOS

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According to the Holy Quran, the evolution of life is the result of divine will and divine guidance. One of the key elements of natural selection is that offspring sometimes vary from their parents. For instance, a yellow buttery may have a black offspring. This kind of variation and mutation, though rare, tends to occur in all species. Over a long period of time, the cumulative effect of such mutations leads to an entirely new specie. In this presentation we explore the discrete nonlinear dynamical system that naturally occurs to describe the transmission of a trait from parents to their offspring. We consider Mendelian inheritance for a single gene with three alleles and assuming that prior to the formation of the new generation each gene has the possibility to mutate, that is, to change into a gene of the other kind, and show that the rare mutation can transform regular dynamical system into chaotic one.

A NOVEL HYBRID GENETIC-K-MEANS ALGORITHM WITH POLYGAMY SELECTION AND POPULATION CONTROL TECHNIQUE

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Genetic Algorithm (GA), a random universal evolutionary search technique that imitates the principle of biological evolution has been applied in solving various problems in different fields of human endeavor. Despite the numerous strengths and wide area of applications of GA especially in optimization relation problems, selection process has been identified as one of the critical process that affects its performance. Optimal solution may not be feasible if chromosomes selections for mating are not properly done. In addition, difficulty is often encountered when there is significant difference in the fitness values of chromosomes while using the popular probabilistic roulette wheel approach. In this work, a novel hybrid K-Means GA with polygamy selection and dynamic population control mechanism has been proposed for solving the aforementioned problems associated with GA. Fitness value obtained from chromosomes in each generation are fed into the KMeans selection algorithm for selection process based on individual fitness value. The surviving selected chromosomes undergo polygamy crossover subject to population control mechanism. The process is repeated until convergence into global solution is achieved or number of generation elapsed. Results obtained shows that the proposed algorithm performs better than the popular Roulette wheel based selection technique while applied to Robot routes optimization problem. Furthermore, the proposed algorithm converges to global solution within few iterations (generations) thus favouring its acceptability for daily usage.

A NOVEL PROTOCOL USING SELF CONFIGURATION FOR MOBILE NODES IN IOT

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Internet of Things (IoT) is playing a major role in adding value to the existing communication infrastructures. Many exciting research works describing various frameworks, models and protocols for IoT networks have been proposed. However, the large scalability in the nodes makes IoT system management very tedious. Management becomes harder when it comes to the setup of individual nodes which join IoT networks. After joining a network, service configuration in the node to enable functionality requires significant human intervention as well. To minimize user intervention, select concepts of computing autonomy have to be suitably ported to IoT based systems. Self-Configuration, particularly, can allow significant performance improvement in the network by autonomously adjusting the duty cycle and other services in the end nodes. This thesis proposes a method for autonomy for end nodes in a star topology. Here, the procedure and content for transmission of control packets for registration, and self-configuration are described. The traditional gateway-node system architecture is extended by including additional components mimicking the functions of autonomous systems to suit our requirements. Simulations and a test-bed based study were carried out using the Contiki OS on Zolertia Z1 nodes. Analytical calculation was employed to confirm select measurements. Results show that performance in an IoT network can be improved by autonomously adjusting the duty cycle services of the end nodes. The proposed system and protocol were evaluated upon the IEEE standard 802.15.4 protocol for parameters of delivery ratio, energy consumption and message latency. An improvement in delivery ratio by up to 29.8% was observed which improves energy efficiency while maintaining performance. It was found that implementation of autonomy proves to be a valuable addition to existing IoT setups. The essential contribution of this work is that now autonomic self-configuration can be performed in an IoT network resulting in improved efficiency. The limitation of this study, however, is manifest in that service selection was not considered as a part of the protocol.

A STUDY ON THE COST OF PRELIMINARIES SECTION IN CONSTRUCTION PROJECTS

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The section of preliminaries at a tender documents specifies the works and obligations that the contractor of a project needs to perform in addition to the actual construction works. Preliminaries section needs to be priced by tenderers as there are cost implications for complying with the requirements under the section. The objective of this paper is to determine the percentage of the cost for the preliminaries section to the overall construction cost of various categories of construction projects. Secondary data on the elemental cost analyses of thirty-three (33) projects are collected and analyzed to determine the percentage for preliminaries cost for each building. The results of the analysis concluded that there are differences between the percentages of cost for preliminaries section among different categories of project. From the five categories of buildings, the category of transport and industrial buildings recorded the lowest percentage (i.e. 3.60%) whereas the category of residential buildings recorded the highest percentage (i.e. 7.94

A STUDY ON TOURISTS PERCEPTION ON MELAKA HERITAGE TRAIL

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Melaka Heritage conservation represents a significant part of the countrys heritage as well as tourism. The heritage tourism of the Melaka Historic city does not only bring job and revenues, it is also recognized upon a wide range of attractions and culture that are offered by the community. This research is a study on the Tourists Perception of the Melaka Heritage Trail Connectivity. It is to investigate and examine the perception of the tourists regarding the provision of pedestrian network services and facilities. This research focusses on the Melaka heritage trail pedestrian network connectivity from the perception of the tourists. And as such, the study provides an input for marketing the destination of the site. The research is conducted as a follow-up study after being declared as a world heritage site in 2008. Visitors were interviewed and surveyed using questionnaires regarding the heritage trail pedestrian services and facilities provided along the heritage trail. This firsthand experience will provide useful information from the visitors view point. The issues and problems of the heritage trail connectivity will then be interpreted and used for recommendations in improving the Melaka Heritage Trail.

ACTINOMYCETES FROM MANGROVE SEDIMENTS: POTENTIAL MICROBES FOR PHARMACEUTICAL PRODUCTS

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The discovery of new therapeutic compounds become more stressing as many microbial pathogens are developing resistance against existing antibiotics. Actinomycetes are renowned as a rich source of bioactive molecules. However, the commercially potent secondary metabolites from well-known actinomycetes are difficult to discover due to the practice of screening that is leading to rediscovery of known bioactive compounds, thereby, emphasizing the need to isolate undiscovered actinomycetes. Mangroves are highly productive ecosystem though less attention has been given into the diversity of actinomycetes present in mangrove sediment particularly in Malaysia. Therefore, the objective of the present study was to isolate and screen antimicrobial producing actinomycetes from sediment samples in Tanjung Lumpur mangrove. In this research, a total of 172 potential actinomycetes were isolated using several pretreatments and various selective media. Sediments from five different sites at Tanjung Lumpur mangrove were collected and pre-treated using several procedures including (i) wet heat in sterilized sea water (55oC, 15 min); (ii) dry heat (120oC, 60 min); and (iii) phenol (1.5%, 30oC, 30 min). The pretreated sediment samples were diluted and plated onto eight selective isolation media including, yeast-extract-malt-extract agar, oat-meal agar, inorganic salt starch agar, starch-yeast-extract agar, marine agar, actinomycetes isolation agar, Gause modified medium and starch-casein agar. The potency of mangrove actinomycetes to produce antimicrobial substances has been studied in 61 strains which were chosen based on their different morphologies. Antimicrobial activity of the selected strains were checked by cross streak method against 3 Gram positive bacteria; B. subtilis, S. pyogenes, S. aureus, 4 Gram negative bacteria; E. coli, S. marcescens , S. thypimurium, K. pneumoniae and 1 fungus; C. albicans. Among the 61 isolates tested, 43 isolates (70.5%) showed antimicrobial activities against more than one genus of test pathogens. Isolate B21 and B31 showed antibacterial activity against all the test pathogens. They were found to have good activity against B. subtilis, S. pyogenes and C. albicans. It could be concluded that mangrove sediments of Tanjung Lumpur is rich with potential actinomycetes. Thus, the outcome of this finding is important to give direction for researchers and for future treatments of multidrug resistant human pathogens.

ACTIVE VIBRATION CONTROL OF NON-DETERMINISTIC STRUCTURE USING PIEZOELECTRIC PATCH ACTUATOR

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Vibration control using piezoelectric (PZT) material has gained significant attention for its ability to behave as a sensor or actuator due to PZT direct and inverse effect. For control or excitation purposes, PZT patch actuator is embedded or attached on engineering built-up structures. Engineering systems such as aircraft, ships and automotive are considered built-up structures and dynamically they are thought of as being fabricated from many components that are classified as deterministic structure (DS) and non-deterministic structure (Non-DS). A structure is considered a DS if it produces response which is deterministic in nature and therefore is analysed using deterministic modelling method such as finite element (FE) method. On the other hand, the response of a Non-DS is statistical in nature and estimated using statistical modelling technique such as statistical energy analysis (SEA). Adding a PZT actuator on a structure is equivalent to adding an external moment to the dynamics of the structure. However, the influence of adding input moment to a Non-DS is not fully understood due the complexity of the resulting wave; no mathematical representation has been established. In order to be able to apply SEA method for input moments, a mathematical representation for moment generated by PZT patch in the form of average power is needed; therefore a control system can be implemented. In this research, a simply-supported plate attached with PZT patch actuator is taken as a benchmark model. Ensemble average of power given by the PZT patch actuator to the benchmark model when subjected to structural uncertainties is simulated using Lagrangian method. In addition, it is found out that the analytical solution to estimate average power delivered to a structure can also be represented by mobility approach. The findings of the research discovered that using moment mobility equation for a thin plate excited by means of a force couple, the power delivered by PZT actuator to non-deterministic plate can be well-represented, particularly at high frequency range. Parametric studies show that changing the patch location on the structure will not affect the average power supplied. On the contrary, changing the patch size will change the power magnitude proportionally. In addition, it is discovered that a PZT patch actuator behaves as a frequency dependent damper parallel with spring (stiffness) on a non-deterministic thin plate. A concluding remark can be made that findings from this research can be applied in SEA and the SEA part of the hybrid method used for analysing complex built-up structures.

ADAPTIVE CELL EQUALIZATION CIRCUIT FOR APPLICATION IN ELECTRIC VEHICLES (EV)

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With the advance technology, electric vehicle (EV) plays an important role on reducing fuel consumption and low carbon emission and ensuring safety and environmental sustainability. The electric vehicles are run based on battery technology . The cells in a battery pack become unbalance during charging and discharging due to natural phenomena such as ambient temperature, manufacturing tolerance and chemical degradation. For balancing the SOC , a resonant circuit has been developed with high efficiency. There is a inrush voltage spike problem exists in resonant circuit due to use of inductor element. In this paper a battery charge balancing (BCB) circuit is presented by introducing snubber circuit with the resonant circuit to equal the state of charge (SOC) among the cells in battery pack by reducing inrush voltage spike problem. In addition, simulations have been shown to realize the balancing result.

AMMONIA AS ENERGY SOURCE IN IRON MAKING

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Malaysia have many low grade iron ore resources. However,due to the low content of %Fe (¡ 60%), it could not be used directly as the stock material. Conventional blast furnace uses high grade ore, coke as the energy source and limestone for iron making. This coke-based iron making emits high carbon dioxide emission. Coke was then replaced by hydrogen gas as the energy source in iron ore reduction as it reduces the carbon dioxide emission. However, hydrogen gas have two major problems as it is not easily liquefy and difficult for transportation. Due to these problems, new process using ammonia as the hydrogen source for reducing low grade ore were introduced. Ammonia is easily liquefy and has 17.6% mass of hydrogen density volume. Furthermore, ammonia decomposition yields hydrogen and nitrogen gas which involves no carbon dioxide emission. By the decomposition of ammonia, hydrogen source as the energy source could be used to reduce the iron ore to obain metallic iron.

AN IMPROVED METHOD TO EVALUATE INDOOR MICROCLIMATIC DATA: CASE STUDY OF A BOOK ARCHIVE IN A HOT AND HUMID CLIMATE

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Indoor microclimatic parameters are recurrently used to monitor building performance for indoor environmental quality appraisal. Inputs for such assessment come from time-series of microclimatic parameters taken with array of sensors and data loggers. Existing methods analyse the data using averages, cumulative frequencies, frequency distribution, standard deviation, ranges and other variability tests on the microclimate profiles to benchmark the results against existing standards. However, the approach is less efficient as only such variability tests are insufficient to report the microclimatic conditions. This study considers a different approach by comparison between standardised values of the raw data within similar time-step, at different data-points for in-depth analysis of indoor microclimatic parameters. The case study was selected of a book archive which conforms to ASHRAE standards on preservation with application of the current approach but reveals microclimate stratification as the proposed methodology is applied. This paper reports the approach, data collection, manipulation, analysis and presentation of the proposed method.

AN INVESTIGATION OF IMPLIED VOLATILITY DURING FINANCIAL CRISIS: EVIDENCE FROM AUSTRALIAN INDEX OPTIONS

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Volatility implied by an option pricing model is seen as the market participants assessment of volatility. Past studies documented that implied volatility based on an option pricing model is found to outperform the historical volatility in forecasting future realised volatility. Thus, this study examines the implied volatility smiles and term structures derived from the dividend-adjusted Black-Scholes-Merton (BSM) model by Merton (1973) in the Australian S&P/ASX 200 index options from the year 2001 to 2010, which covers the global financial crisis in the mid-2007 until the end of 2008. The results show that the implied volatility rises significantly during the crisis period, which is three time the rate before crisis.

ANALYSIS OF ELECTROMECHANICAL COUPLING COEFFICIENT OF SURFACE ACOUSTIC WAVE RESONATOR IN ZNO PIEZOELECTRIC THIN FILM STRUCTURE

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An analysis of the electromechanical coupling coefficient for surface acoustic wave (SAW) devices developed in complementary metal oxide semiconductor (CMOS) is presented in this work. This SAW resonator uses zinc oxide (ZnO) as its piezoelectric thin film. The resonators interdigitated electrodes were designed such that is produces 1 GHz resonance frequency.. Finite element simulation of the CMOS SAW resonator was conducted using COMSOL Mutliphysics. Three different analyses namely of eigenfrequency, frequency domain and time domain analyses were conducted. The thicknesses of ZnO were varied from 2 m to 5.5 m with step size of 0.5 m. Simulation results indicate that the acoustic waves dispersion increases with respect to the normalized thickness. Maximum electromechanical coupling coefficient is achieved when normalized thickness is in the range of 0.63 ¡ (hzno/) ¡ 0.78. Experimental measurements were conducted on the fabricated CMOS SAW resonator and compared with the simulation results.

ANALYSIS OF PARKING DEMAND AT PARK AND RIDE PUBLIC TRANSPORT TERMINAL

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The research evaluated the parking usage and the characteristics of the park and ride users at two types of parking namely multi-storey and surface parking at Putrajaya public transportation terminal. A parking utilization and questionnaire survey was conducted to determine the parking demand of the users. The analysis of this paper focuses on parking characteristics such as parking accumulation, occupancy, duration, turnover, and volume. The parking demand on weekday was higher than weekend and surface parking shows higher demand than multi-storey parking both on weekend and weekday. The average parking occupancy at surface parking on weekday was 84.5% as compared to level 1 (25%), level 2 (50%) and basement (20%) of the multi-storey parking. The parking duration showed that the users were parked more than 9 hours as they were traveling for work purpose. A high parking demand at the park and ride facility will, eventually, help to achieve the benefits of sustainable transportation.

ANTI-ATTACHMENT AND CYTOTOXIC EFFECTS OF AGARWOOD BRANCH ETHANOLIC EXTRACT

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Agarwood or Gaharu by definition is the resin impregnated heartwood that produces unique aromatic scent when burnt. Apart from religious rituals and perfumes, evidences from ethnopharmaceutical practices showed that Aquilaria spp. from Thymelaeceae family has been traditionally used to treat a wide range of disorders. The objective of this study is therefore to screen for anti-cancer properties of agarwood branch to further support the traditional medicine claims. In this present study, un-inoculated agarwood branch from Aquilaria subintegra was extracted using absolute ethanol at solid to solvent ratio of 1: 20, 150 rpm agitation at 50 C for 16 hours. The resultant extract was then tested in vitro to study its anti-attachment and cytotoxic effects towards MCF-7 breast cancer cells. At very low concentration (8 g/ml), agarwood ethanolic branch extract (ABE) caused approximately 64% of reduction in number of adhering cells while at concentration higher than 64 g/ml , no viable cells were observed. Meanwhile, in cells attached to substrate, ABE also showed cytotoxic effects (reduction of viable cells between 71 to 98% as compared to control). Taken together, this suggests that ABE have potential anti-cancer effects towards breast cancer cells. The strong anti-attachment properties of ABE may be further exploited as anti-metastatic agent which is very important to halt or prevent metastasis of cancer cells to other parts of the body. Ultimately, the findings from this study shall add value to the agarwood industry, particularly through the use of the abundant un-inoculated branch for developing pharmaceuticals/nutraceuticals while waiting for the trees to mature and produce the sought-after agarwood resin.

ANTIBACTERIAL WOUND DRESSING FROM GAMMA IRRADIATED STARCH BASED HYDROGEL-NANO-SILVER PARTICLE

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Wound dressing hydrogel based on petroleum polymer are expensive, non-biodegradable and non-decompose which lead them to heavy waste in environment. In this project, biopolymer is used to overcome this problem and promote environmental friendliness and biocompatible to the human skin and impregnation of silver nano-particle (SNP) acts as anti-bacterial which needed for this application. In order to prepare this wound hydrogel dressing, solution of sago starch is mixed with polyvinyl alcohol solution for polymeric grafting before impregnated with the SNP and finally this solution is subjected to the gamma irradiation. The irradiated starch based hydrogels is evaluated for its swelling properties, chemical functionalities and phase analysis. The hydrogels wound dressing produced from this method is observed high in transparency and swelling behaviour as well as reduce the bacterial infection. Hydrogel transparency is an advantage in this application, as wound healing can be easily monitored. Also, hydrogels based on sago starch are environmentally friendly and very economical.

ANTIBIOTIC RESISTANCE BACTERIA FROM SEDIMENT OF COASTAL WATER OF BALOK, PAHANG

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The aim of this study was to determine the presence of antibiotic resistance in the bacterial flora of the sediment at the coastal water of Balok, Pahang. Balok is one of the well-known tourism attractions in Kuantan, Pahang which is a popular spot for windsurfing and other water sports activities. The development of recreational area, resorts and restaurants along the coast of Balok could be the sources to the flow of antibiotic contamination to the coastal water. In this study, triplicate sediment samples were collected at 5m depth along the coastal area of Balok with 35m distance of each point by using Eckman Grab. A total of 30 bacteria were isolated by using dilution plate technique. The resistance of 30 isolated bacteria to 10 different antibiotics (Vancomycin, Tetracycline, Chloramphenicol, Streptomycin, Gentamycin, Penicillin G, Ampicilin, Erythromycin, Rifampicin and Polymyxin B) were investigated using disc diffusion method. The high resistance of bacteria against the antibiotic existed in Polymyxin B (93%) and Streptomycin (73%). Meanwhile, least number of bacteria showed resistance to Chloramphenicol (7%) and Rifampicin (10%). Overall, the Multiple Antibiotic Resistance (MAR) index value of the isolates ranged from 0.1 to 0.8. Based from the results obtained, 90% of the isolates showed MAR index value higher than 0.2 which suggest there are high-risk of antibiotics contamination in coastal water of Balok. Most of the Gram negative isolates (95%) showed MAR index value higher than 0.2 compared to the Gram positive isolates (80%). However, the result revealed that some of the Gram positive isolates showed high antibiotic resistance activity up to 8 antibiotics compared to Gram negative isolates. Hence, from this study, it showed that there is a presence of antibiotic resistance strain bacteria which may indicate that there are contamination of antibiotics at the coastal water of Balok, Pahang and these bacteria may result in a potential public health hazard.

ANTICANCER PROPERTIES OF BIDARA (ZIZIPHUS MAURITIANA) LEAVES EXTRACT

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Plant materials from Bidara (Ziziphus mauritania), have been traditionally used to treat various ailments such as asthma, fever, diarrhea, gingivitis and rheumatism while also being used as general tonic. However, the information on scientific phytochemical data and biological effects including as anticancer; is very scarce. Therefore, this study is set investigate the potential anticancer effects of Bidara leaves extract against prostate cancer cells, and determine the phytochemicals present in the extract. Dried Bidara leaves were grounded and subjected to three respective solvent extraction (methanol, chloroform and hexane) with constant process conditions of 1:10 solid to solvent ratio at room temperature for 24 hours. The methanolic Bidara leaves extract was shown to have a 50% inhibitory concentration (IC50) of 42 g/ml when then tested using Sulforhodamine (B) assay against PC3 prostate cancer cells. Meanwhile, phytochemical screening assays revealed that the leaves methanolic extract possess flavonoid, lipid, saponin and tannin; that may be responsible for the anticancer effects. This discovery would promote use of the locally abundant Bidara tree as a source of health beneficial phytochemical compounds.

ANTIUROLITHIATIC EFFECT OF SELECTED PROPHETIC PLANTS ON CALCIUM OXALATE CRYSTALLIZATION

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Urolithiasis or known as kidney stone is a common disorder occurs in the population. There is possibility of a patient who has kidney stone will develop another. Thus, to prevent the recurrence of having kidney stone, there is an alternative treatment using herbal plants. The proposed plants used in this experiment were based on the plant used by our Prophet Muhammad S. A. W, which were Lawsonia inermis Aloe vera, Cymbopogon citratus and Nigella sativa. The extractions of the plants were prepared by using aqueous decoction. The test was carried out by the crystallization of whole urine assay. This method induced the supersaturation of calcium oxalate in the urine by adding sodium oxalate solution. The extracts were dissolved in the solutions and incubated at 37 C for 30 min. The results were calculated based on the percentage of inhibition. The percentage of inhibition measure the plants extract that can prevent the early formation of kidney stone. The five plants showed positive result in inhibiting the prevention of supersaturation. However, the concentrations that inhibit the activities vary between these plants. The effective concentration of A. vera and P. granatum are at 0.25 mg/mL with the percentage of inhibition of 95% and 59%, respectively. The effective concentration for L. inermis is 0.5 mg/mL and the percentage of inhibition is 95%. The percentage of inhibition for C. citratus and N. sativa were increased or decreased by increasing the concentration (0.0625 to 1.0 mg/mL). In conclusion, all plants showed the positive results in inhibiting the formation of early stage of kidney stone despite of different concentrations and the percentages of inhibition. The results were supported with microscopic analysis, using scanning electron microscope (SEM) which showed the reduced sizes of calcium oxalate in the presence of plant extract. Finally, the presence of different types of calcium oxalate resulted from treatment done gave confirmation that the extracts have therapeutic potential on urolithiasis.

ASPECTS OF TREES AND THEIR INFLUENCE IN REDUCING SOLAR RADIATION PENETRATION TO THE GROUND

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Vegetation plays an important role in modifying the climate in urban areas. Apart from its function that is to provide shade, the absorption of high proportion of the solar radiation by the dark green leaves, the cooling effect from the evaporation of water from the leaves and the potential of reducing glare are among the roles of vegetation in modifying the microclimate. Not only providing the screening effect to reduce the solar penetration on the ground and walls, the existence of trees in clumps also has the potential in reducing the ambient temperature. However, the potential of trees in addressing the above mentioned functions are yet to be empirically investigated. This study is intended to investigate the aspect of trees: which are the trunk height, crown height, diameter of the canopy as well as the foliage density, and their effect in screening the solar radiation from penetrating and heating the ground. The data collection was done within the campus of the International Islamic University Malaysia (IIUM) due to the availability of various types of trees. Conducted in July 2013 this study involved 89 trees from four case study sites. Solar radiation readings were taken at human level of about 1.5m from the ground underneath the canopies of the investigated trees, between 11am to 3pm. The initial results show significant reduction of the quantity of solar radiation penetrating the canopies from the different tree aspects. These findings are hoped to guide designers in choosing appropriate trees in achieving their design intentions especially when addressing the thermal comfort of users and in mitigating the urban heat island effect.

ASSISTIVE DEVICES FOR DEMENTIA ELDERLY IN CARE CENTRE, MALAYSIA

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The expansion of elderly population in whole world has somehow brought an impact to our built environment. Many factors need to be carefully examined when it comes to designing for elderly. This paper is a review of the literature on the elderly care centre and interactive device that is carried out to identify which devices suit the best for elderly in Malaysia. The reviewed focus on the frailty and disabled elderly and may also applied to those who suffer from cognitive diseases. The issues discuss concerning the condition of the elderly care centre and what should be done to improve its facilities. Designers are encouraged to widely use the barrier free design to keep the elderly care centre at its safest place to live for the disabled elderly. Moreover, the assistive technology devices was also being discussed on how the usage of these devices can help the elderly to improve their daily living activities and given the idea of implementing assistive devices in local elderly care centre. This new technology development is likely to elevates the standard living of those elderly especially those impaired person and promote independent living. It is essential for the elderly to keep active and maintain healthy living in generating satisfied aging.

ASSISTIVE KNEE JOINT DEVICE FOR OBESE PEOPLE

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Most of the lower limb devices for human motion are made of complex designs, heavy-weight, high cost and needs high power. Furthermore they are design for specific individuals needs such as stroke patients, old people and paraplegic. Generally over weight people can not walk or do exercise due to high stress development at the knee joint out of their weight. In this research a device is proposed to share part of the load at the knee joint so that at stance phase of the knee joint over weight people do not suffer from joint injury and able to do exercise for a longer time to help reduce their body weight. The mechanism will be based on using an actuator to increase or decrease the length of a rod thread to move the spring to different positions, hence varying the force. It is hoped that this device will be more readily available for the needs of different types of individuals at an affordable price.

ASSOCIATIVE THREE-DIMENSIONAL GENETIC ALGEBRAS

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Mendel exploited some symbolism, which is quite algebraically suggestive, to express his genetic laws. General genetic algebras indeed are the product of interaction between biology and mathematics. In addition, Mendelian genetics offers a new object to mathematics that is general genetic algebras. Generally, the algebras which arise in genetics are commutative but non-associative. In this poster, we discussed the associativity of three-dimensional algebras generated by the quadratic stochastic operator, defined on two-dimensional simplex S2. In the case of Volterra quadratic stochastic operator, it is proved that there exist six three-dimensional associative algebras generated by Volterra quadratic stochastic operator on S2. In general case the problem of describing quadratic stochastic operator on S2 that generate associative algebra is rather complete. We select two classes of quadratic stochastic operators and investigate the problem of associativity of corresponding algebras in these classes. For operators in first class, we show that the corresponding associative genetic algebras are the algebras without identity element. While, for operators in the second class, we prove that the corresponding associative genetic algebras are partially non-divisible and describe a set of all the non-invertible elements. Also we investigate the problem of isomorphism of such partially non-divisible associative algebras.

AUTOMATIC PORTABLE BATTERY-OPERATED MALARIA DETECTOR USING MACHINE LEARNING AND FLUORESCENCE MICROSCOPY

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Malariacaused by Plasmodium sp. parasite and spread to humans by species of tropical mosquitoes (Anopheles sp.)is endemic in 107 countries with 3.2 billion people and therefore one of the most dangerous diseases worldwide [1]. Despite the fact that Malaria is preventable and treatable, according to WHO 300-500 million people are infected by Malaria every year, with far more than 1 million death cases annuallyincluding one child every 30 seconds [2]. A safe, easy, and in particular rapid diagnostic test is of great importance for Malaria treatment. The traditional Giemsa procedure using stained blood films takes several very time-consuming steps until the user may find the result by examination of the slide on a standard microscope [3]. We propose a malaria detector based on a portable battery-operated digital microscope that sends data to a computer in real time. Since the microscope is battery-operated, it does not require electricity and can be used even in extremely remote areas. The computer then processes the data using machine vision and machine learning techniques under a three-layered framework and produces diagnostic output in real time. The whole procedure from blood sample collection all the way to diagnosis can take less than 1 minute. We have performed experiments using blood samples from patients. The proposed system obtained an accuracy rate of 92% in rapid detection of malaria. The satisfactory experimental results demonstrate the efficacy of our framework. The proposed malaria detector can be utilized in suburbs areas of low-income countries where qualified physicians and medical equipment are scarce.

AUTOMATIC ROUNDNESS MEASURING MACHINE

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Roundness is one of the basic geometric forms expected from circular features. In crank shaft manufacturing, variations on circular features of the cam and diameter may occur due to imperfect rotation, erratic cutting action, inadequate lubrication, tool wear, defective machine parts, chatter, misalignment of chuck jaws, etc. The out of roundness of crank shafts parts can greatly affect the accuracy of assemblies. Therefore, there is a requirement to develop an automatic inspection method that will satisfy the needs of roundness inspection. The roundness measurement of crankshaft at automotive manufacturers was provided by using manual system. The equipment consists of two supports at its right and left side and a set of analog dial indicators. The operator put the crankshaft on the support and put the dial indicator at measuring location. The rotation of the crankshaft and the movement of dial indicator are provided manually by the operator. The reading of dial indicators will be recorded by the operator to a table and transferred to a graph paper to figure out the roundness feature. All of the manual tasks results to serious problems, i. e. long process time, in-accurate measurement positions, humans reading error of analog dial indicator, record mistake and inappropriate graph representation. This project presents an automatic roundness measuring machine that will be used to measure the roundness of cam and diameter of crank shaft. The rotation of the crank shaft could be provided automatically and the angel of rotation could be controlled for the accurate measurement positions. The roundness is measured by using an optical sensor. The movement of the sensor along the axial axis of the crankshaft could be controlled automatically for different measurement locations. The machine consists of a vise at one end and a tail stock at the other end to support the crankshaft. The vise is coupled to a stepper motor that controls the rotation angle of the crankshaft. The sensors holder is mounted on a slider that driven by another stepper motor for the movement of sensor along axial direction. The machine is controlled by a computer system. A roundness error calculation system has been developed by using Minimum Circumscribed Circle (MCC) algorithm. The measurement data from the sensor will be used by the system to calculate the roundness error. An additional module has been developed to generate the graph of roundness features based on the measurement data that received from the sensor.

AUTONOMOUS BOAT FOR UNDERWATER SURVEILLANCES

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Generally, an autonomous boat with vision ability provides distinct and immeasurable benefit to mankind. This research is to further study the development of the autonomous boat for underwater surveillance. The main objective of this research is to implement image processing on the autonomous boat. By using a single vision system on a boat, complemented by some algorithms and coding, many data can be obtain from the image processing. In this endeavor, the focus will be on analyzing the use of single vision cameras in providing data for research on environmental front underwater and also detecting depth and obstacles for better navigation. The system is able to disclose solid objects underwater for restoration and cleaning purposes in the lake or rivers. Furthermore, it can identify lost object underwater and detect obstacles in front. In addition, it can provide depth information of a lake or river providing with correct algorithm and technique. The result is accurate enough to detect obstacles or objects above and beneath the water taking into account the diffraction of light needed for perfect vision. In this research, Open CV library is used for digital image processing and colout feature analysis rather than Mathlab due to the complexity for real time process. The design structure is mainly based on Pontoon style because it is more stable and reliable especially on the river wave condition. Through this paper also, all the mechanical structure is simulated using the Catia V5 Edition software and the real time coordinate points is also captured using a global positioning system receiver. Moreover, additional sensors and actuators are implemented in this project to further improve this current design.

AUTONOMOUS IONIZING RADIATION MAPPING

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Radiation is a powerful source of clean energy. Its application can vary from saving a life to killing thousands of nations. Radiation catastrophes may occur due to neglect and misuse. Essentially, in a nuclear related disaster operation like in the recent Fukushima Daiichi accident, radiation mapping can be an exercisable tool to map radiation levels before a rescue operation can be planned. Autonomous agents equipped with radiation sensors can be used to draw a map of dangerous radiation that can be used for disaster operation planning. Our prototype utilizing autonomous land vehicle equipped with GMT gamma sensor shows that radiation mapping can be done in outdoor environment based on GPS positioning.

AVAILABILITY PREDICTION APPROACH FOR HYBRID FSO/RF SYSTEM IN HEAVY RAINFALL REGIONS

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Availability considers the main parameter of evaluating a Hybrid FSO/RF link quality. An accurate carrier class availability prediction of Hybrid FSO/RF is needed. In tropical region, among different weather influences rain plays the major role. Precipitation decrees availability for frequencies above 10 GHz. In this poster availability prediction approach for Hybrid FSO/RF is demonstrated under the impact of rain on Hybrid FSO/RF. The aim of this approach is to find the optimum operating frequency to back up the FSO link besides tradeoff between speed of RF and link availability of FSO in tropical environment; also provide better prediction of link availability. ITU-R specific rain attenuation of FSO and RF models has been used for the analysis. From the results a 30 GHz and below are suggesting to be used as a backup of FSO link to chive carrier grade availability under the impact of rain.

BADMINTON COACHING MACHINE

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A badminton coaching machine is another form of training aids in badminton game. The objectives of this research which are developing a model of badminton machine for training purpose, studying the characteristic of different shuttlecock trajectory and providing successive shuttlecock delivery at different frequencies, trajectories and speed towards the area of badminton court. The prototype designed consists of three mechanisms which are feeding, transferring, and dispensing mechanism. The main concept in designing the badminton coaching machine is adopted from Jonathan (2003), with a shuttle cock launcher mechanism .It supposedly works as the two motor driven recoiling counter rotating wheel and grip the shuttlecock cap and propel the shuttlecock in the path of wheel plane. This project can make a huge contribution to improve skills and abilities of badminton players instead of using manual training in the future.

BEHAVIOUR ANALYSIS OF MOBILE NODES BASED ON PROBABILISTIC APPROACH

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The current study introduces a mathematical schema of strategical decision making that can model the behavioral pattern of regular and malicious nodes in Mobile Adhoc Network (MANET). The study investigates the inherent issues in MANET that poses a potential security threat in MANET by impairing its traditional characteristics of identifying the malicious behavior of the nodes. Prior work conducted in the similar concludes the usage of complex cryptography or proposing Intrusion Detection System or proposing a model for identifying malicious nodes in the network. While performing the preliminary study of the proposed system, it was known that large amount of previous study has emphasized on usage of cryptographic protocols to secure MANET, where implementation becomes a big question mark and challenges time and space complexity of those sophisticated algorithms. Therefore, the proposed system capitalizes on the use of game theory and probability theory that can effectively represent the various unpredictable actions of node cooperation, node declination, node attacks, as well as node reporting that can model the strategic profiling of various nodes.

BEST PRACTICE OF GREEN ISLAND RESORTS

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Hotels and resort development are the core facilities in the tourism industry. Currently, resort operators are implementing the concept of sustainability in their operation by practicing green best practices. The objective of this study is to find out the new ways that the island resorts operators employed to make their operations more sustainable. This research employed several method for data collection. The methods are structured site observation, documents analysis and In-depth interviews with the island resort operators of three case studies, i.e. Veligandu Island Resort Maldives, Heritance Kandalama Resort in Sri Lanka and Frangipani Beach Resort, Langkawi Malaysia. This paper refers to the various rating tools and green hospitality literature for interview questions generation. The findings show that, the ingenuity of the island resort operators in developing cost effective measures, which help to cut down on the running cost of the resorts and each resorts adopts different green best practices that suit their operation and environment. The factors identified which influence green best practice of the island resorts are resources availability, policy intention, geographical sensitivity and location, acessibility to mainland and creativity of the operators. Future recommendation is this study needs to be conducted further in order to determine other best practice of other resorts located in different environment such as city, dessert or mountain. Other potential area for the next research will be to find low cost best practice for Small and Medium Island Chalet operators.

BINDING RESIDUES ESSENTIAL FOR DEHALOGENATION BY THE NON-STEREOSPECIFIC HALOACID DEHALOGENASE (DEHE) FROM RHIZOBIUM SP. RC1

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Haloalkanoic acid substances released by agriculture activities were accumulated in our ecosystem and proven harmful to the biological system. However, only haloacid dehalogenases could catalysed the removal of halides from haloalkanoic acids and convert them into harmless forms. This study presents the structural conformations and functional information of the binding of the non-stereospecific -haloacid dehalogenase (DehE) from Rhizobium sp. RC1. Three-dimensional structure of DehE was modelled using DehI from Pseudomonas putida PP3 as a template. All the active site residues of DehE were predicted by Q-site Finder and multiple alignment sequence. Subsequently, they were specified in Autodock 4.2 software to identify residues that bind to D- and L-2-chlororpopionic acid. In the analyes, DehE as -hydrolase enzyme had bound to the substrates by three binding residues namely W34, F37 and S188, and these amino acids are conserved among the members of non-stereospecific -haloacid dehalogenases. Each of the binding residues was affected after mutation which had diminish activity of the enzyme to below 20%. These details will promote more understanding and strategies on substrate specificity of enzyme especially to haloacid dehalogenases for future bioremediation and industrial applications.

BIOPROSPECTING FOR NOVEL DRUG FROM SUPERMEALWORM ZOPHOBAS MORIO FABRICIUS LARVAE

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The discovery and development of insect-derived antibiotics are one of the priorities in insect biotechnology.We have observed that a crude isopropanolic (IPA) whole bodyextract of uninfected final instar larvae of the supermealworm Zophobas morio displayed a significant antibacterial activity against pathogenic bacteria with Staphyloccocus aureus (IMR: S822) showing the highest susceptibility. The antibacterial agent in the crude sample was highly hydrophilic, pH tolerant, protease resistant, thermal and chemical stable. We have partially purified this extract to four active fractions using semi-preparative flash chromatography by reverse phase and normal phase columns. Liquid Chromatography-Mass Spectrometry Q/TOF analysis indicated that the active compound was predicted to have a molecular mass of 362.29 Da. Due to the nature of its bioproduction, we have coined the unknown compound as Zm-NI factor.

BLIND'S EYE STICK

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This research aims to help visually-impaired people to walk more confidently by developing a smart device (Blinds Eye Stick) that alerts visually-impaired people over obstacles in front of them. The proposed device could help the blind people to walk with less accident. First, the obstacle/range detector was implemented using ultrasound detector. Second, traffic light detector was developed using camera. Then, location finder was developed utilizing GPS and Google Map to help the close relatives to track the visually-impaired person. The system was implemented on a Raspberry Pi and preliminary results showed the effectiveness of the system to assist the blind people.

CAPTURING PEDESTRIAN MOVEMENT SAFETY AND SECURITY ISSUES AT MAJOR TRANSPORTATION INTERCHANGES

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More often than not, transportation nodes such as stations, interchanges and terminals were designed without much consideration to the needs, ergonomics and behavior of prospective passengers and public transport users. This research reports the first phase of the validation of data for the capturing of pedestrian behaviours at major interchanges. Applying the methods of video recording and manual passenger counting, the study used a case study of Masjid Jamek public transport interchange in Kuala Lumpur, to record and validate the pedestrian access and egress movements. This research aims at analyzing these empirical data to estimate these movements to estimate and calibrate the more appropriate models for improving pedestrian flows at these interchanges. Public transport operators and authorities may use the models to plan and design these nodes more effectively and ensure safety and security of passengers and users, especially during peak hours and irregular influx of trip making during seasonal holidays or major events.

CELLULASE FROM PINEAPPLE PEEL WASTE

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A study was conducted to optimize the production of of cellulase using pineapple peel waste with Aspergillus niger . The peel waste was dried, pretreated with 5% sodium hydroxide, re-dried and blended into powder/ The powdered waste was used as substrate in the shake flask experiment together with the inoculum.. Fermentations were carried out using shake flasks containing the substrate media having range of pH from 4.5 to 6.5, inoculum size from 2 ml to 6 ml (2.8 x 106 spores/ml of innoculum) and substrate concentration (w/w) from 1 g to 5 g for five days. Cellulase activity and amount of glucose produced by the fungi from peel waste was determined and compared. The result obtained showed that Aspergillus niger produced highest cellulase activity at 2.764 U/ml at pH 5.5 with substrate concentration (w/w), 5% using 4 ml of inoculum size. The highest cellulase activity was found on day 3.

CENTRE OF GRAVITY (COG)-BASED ANALYSIS ON THE DYNAMICS OF THE EXTENDABLE DOUBLE-LINK TWO-WHEELED MOBILE ROBOT

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This paper presents the balance control of an extendable double-link system on two-wheel mobile robot (TWMR) via locating the centre of gravity (COG) at the upright position. The proposed system mimics double inverted pendulum, where the angular position of the first link (Link1) is to be varied depending on the value of the angular position of the second link (Link2) and the elongation of the extendable-link (Link3), which is attached to Link2, with various payloads. The inclination of Link3 at any interest angle of Link2 will affect the COG of the system especially when the payload is having a significant mass. This two-wheeled mobile robot can be balanced on the condition that the systems centre of gravity must be located on the centre of the wheels. Therefore, the input reference of Link1 will be determined from the COG analysis of the system with payload variations. Simulation results show that the angular position of Link1 can be set at a suitable degree based on the COG analysis with the implementation of modular PD-type Fuzzy Logic Controller and the system is maintained at balance condition.

COMBINATORIAL INTERPRETATION OF RANEY NUMBERS AND TREE ENUMERATIONS

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In this paper, we gave a combinatorial interpretation of Raney numbers. We apply this combinatorial interpretation to solve some tree enumeration counting problems. A generalized Catalan triangle is introduced and some of its properties are proved.

COMPARATIVE STUDY ON PROTEIN EXPRESSION OF CHICKEN HEART BETWEEN COMMERCIAL BROILERS AND INDIGENOUS CHICKEN

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Commercial broilers which are the fast-growing type of poultry are highly susceptible to heart failure compared with indigenous chicken. Although heart related condition such as ascites, and sudden death syndrome being the most common in fast-growing broilers, there is less of it been diagnosed at molecular level in comparison with indigenous chicken. Two types of heart samples, which are commercial broilers (B) and indigenous chicken (O), were examined by using proteomic strategy. Heart sample were homogenized with phosphate buffer and were quantified by using Bradford assay. Then the protein samples were examined by using SDS-PAGE and further resolved by using two-dimensional gel electrophoresis (2D-PAGE). Protein expressed were highest distributed between 37-50 kDa and predicted as structural protein of cardiac actin. From the result of 2D-PAGE, protein spotted on gel near pH 4.0 and Mw 50-75 kDa and spot on pH 7.0 and Mw 10-15 kDa was found in different intensity between both samples and predicted as alpha-1 antitrypsin and myoglobin respectively. A faded spot on pH 6.0 with Mw 25-37 kDa, was appear on commercial broilers while absent on indigenous chicken heart sample predicted as HSP27 proteins. In conclusion, there were various different of protein expression detected in heart sample between commercial broilers and indigenous chicken.

COMPARISON OF WASTE CATALYSTS FOR BIODIESEL PRODUCTION

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The waste food material namely crab shell, egg shell and fish bone is screened for biodiesel synthesis by trans-esterification reaction to determine the source providing the highest biodiesel yield. The solid oxide materials were calcined at 900C for 2-4 hrs to convert CaCO3 to CaO species. Trans-esterification is carried out at 65C for 4 hrs with varied methanol to oil ratio. It was found that although egg shell, and crab shell gave average biodiesel yields, fish bone provided outstanding results producing an yield of 87%, of the three catalysts. This research signifies successful application of waste resources as an emerging prospective for economical preparation of heterogeneous catalyst, developing an unconventional avenue for reusing of this solid waste.

COMPUTATIONAL PREDICTION AND DEVELOPMENT OF A THERMOSTABLE ENDOGLUCANASE I FROM FUSARIUM OXYSPORUM

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Cellulose is the most abundant biopolymer on earth. Enzymatic degradation of this biopolymer is a crucial step toward its conversion to bioethanol. However the current cellulosic enzymes are unable to withstand high temperature of industrial processes. In this work we use computer simulations to predict thermostable endoglucanase. The molecular dynamics simulation is a powerful tool that can be used to study the enzymes behaviour at high temperature. On the basis of computer simulations we have predicted a mutant endoglucanase with improved thermal stability properties.

DEPOLARIZING QUANTUM CHANNEL-INDUCED OF DYNAMIC-DECOHERENCE PHOTONICS ENTANGLEMENT

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We propose an experimental method using all-optical setup to quantitatively study the photonics entanglement of an initial two-qubit entangled state under the action of depolarizing quantum channel. In this experimental scheme we implements a fully controllable input-state-independent depolarizing quantum operation for both channels of entangled polarized photon qubit.

DESIGN A TARGET COST MODEL IN HIGH SPEED TURNING FOR AISI 304 STAINLESS

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High speed machining is an advanced machining process that uses higher cutting speeds than those used in conventional machining. In high speed machining, the tooling cost is the main role for the process. The aim of this research is to develop a target costing model for high speed turning. A set of experimental data was obtained which are cutting speed (500-700 m/min), feeding speed (1000-2000 mm/min), and depth of cut of (0.1-0.3) mm. the materials used in this research were AISI 304 stainless steel as a workpiece material and coated carbide as a cutting tool The output data was used to develop a target costing model. The desirability function has been used to develop the model.

DESIGN AND DEVELOP THE JIG AND FIXTURES FOR HLV 30 PIERCING MACHINE

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HLV 30 Piercing Machine produced by SMG Pressen, the engineering company from Germany is used to do the task of piercing of the LPG cylinder for valving process. This particular machine is used by LPG cylinder production plant, and one of them is Keloil Lpg Cylinders Sdn. Bhd.This research project intend to study how this piercing process effect the production quality of the LPG gas and also to develop and design the new jig and fixture for this machine to get the accurate tolerance for the piercing process and decrease the index of rejection of the cylinder. In this research, we try to analyze the production data and try to make the new design of fixtures for this machine to get the better result and performance for this machine.

DESIGN AND DEVELOPMENT OF A SMART WINDOW BLIND CONTROLLING SYSTEM

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The idea was conceived while watching television and always having to get up and adjust the blind because of the glare from the sun. A smart window blind system provides the correct amount of sunlight shine into the room. There are two settings the user can select via a switch: manual or automatic. Manual mode activates two push buttons for the tilting control. For automatic mode, the blind will open or close, depending on the amount of light that is shining into the window. The blind will be fully closed when the light level is below 200, opened to 50% from maximum angle when it is above 800 and fully opened whenever the light level is between 200 and 800. A servo motor attached to a blinds controlling shaft for the actuation of tilting.

DESIGN AND IMPLEMENTATION OF P2P PROTOCOL OVER HETEROGENEOUS MOBILE PLATFORMS

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The peer-to-peer (P2P) file sharing protocol has evolved from depending on Internet connection provided by traditional mobile cellular telecommunication networks to free Internet connectivity through Wi-Fi technology. Recently, P2P reach was extended further in the Personal Area Network using Bluetooth. On the other hand, IEEE 802.15.4 Zigbee is a wireless sensor network (WSN) standard and smart phones are expected to be equipped with a ZigBee modem to provide control functionality for personal WSNs such as home networking, body area networks, etc. This paper introduces ZigBee technology to the mobile P2P environment, involving devices with Android 4.0 (Ice Cream Sandwich) and higher OSs. Such an Android platform is the lowest version that can be found among smartphones, tablets, and more. Results show that the developed protocol provides P2P and P2MP functionality between devices supporting Zigbee air interface.

DESIGN IMPROVEMENTS AND FABRICATION OF CONVEYOR BELT CLEANER AND WASHING SYSTEM AT WESTPORTS MALAYSIA

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Conveyor belts at ports are used worldwide to carry and transport various materials ranging from fertilizers to foods items such as corn, barley and soy beans from the cargo ship to the packaging site. A serious spillage and carryback problem existed at DB2 terminal, Westports Malaysia where lots of chemical fertilizers (ammonium sulphate) were wasted to some extent and extra manpower was needed to shovel the spillage into the container. The floor was highly corroded due to improper washing and drainage system. The main aim of this research was to eliminate if not reduce spillage and solve the corroded floor issue. The primary and secondary belt cleaners were designed using CATIA software. These newly improved cost effective and simple designs of the primary and secondary belt cleaners together with a spray shaft and proper washing box were fabricated, tested and implemented successfully. The spillage was reduced tremendously and the washing system can prevent corrosion from happening in the future.

DESIGN OF FLAPPING WING BASED MICRO AERIAL VEHICLE

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DEVELOPMENT OF AIRBAG SUIT SYSTEM FOR MOTORCYCLIST

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Airbag suit is proven to prevent motorcyclists from having serious injuries especially spine, neck, ribs and collar-bone fractures. A common way to inflate the airbag is by attaching one part that called pin to the valve that controlling the airflow from canister to the airbag. An airbag inside inflated automatically when a pin connecting the jacket to the bike was pulled from its socket forcefully. However, unnecessarily inflation by a simple collision or falling down from the motorcycle waste the canister and replacing it is costly. The simple pull mechanism adds substantial delay to the system response which is undesirable during the impact. Thus, sensors activated valve is proposed to replace the mechanism. The project involved development of a control algorithm for the airbag inflation and performing analysis on the finished prototype. The system takes the inputs from IMUs and GPS for G-force and speed calculation. When a riders position changed rapidly relative to the equilibrium position which is initially set during the calibration, the airbag will inflates. The calibration involved a sizable collection of samples, analysis and training to set the threshold in the algorithm which decides the emergency events. The improved solution offers cost effective solution without compromising the bikers safety which can make it available for most bikers. The use of widely available canister compared to custom design canister lowers the cost and make it easier to be replaced. The implementation of sensory system reduces the response time which is critical during the impact.

DEVELOPMENT OF CARBON-INFILTRATED BIO-CHAR FROM OIL PALM EMPTY FRUIT BUNCH

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Bio-char is an attractive material containing large amount of carbon which makes it interesting to be used as an alternative fuel and material in coal-dependent industrial processes. In this study, tar vapor from pyrolysis of oil palm empty fruit bunch (EFB) was infiltrated within porous bio-char and carbon deposition occurred on the pore surface by chemical vapor infiltration process. In the first part, EFB pellets underwent slow pyrolysis to produce bio-char pellets. In the second part, the porous bio-char pellets were used as catalysts for tar decomposition process as well as the precursor to deposit carbon within the pores. The purpose of this research is to produce carbon-infiltrated bio-char. The product is useful as it can be utilized as an alternative energy source. Infiltration mechanism and process system were designed to meet the purpose.

DEVELOPMENT OF FLAME RETARDANT - POLYMER NANOCOMPOSITES

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Polypropylene (PP) is widely used in many applications due to its desirable properties such as low cost, good thermal and chemical properties. However the PP has low flame resistance property. The addition of flame retardant material that usually in micron-sized into polymeric materials will deteriorate its mechanical properties. In this study, flame retardant filler, Aluminum Hydroxide (ATH) which is in nano-sized was used as reinforcement in PP. Silane and maleic anhydride grafted polypropylene (MAPP) were also used to improve the dispersion of ATH particles during compounding. The result shows that the mechanical properties decreased in the PP/ATH nanocomposites without coupling agent, particularly at high loadings of ATH. However, the flame resistance properties show adverse effect. The presence of both coupling agents improved the mechanical and flame resistance properties of PP/ATH nanocomposites, significantly in nanocomposites with MAPP. Thus, a new development of PP/ATH nanocomposites with a balance in mechanical and flame properties will open further its potential for engineering applications.

DEVELOPMENT OF IMAGE GUIDED SURGERY SYSTEM BASED ON COLOURED MARKERS

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Image-guided surgery (IGS) is an advance medical navigation technology that enhances surgical operations and outcomes. This project presents a new reference tool of tracking, and it develops a new algorithm of tracking an object in real time. Three coloured markers have been used as references of visualizing patient's body part whereas it provides many advantages, such as, unbounded objects tracking, inexpensive system comparing with IR-markers system, and unrestricted working area. This project shows, that using coloured marker as a reference can be used to generate a good accuracy of visualization (RMS error 3.78mm) at the distance 1000 to 1300mm.

DEVELOPMENT OF LOW TEMPERATURE SOLDER ALLOY AND OPTIMIZATION OF ULTRASONIC SOLDERING BETWEEN GLASS AND SN5SB1.2CU

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The research objectives were to develop low temperature solder alloys compatible to both glass and Sn5Sb1.2Cu (pewter), together with optimizing the parameters of ultrasonic soldering method. Adhesive based bonding was not reliable due to gaps between both substrates. Glass soldering was made possible by the development in ultrasonic soldering tool by Kuroda Techno. Sunbonder USM-5 has 60 kHz Langevin transducer with adjustable ultrasonic power of 1- 12 Watt and variable soldering tip temperature of 200 500 C. The low temperature commercial lead free solders for bonding glass has liquidus of 217 C. Surface of Sn5Sb1.2Cu with solidus of 222.4 C will deform when applied with solders having liquidus temperature above 180 C. A patented solders, Sn(35-86)Bi(0.01-0.6)Mg did not flow well on Sn5Sb1.2Cu. The methodology involved selecting Sn40Bi as base solders. By itself, Sn40Bi was unsuitable for soldering glass but selected due to its low liquidus. Zn, Sb, Al and Ag were selected as alloying elements to improve the performance of Sn40Bi solders due to their non-toxic property. Strong shear load before fracture and low liquidus temperature were the selection criteria. Shear load test on double lap joints of glass and Sn5Sb1.2Cu specimens established (Sn40Bi)0.5Al as the strong solders for test on ultrasonic soldering parameters. Similar shear load test on the patented alloy narrowed down the stronger solders to (Sn40Bi)0.3Mg for comparative test. TG-DTA measured liquidus for (Sn40Bi)0.5Al and (Sn40Bi)0.3Mg at 170.7 C and 170.5 C respectively and not exceeding 180 C. Both selected solder alloys were used to test the optimum settings for parameters involving surface roughness of glass and vibration amplitude of solder tool. Optimizations were conducted by comparing soldering shear load before fracture against variable values of glass surface roughness and vibration amplitude. Surface of glass specimens were roughened by tip of soldering tool to the maximum of 30 um prior to ultrasonic soldering with vibration amplitude set at constant of 6W. (Sn40Bi)0.5Al and (Sn40Bi)0.3Mg had different values of surface roughness factor for optimum solder shear load before fracture. Overall, (Sn40Bi)0.5Al produced stronger shear load before fracture. Mathematical equation linking separation energy and surface roughness was derived for (Sn40Bi)0.5Al. Soldering was conducted at constant surface roughness of 29 um at variable ultrasonic vibration amplitude ranging from 2 to 12 Watts. The alloys had different vibration amplitude values for peak shear load values before fracture. The preliminary finding was (Sn40Bi)0.5Al had stronger soldering shear load before fracture than (Sn40Bi)0.3Mg. Characterization was conducted on the joint between solders and glass to determine the elements and oxides responsible for the bonding using SEM/EDX. The EDX preliminary finding was Al2O3 formed by passivation of (Sn40Bi)0.5Al had metal oxide adhesion to Al2O3 and NaAlSi3O8 from glass. MgO formed by passivation of (Sn40Bi)0.3Mg had metal oxide adhesion to Al2O3 and NaAlSi3O8 from glass. The final step required is to validate the ultrasonic solder shear load before fracture results using FEA.

DEVELOPMENT OF NEW MEDIA FOR BIOGAS PRODUCTION

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New formula of media was used to produce of biogas with high concentration of biomethane and less of hydrogen sulpide. This study has been performed in pilot scale biodigester using a semi continues of digestion process. Process Improvement on the organic loading rate (OLR) was carried out in digester with three different OLR such as 25, 35 and 50 g VS/L respectively. and it showed that the OLR 50 g VS/L produced 76 ml/min of biogas with 68% of methane concentration and 135 ppm of H2S. This biogas has been tested to engine directly without any separation of carbon dioxide and hydrogen sulpide.

DEVELOPMENT OF NOBLE COATING ON TI SURFACE FOR AUTOMOTIVE LINER APPLICATION USING TIG METHOD

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In this invention, a noble coating on commercial purity titanium (CP-Ti) has been developed using simple and cost effective TIG welding technique. Three different ternary powder mixtures of 1 mg/mm2 Fe-C-Si with nominal compositions of 97Fe2C1Si, 94Fe4C2Si and 91Fe6C3Si (all in wt. %) were preplaced on CP-Ti and melted using TIG technique at constant energy input of 1350 J/mm and traversing speed 1 mm/s. The developed coated surface was characterized using scanning electron microscope (SEM), X-ray diffractometer (XRD), microhardness tester, wear test and surface profilometer. The developed coated surface showed the formation of hemispherical melt pool with good metallurgical bonding to the substrate material. The microhardness value showed 2.5 to 4 times higher than untreated CP-Ti and the hard layer developed with powder composition 94Fe4C2Si showed higher hardness with the value of 780 HV0.5kgf over a melt depth of 500 m from the surface layer. The wear rate obtained for the coated layer developed with 94Fe4C2Si was 10 times lower than CP-Ti. The new developed coated material can be used for automotive cylinder liner, locomotive engine, agricultural tractor and other tribological applications.

DEVELOPMENT OF ROBOTIC ARM PLOTTER FOR DISABLE PEOPLE

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Robotic arm plotter was widely used as a drawing tool in the world of art. The robot used two degree of freedom in order to achieve the movement to the specific angle and coordinates. The forward kinematics of the robot has been solved by Denavit-Hartenberg representation while the inverse kinematics was solved by analytic method. User interface application was created via Arduino software and the data was sent to the microcontroller. Later, the microcontroller will send out the instruction to the actuator and the robot moves to the desired position, sketching the word IIUM.

DIFFERENTIAL EVOLUTION OPTIMIZATION FOR MOBILE MULTICAST ALGORITHM DESIGN IN WIRELESS MESH NETWORKS

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The recent progression in Internet traffic from PC and non-PC devices constitutes an indicator for conscientious research effort in enhancing the communication over wireless broadband technology for the support of offline-online migration and recently emerging applications. For this scenario, Wireless Mesh Networks is an appropriate Wireless Broadband Access technology due to its low cost mobile Internet with extensive coverage at low transmission power. And Multicast technology is a bandwidth saving technique for simultaneous distribution of group application packets to a set of application recipients in an internetwork using a single group address to specify the receiving nodes. However, these applications are characterized by large volume multimedia, delay stringent and usually involving large number of mobile recipients. Thus in a case of scarce wireless resources with attendant delay sensitiveness of the application and mobility of clients, an efficient group communication delivery is crucial. This is required for the management of wireless bandwidth, guaranteeing application quality requirements and reduction of communication overhead in data distribution. However, many existing works either focus on static multicast mesh source or do not differentiate the effects of the issues in mobility on multicast source and receivers. But mobility of multicast source disrupts the entire multicast tree while the disruption is only local in the case of mobile multicast receiver. Moreover, large search space is involved in the determination of minimum cost, bandwidth and delay constrained distribution tree which is computationally intensive with no solution in polynomial time. In this study, optimized Internet layer multicast routing algorithm is therefore proposed for addressing the scalability issue of MAC layer multicast routing of IEEE 802.11s, scarce wireless bandwidth, mobile multicast issue and stringent delay requirement of multimedia applications. The proposed routing algorithm is based on shared tree multicast technology with enhanced functionality of Internet gateway and the problem is formulated as a Steiner tree problem which is a proved NP complete problem. Thus a fast convergence and global population based evolutionary metaheuristic optimizer - Differential Evolution technique is employed for exploring the huge search space in the solution to the optimization problem, while the mobility component is a routing based solution. The algorithm is implemented in MATLAB, benchmarked and the simulation results are presented. The proposed algorithm converges faster and with low overhead in tree re-construction during the mobility events of multicast source.

DIGITIZATION OF TRADITIONAL MALAY CARVINGS: RATIO DETERMINATION OF SOLIDS AND VOIDS FOR ASSESSING ENVIRONMENTAL PERFORMANCE

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Carvings has been incorporated as an aesthetical element in the Malay traditional buildings in forms of opening designs on windows and doors, roof ends and walls. On the other hand, the inclusion of carvings has also supported the idea that the Malay traditional house design is a manifestation of designing with the local climate (Lim, 1987; Zulkifli, 2000 and Noor Hanita, 2011). Noor Hanita et. al (2002 and 2011) has theoretically discussed the effectiveness of the Malay vernacular design strategies in response to the climate. Nevertheless, its incorporation and effectiveness have never been tested. Has the inclusion of the carvings responded to aesthetics or climatic needs; or both? Determining the ratio of solids and voids carvings is a preliminary study to gain insights on the performance of the shading devices. The performance of the sun shading devices in allowance of sunlight to the interior areas will affect the thermal comfort, daylight level and ventilation inside the houses. The research objectives are to inventory various type of carvings applications in the traditional buildings, digitize the carvings to determine the ratio of solid and voids and predict their performances through the ratio attained. The research inventoried carvings on three types of sunshading devices; roof ends, openings and wall panels. The inventory was conducted through primary (from site visits) and secondary data (from KALAM and research papers) which covered samples from all states in Peninsular Malaysia. A total of 159 carvings on the sunshading devices are digitized and catalogued. The carvings are digitized using AutoCAd to determine the ratio of solid and void. The result of ratio calculation are compared between the different sun shading elements in buildings to predict the performance of the carving units.

DIRECT ORGANOGENESIS FROM LEAF AND STEM EXPLANTS OF MORINDA CITRIFOLIA L. (NONI) FOR EFFICIENT IN VITRO PLANTLETS REGENERATION AND BIOACTIVE COMPOUNDS PRODUCTION

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Morinda citrifolia (L.), which is locally known as Mengkudu or Noni of the Rubiaceae family is a miracle plant with various nutraceutical and therapeutic properties. All parts of Noni including the leaves, seeds, bark, fruit and roots have been used traditionally in various topical remedies. The scientific evidences of Noni as antibacterial, antifungal, analgesic, hypotensive, anti-inflammatory and immune enhancing effects have been proved to be due to the presence of various bioactive compounds such as phenolics, organic acids and alkaloids. The objective of this research is to develop an efficient in vitro regeneration system from leaf and stem explants of M. citrifolia to be exploited for in vitro propagation and extraction of important bioactive compounds. Leaf explants of M. citrifolia were cultured on Murashige and Skoog (MS) medium supplemented with different concentrations and combinations of 2,4-dichlorophenoxyacetic acid (2,4-D), naphthalene acetic acid (NAA) and kinetin (Kn). Stem explant produced highest frequency and maximum number of plantlets on MS medium containing 0.5 mg/L NAA and 0.1 mg/L Kn whereas numerous roots were best initiated from leaf explants on medium supplemented with 3.0 mg/L NAA and 0.1 mg/L Kn. Both in vitro plantlets and root systems possess high potential in providing continuous supply of a better source of M. citrifolia to be used as standard material in the field of drug research as well as in manufacturing of drugs.

DIVERSITY AND DISTRIBUTION OF SCLERACTINIAN AND NON-SCLERACTINIAN CORALS AT SELECTED AREAS IN TIOMAN ISLAND

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ECO-CORE SANDWICH COMPOSITE STRUCTURE FOR ENGINEERING APPLICATIONS

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This technology of research were developed to replace the conventional sandwich structure of synthetic core which are high cost and not biodegradable. The aim of the project is to develop eco-core sandwich panel from kenaf fiber toughened with modified epoxy. In addition to replace the conventional sandwich panel, eco-core sandwich panel may enhanced strength, stiffness, dimensional stability and good in heat dissipation. This sandwich composites structure was developed by using hand lay-up method. Significant improvements on mechanical properties have been achieved in the present of liquid natural rubber as impact modifier and crack resistance. Homogeneity of fiber-matrix significantly affect the properties of the composite. This new and improved eco-core sandwich panel will be competitively priced while, still meeting all mechanical and thermal filling process criteria and regulatory requirements.

ECO-FRIENDLY OF RECYCLED-COMPOSITES FOR INDOOR APPLICATIONS

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Compared to virgin polypropylene (PP), the recycled polypropylene (rPP) exhibits degradation on its mechanical and thermal properties due to high temperature during the recycling processing. In this work, microcrystalline cellulose (MCC) fiber was used as the reinforcing agent in rPP composites. The maleic anhydride grafted polypropylene (MAPP) coupling agent was also added to improve the interfacial adhesion between MCC fibers and rPP matrix. It is observed that without the MAPP, the rPP/MCC composites show low tensile and flexural strength. However, the impact strength shows a better result. On the other hand, the mechanical properties of rPP/MCC composites differed significantly after added with MAPP. An improvement on the interfacial adhesion between the MCC fiber and rPP matrix is also evident from FESEM morphologies analysis. This finding shows that the rPP/MCC composites are possible to be used for indoor applications that required moderate strength besides assist in reducing waste and promotes the plastics recycling activities.

EFFECT OF ADSORBENT MASS OF RAMBUTAN PEEL & SEED POWDER IN REMOVING PB FROM AQUEOUS SOLUTION

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ABSTRACT One of the great concerns in environment issue is wastewater. The treatment of polluted water is important as effluents from industries and domestic sources contaminated the clean water supply which may lead to bad health. The most popular method is physical liquid phase adsorption. It has been found that other techniques can also excel in terms of initial cost, flexibility and simplicity of design, ease of operation and sensitivity to toxic pollutants. Many studies have been dedicated to search for the effective adsorbents. They should be cheap, easily available and be disposable of without regeneration. Researchers start to look at agricultural waste as a potential area to develop bioadsorbent. In Malaysia, the ever increasing production of agricultural product is reported by Deparment of Statistics of Malaysia and it is contributingto waste in Malaysia. Peel waste of fruits including rambutan, mangosteen, banana, and durian are just been used for burning process. Other than that, they are just being thrown away without knowing its potential as a natural adsorbent. Rambutan (Nepheliumlappacium L.) is a popular fruit among Malaysian and consumed nationwide. There is also canned product that is made from rambutans. Realizing the byproduct of this manufacturing sector, researcher is exploring the potential of its peel and waste as bioadsorbent. This research aimed to explore the potential of rambutan peel and seed as biological sponge to remove lead from aqueos solution. Mass of powdered rambutan peel and seed ranged from 0.2g to 1.0g were treated with a fixed concentration of lead solution (15mg/L) to investigate the adsorbent performance. Rambutan peel and seed does have ability to adsorp lead from aqueous solution. In term of performance, peel shown higher adsorption capacity by having higher adsorption density. From 1 g of adsorbent, peel can remove nearly 71% of lead solution with opposed to seed, 38%.

EFFECT OF CARBON NANOTUBES ON MECHANICAL PROPERTIES OF HDPE/EPR NANOCOMPOSITES FOR SHOES SOLE APPLICATION

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This study focuses on the variation of carbon nanotube (CNT) in polymer blend of high density polyethylene (HDPE) and ethylene propylene rubber (EPR). These nanocomposites are chosen as the potential shoe soles for sport shoes; specifically the outsole. The mechanical properties of HDPE/EPR/CNT nanocomposites of different CNT loading have been investigated at 0.5, 1, 3 and 5wt% of CNT content. HDPE/EPR/CNT nanocomposite is believed to be the best material for shoe soles, in which, HDPE has good flexibility while EPR can maintain optimum performance at high and low temperatures as well as provide better gripping characteristic that suits the outsole of sports shoes. Nanofiller of CNT are filled together with polymer base matrix HDPE/EPR for outsoles. These combinations of nanofillers and polymer matrix stimulate performance of sports shoes soles since each of them exhibit superior properties as fillers. The time efficiency of electron beam irradiation on these nanocomposites helps in improving the crosslinking of HDPE/EPR/CNT. The aim of this paper is to find the best CNT loading of electron beam irradiated nanocomposite for shoe soles especially in sport applications. These radiated nanocomposites were produced by melt blending, undergo compression moulding and then were radiated by electron beams at 100 kGy/s. Mechanical tests of tensile, impact and hardness were investigated and the morphology of the failure fracture was analysed by field emission scanning electron microscopy (FESEM). The CNT loading at 3wt% showed the most favourable result in the mechanical test.

EFFECT OF SELECTED TRADITIONAL MEDICINES ON CALCIUM OXALATE CRYSTALLIZATION: IN VITRO ANTIUROLITHIATIC ACTIVITY

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Traditional medicines have been employed since ages to treat urolithiasis (urinary tract stones) and most of them involve remedies based on plants. In this present study, the aqueous extracts of Lagerstromia speciosa, Mimosa pudica, Strobilathes crispus, Zea mays (Stigmata maidis) and Cocos nucifera (coconut) water (fresh and freeze-dried) were tested for anti-crystallization of calcium oxalate in whole urine using crystallization assay. Crystallization was induced by adding sodium oxalate at 0.1 mol/l into the whole urine of a healthy subject. The results were represented in the absorbance and percentage of inhibition. The most active extract was analyzed further for microscopic analysis to see the morphology and size of the crystal. The results showed changes in terms of morphology and size of crystals. The extracts of M. pudica and S. crispus showed the highest inhibition at 0.25 mg/ml, which were 94% and 97%, respectively. The extracts of L. speciosa, Z. mays and C. nuciferas water (fresh and freeze dry) inhibited calcium oxalate crystallization in concentration dependent-manner. Meanwhile, the extracts of S. crispus and M. pudica shown the inhibitory effect in the effective concentration-manner.

EFFECT OF TOOL ENGAGEMENT AND TOOL PATH STRATEGY ON TEMPERATURE

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PURPOSE: To investigate the effect of tool engagement during contour in tool path strategy on cutting temperature DESIGN/METHODOLOGY/APPROACH: Pocketing operation of AISI H13 was carried out using CNC vertical machining center with Coromill 490 cutting tool with coated carbide insert. The tool diameter is 20 mm with two indexable insert positions. The temperature has been measured using infrared thermal camera ThermoPro TP8. IrAnalyzer software was used to record temperature and to analyse the thermal image. This thermal camera has high thermal sensitivity of 60 mk at 30C. The temperature range is form -20oC to 2000oC with high accuracy. Cutting speed of 150, 200 and 250m/min, feedrate from 0.05, 0.1 and 0.2 mm/tooth and depth of cut of 0.1, 0.15 and 0.2 mm were applied for the cutting process. Contour in tool path strategy was used for corner pocketing operation. PREMIMINARY FINDINGS: Increasing tool engagement during milling operation will increase the cutting temperature. The temperature during straight cutting is quite stable because the constant tool engagement. However, the variation of tool engagement during corner region resulted the cutting temperature to rise up. PRACTICAL IMPLICATION: The variation of temperature is caused by the variation of cutting force and instantaneous chip thickness that resulted from tool engagement. This phenomena will affect surface finish of the pocket. If tool engagement can be controlled the variation of cutting temperature and cutting force, the surface finish can be controlled indirectly.

EFFECTS OF PRE-SLAUGHTER STUNNING ON MYOFIBER PHYSIOLOGY OF POULTRY MEAT DURING CHILLED STORAGE PERIOD

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The study attempted to analyse the changes of meat structure during chilled storage of stunned chicken meat. Chickens were either slaughtered with stunning (at 30 V and 100V) or without stunning, followed by exsanguination of the neck to cause death. Meat was kept at chilled storage (6 to 8 C) and preserved at various interval periods (i.e., 1, 3, 5 and 7 d postmortem). During this preservation period, the myofiber structure varied in high voltage-stunned (100V) group compared to low-voltage (30V) and unstunned (0V) groups. When formalin preservation of the muscles took place at pre-rigor, muscles were able to contract because of the availability of ATP. Expression of RyR was found to be lower in 100V group compared to 0V and 30V groups. This suggests that RyR-mediated muscle contraction was inhibited by high voltage stunning. Analysis of cellular injury based on histological grading system in the meat allows assessment on the degree of injury. It was found that the number of myofiber injury was ¿ .5% in 30V (at 7 d postmortem) and 100V (at 5 d postmortem) groups. In contrast, meat from unstunned group displayed ¡ .5% cellular injury throughout the 7-day preservation period. Proteolysis was evident by the transient and significant increase in the size of myofibers (p¡ .05) at 5 d postmortem, in 0V and 30V groups. Since electrical stimulation induces proteolysis, it can be postulated that proteolysis was completed earlier in 100V group, compared to 0V and 30V groups. In short, detectable differences were found in the morphological assessment between high-voltage stunned meat compared to low voltage-stunned and unstunned meat. It is likely that the postmortem cellular injury and proteolysis are induced in high-voltage stunned meat.

ELECTRONIC RAIN GAUGE SYSTEM

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Abstract Rainfall measurement system is a useful tool in weather measurement instrument. In tropical country such as Malaysia, rainfall is measured for agricultural and weather forecasting system. In this paper, we are doing a research to build a stable electronic rain gauge system with comprehensive data manipulation. This project used two major system (a) tipping bucket with potentiometer and (b) capacitive sensor. Data is recorded and analyzed before the output is displayed. The system measures rainfalls accurately, saves the data reading and shows specific calculated for display.

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ENERGY PLUS SIMULATION OF UNDERGROUND COOLING PERFOMANCE UNDER COOLED SOIL

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This research is carried out to investigate the effect of cooled soil in the performance of Earth-to-Air Heat Exchanger (EAHE) building cooling in hot and humid Malaysia. EAHE was successfully applied for cooling in hot and arid countries and there are not many application found in Malaysia. EAHE system consists of buried pipes with an ambient air inlet and cooled air outlet. The soil which surrounds the buried pipe acts as heat sink when heat transfer occurs between the air inside the buried pipe, the pipe skin and the soil. A parametric study of EAHE cooling system in Malaysia was carried out by Sanusi (2013) and the study concluded that among many parameters in EAHE design, the soil temperature surrounding the buried pipes was the most influential factor. Therefore, this research extends the parametric study of comparing EAHE system pipes buried under three different soil surface conditions, bare, shaded with recylced timber pallettes and insulated with recycled. A preliminary field investigation was carried out to obtain the soil temperature under three different soil surface conditions, bare, shaded and insulated, followed by EAHE cooling performance simulation with Energy Plus software. Among the three investigated soil surface condition, the surface insulated by recycled tyres produced the coolest EAHE outlet temperature, which ranges from 27.0oC to 27.5oC. The outlet temperature fall within the thermal comfort range for Malaysia, which was conculded by Sh Ahmad and Ibrahim (2003). Therefore, there is a potential of EAHE system to provide alternative cooling for buildings in Malaysia.

ENGINEERED HEXAGONAL BORON NITRIDE UTILIZING ENVIRONMENTAL FRIENDLY CO-DEPOSITION TECHNIQUE

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Solid lubrications are gaining significant attention in many tribological systems to control friction and wear in modern machine components. As opposed to conventional liquid lubrication, solid lubricants eliminate continuous external supply of lubricants and exhibit excellent tribological characteristics under aggressive conditions such as high operating temperature and vacuum environments. Hexagonal boron nitride (hBN) is a well known solid lubricant and a promising candidate for high temperature and dry sliding conditions. However, the practical application of hBN has been restricted owing to some certain features which inhibits their self-lubricating performance at elevated temperature. This can be overcome via co-deposition of the hBN particles with highly activated materials. In this study, Ni-P alloy layer was deposited on hBN powder using environmental-friendly electroless plating technique. The electroless nickel deposition was conducted by using hypophosphite as the reducing agent. The coated powders were characterized by mean of SEM, EDS, FESEM and XRD analysis. The morphologies of Ni-P co-deposited hBN revealed uniform distribution of the coated layer. Elemental mapping also confirmed the deposition of Ni-P onto hBN substrate. it can be claimed from this study that the successful Ni-P co-deposition with hBN permits a highly active surface on hBN powder. Thus, the engineered hBN presents a new window of opportunity for the formulation of effective solid lubricant which can be applied directly to the components of tribological pair or generated in the form of thin film to produce self-lubricating composite coating.

ENHANCED BIODEGRADATION OF DIOXIN BY GENETICALLY MODIFIED BURKHOLDERIA XENOVORANS LB400

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Alternative sigma subunit-54 (RpoN) forms holoenzyme complex when associated with core RNA Polymerase (RNAP) to specifically recognise and initiate transcription of specific sets of genes in response to environmental stimuli. RpoN has important role in many major adaptive responses in bacteria and is involved in various physiological responses such as pathogenesis, quorum sensing and bioremediation. In this study, a procedure based on a single recombinant event using pKNOCK suicide vector has been developed to generate the loss-of-function mutants of environmental isolate Burkholderia xenovorans LB400 rpoN genes. Two rpoN knock out strain were established namely NRPLB (rpoN1 mutant) and NRP2LB (rpoN2 mutant). Degradation studies of dibenzofuran shows significant differences between wild-type B. xenovorans and its rpoN mutants (NRPLB and NRP2LB). Degradation rate was found higher in NRP2LB compared to wild type LB400 but reduced significantly in NRPLB. This result was supported by gene expression analysis where RpoN-dependent BphA that encodes for biphenyl dioxygenase was highly expressed in NRP2LB thus enhanced the degradation of dibenzofuran via biphenyl degradation pathway. This result indicates the important role of rpoN1 gene in B. xenovorans LB400 in degradation of dibenzofuran. Toxicity assay shows that products or metabolites from degradation of dibenzofuran by NRP2LB are less toxic towards seeds germination of terrestrial plants compared to the parent compound.

ENHANCING MICRO-WEDMING OF POLISHED SI BY SACRIFICIAL CONDUCTIVE COATING

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Micro-Wire Electro-discharge machining (m-WEDM) is a nonconventional machining technology which is extensively used for metal based micro fabrication process. This is a non-contact machining process is difficult to be applied for semiconductor material like Silicon (Si). In this paper a new approach is proposed for machining polished Si (p-type, resistivity 1-50 W-cm) wafer. In this method initially Si workpiece is coated with a conductive material (gold for this study) and then m-WEDM operation is carried out. Finally after WEDM operation the conductive layer is removed from the polished Si substrate without damaging the substrate. WEDM process stability was found to be improved (up to 60 times for certain machining condition) if coated Si wafer is used as compared to uncoated Si workpiece. Material removal rate was also found to be increased by a good margin (110% maximum) for coated Si wafer. Machined slots were found to be more uniform though kerf width was slightly larger for coated Si wafer. Overall this new method of m-WEDM operation of polished Si wafer has been found to be more efficient and useful.

ERROR CONTROL CODE ALGORITHM TO SUPPRESS INTERFERENCE IN OFDM SYSTEM

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Error control code has made a significant contribution to the communication system in the area of digital audio and video broadcasting. This work simulates and analyzes the role of convolution code used in OFDM transmission under DVB-T standard. The narrowband effect is added by considering transmission in wireless medium with Additive White Gaussian Noise. BER plot for 1/2 rate and 1/3 rate convolution code are compared over a range of random data and it is seen that without knowing the number of jammed subcarriers, the performance of 1/3 rate is better in mitigating the narrowband interference compared to 1/2 rate convolution code.

EXPLORATORY REVIEW OF ECOLOGICAL INDICATORS IN OIL PALM CULTIVATION

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Over the past 50 years, oil palm has become an important major crop in the agricultural sector in Southeast Asia. Its expansion is widely distributed in countries such as Malaysia, Indonesia, Thailand and Vietnam. This phenomenon is response to the large increase in the world demand for vegetable oils and biofuel needs, which is expected to double by 2020. Oil palm industry can be seen as one of the key factors to contribute in establishing the economic that largely benefits major holders like estates companies and smallholders in rural areas. However, aside from the positive impacts of socioeconomic growth, rapid expansion of the oil palm industry has brought negative impacts to the environment particularly in the air, water, land, soil, habitat, biodiversity and landscape pattern. Through monocultures practices within the plantation, a lot of chemical fertilizers and pesticides are used, which contribute to a dramatic change of the environment that affect climate and human health. The effects of oil palm have been broadly discussed in Asia particularly pertaining social and environmental issues. Methods to assess the sustainability of oil palm cultivation to promote balance in the ecosystem that might loss during the conversion is still vague. Previous studies have researched on measuring the sustainability of oil palm cultivation through the development of indicators. However, there are still gaps in identifying the dimensions and levels of the relevant indicators. The indicators should be developed by referring to the present socioeconomic and ecological situation. Development of ecological indicators is important component in the sustainability of oil palm cultivation. This paper reviews the basic concepts of the current development of ecological indicators in oil palm cultivation through identifying relevant indicators and challenges for development and implementing the indicators.

FAADE DESIGN FOR ENERGY CONSERVATION POTENTIAL IN HIGH-RISE BUILDINGS

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Energy use and the associated carbon dioxide emissions, has been rising rapidly over the past few decades and about 40% of the global energy consumption is associated with the construction sector. Of late many measures have been stepped up to curb the excessive use of energy in buildings which resulted in many energy rating and benchmarking efforts by many countries. At present Malaysias building energy is rated by the Green Building Index (GBI) and MS1525 and one of the criteria to reduce a buildings carbon footprint lies in the ability of the facades to moderate and optimize its immediate environment. Apart from its aesthetic and visual impact, a buildings faade is also supposed to play an important role in the overall energy performance of the building. This study looked at the impact of two different building facades, namely, the double skin faade (DSF) and the green faade system (GFS) in mitigating temperature and consequently the energy use in buildings. The two different types of facades are scrutinized in detail to ascertain their performance on energy efficiency efforts. This study presents the preliminary findings of data monitoring on thermal performance of both types of facades as a means for energy savings in improving the sustainable built environment, as also advocated in all Islamic teachings. The study found that both facades are effective in reducing temperatures of immediate areas to the skins indicating potential comfort and energy performances.

FARADAY WAVES IN BEC

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The generation of Faraday waves in superfluid Fermi-Bose mixtures in elongated traps is investigated. The generation of waves is achieved by periodically changing a parameter of the system in time. Two types of modulations of parameters are considered: a variation of the fermion-boson scattering length and the boson-boson scattering length. We predict the properties of the generated Faraday patterns and study the parameter regions where they can be excited.

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FIRE SAFETY SYSTEMS FOR HERITAGE BUILDINGS: OBJECTIVES AND PRINCIPLES

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Fire does not respect age or the importance of historical buildings as fire routinely destroys irreplaceable heritage buildings. Any historic structure or authentic fabric lost to fire is irreplaceable and yet a series of major international heritage fire losses have occurred. Among the main causes of heritage building fires are electrical short circuits, arson, carelessness during renovation works, flammable priceless contents, and weak existing structures to fire resistance. Indeed, fire is one of the greatest threats to heritage buildings not only to the buildings occupants but also to the buildings fabrics and contents. The challenge in protecting heritage structure is to maintain their historical fabric and authenticity while providing a reasonable level of safety for their occupants and contents. Until today, no proper fire safety guidelines or legal requirements have been provided to protect historic contents and structures from fire. This study investigates the appropriate fire safety objectives and principles in providing fire safety systems for heritage buildings

FPGA BASED PARALLEL BIOIMPEDANCE SPECTROSCOPY SYSTEM

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This is a design for a Bioimpedance spectroscopy system on an FPGA board for characterization of cancer cells. The proposed hardware uses a digital auto balance bridge implemented in Verilog. Using an FPGA allows the system to be designed to have a multichannel signal acquisition from two or more sources, and to be smaller than commercial devices. The simulation results show that the system is able to detect the phase and amplitude for the impedance. The design would provide a portable bioimpedance spectroscopy system, which will be able to perform calculations and show results without the need for external hardware.

FTCARP: A FAULT-TOLERANT ROUTING PROTOCOL FOR COGNITIVE RADIO AD HOC NETWORKS

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Cognitive Radio (CR) has been recently proposed as a promising technology to remedy the problems of spectrum scarcity and spectrum underutilization by enabling unlicensed users to opportunistically utilize temporally unused licensed spectrums in a cautious manner. In Cognitive Radio Ad Hoc Networks (CRAHNs), data routing is one of the most challenging tasks since the channel availability, node mobility and node failure are unpredictable. Moreover, the network performance is severely degraded due to large numbers of path failures. In this poster, we propose the Fault-Tolerant Cognitive Ad-hoc Routing Protocol (FTCARP) to provide fast and efficient route recovery in presence of path failures during data delivery in CRAHNs. The protocol exploits the joint path and spectrum diversity to offer reliable communication and efficient spectrum usage over the networks. In the proposed protocol, a backup path is utilized in case a failure occurs over a primary transmission route. Different cause of a path failure will be handled by different route recovery mechanism. The protocol performance is compared with that of the Dual Diversity Cognitive Ad-hoc Routing Protocol (D2CARP). The simulation results based on NS-2 obviously prove that FTCARP outperforms D2CARP in terms of throughput, packet loss, end-to-end delay and jitter in the high path-failure rate CRAHNs.

FUCOXANTHIN - THE NATURAL WAY FOR HEALTH AND BEAUTY

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Seaweeds are the raw materials for industrial production of agar, carrageenan and alginates. They continue to be widely consumed as food in Asian countries. Seaweeds serve as an important source of bioactive natural substances. This study has been successfully conducted to extract, isolate and purify fucoxanthin, a class of carotenoid, from five types of Malaysian brown seaweeds, namely Turbinaria turbinata, Padina australis, Sargassum duplicatum, S.binderi and S.plagyophillum. Results showed that apart from possessing antioxidant properties, fucoxanthin remarkably reduced the viability of human colon cancer cell lines. Treatment with fucoxanthin induced DNA fragmentation, indicating apoptosis.

GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS) BASED METABOLIC FINGERPRINTING OF MYRMECODIA TUBEROSE JACK (= SARANG SEMUT, ANT PLANTS)

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A comprehensive metabolic fingerprinting of Myrmecodia Tuberose Jack was carried out using gas chromatography coupled with mass spectrometry (GC-MS). A lyophilized powder of Sarang Semut tuber was fractionated in a polar (MeOH) as well as non polar (CHCl3) solvents and subsequently methoximated and silylated prior to GC-MS analysis. By applying this technique, over thirty five metabolites (polar and non-polar) in total were detected in the tuber. However, only about 70% of these compounds can be positively identified by using the Wiley7n.1 Mass spectra libraries and AMDIS for the best hit of the molecular ion peaks and the fragmentation patterns. Terpenoids, simple sugars and fatty acids have been found as the main constituents of the tubers. Thus, a distinct GC-MS metabolic fingerprinting of M. pendens provides unequivocal pattern recognition to differentiate among other genus of the Ant Plants in Rubiaceae family.

GONADAL DEVELOPMENT AND SPAWNING OF FORK-TAIL THREADFIN BREAM (NEMIPTERUS FURCOSUS)

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Fork-tail threadfin bream (Nemipterus furcosus) is an economically important food fish in Malaysia but its capture production is decreasing gradually in the Malaysian water. However, gonadal development and spawning information, which are essential for fishery management of this species, are still unknown especially in the Malaysian water. Therefore, this study aimed to provide information on gonadal development and spawning of fork-tail threadfin bream population in the Malaysian water. Since histology of gonads offers a powerful tool for reproductive studies, gonads histology and Gonadosomatic index (GSI) were studied monthly samples collected from commercial fishing trawlers for one year. A total of 1599 threadfin bream specimens were studied in this research. The results showed that male threadfin bream was significantly more than female (2 = 121.68; p¡0.05) in the N. furcosus population. GSI of female fish was significantly higher (p¡0.01) than male fish. Female GSI was highest in June while male in November. GSI of female rapidly increased after December and reached at peak in June and decline after June. Based on the observed data, the peak spawning season of threadfin bream in Kuantan coastal water was from January to August. Histological observation of gonads also confirmed this finding. This fish showed immature gonadal stage in October and November. After that, they enter the maturing stage in December, January and February and mature in March. The gonads were in the ripe and running stage in April, May, June and July. Then, the gonad spent in August and finally enters the resting stage in September. The results of this study will help the management of juvenile and breeding stock of N. furcosus in order to maintain sustainable exploitation in the Malaysian water.

GRADUATION CEREMONY SYSTEM USING RFID

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In a typical graduation ceremony, the graduates name are called out to receive their certificate. Usually, the ceremony has some flaws where the absent graduates name are also called out to receive the certificate. Sometimes, graduates name are pronounced wrongly. Therefore, a graduation ceremony system that can overcome these problems has been developed. The system consists of RFID reader and tag, microcontroller and database. The system uses RFID technology for interfacing between the graduate and the host computer. The system has a graphic user interface (GUI) to display the students information and play recorded voice to make the ceremony more interesting. In addition, the GUI can also play the recorded video of the graduate.

GREEN APPROACHES OF MALAYSIAN GREEN HOTELS AND RESORT

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Currently tourism is moving towards sustainable tourism because this industry poses negative impacts on the environment. The impacts are due to the development of tourism facilities and infrastructure such as resorts and hotels. These impacts are usually from resorts operation. Resorts operation consumes and produces many resources such as water, energy and solid waste. Consequently is vital for resort operators to adopt some green approaches and technologies in their operation in order to reduce negative impacts on the environment. The objective of this research is to determine the area and rate of participation in green approaches of Malaysia green hospitality industry. The methodology used for the data collection in this research is in-depth interviews, structured observations, and document analysis. Four green hotels and green resorts were selected for case studies. Recently all the four hotels and resorts win the recognition as the ASEAN Green Hotel Standard 2012-2014. This research finding shows that the operators adopted greener approaches in three most common areas such as energy, waste and water. These areas save operational costs and natural resources. The areas of less participation are in the indoor air quality, sustainable management of the site. These areas have less impact on the operational costs. Participation in new technologies such as renewable energy (solar panel) and a rainwater harvesting system is also less due to the cost and system availability. The findings also show that different operators have adopted different green approaches in the operation. The reasons are the management aim and policy, cost availability, surrounding context and geographical setting. Later, next research can focused on green approaches of Small and Medium chalets operation in Malaysia. In conclusion Malaysia green hotels and resort industry is growing progressively and hope there is a bright future for this industry.

GREEN ROOF SYSTEM AS A STRATEGY TOWARDS ACHIEVING SUSTAINABILITY

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Green roof technology is a well-known technology with wide range of benefits that could be divided to environmental, economic, social and aesthetic benefits. In order to improve the decreasing quality of life in urban area, green roof technology could be a way to overcome these environmental, economic and social problems. These are the impacts from human activities and actions that greedily developed the environment without considering the adverse effects that could arise from the unsustainable development. Thus, this study is stressing on the benefits of green roof technology that clearly could improve the quality of life in urban area. Among the benefits are increasing indoor and outdoor thermal performance, serving a better view of concrete jungles in urban area, providing more open space for people to socialize and a place to relax as well as serving a space to grow agricultural products. Malaysia, among many other countries is experiencing urbanization process. As well as the positive impacts, urbanization process has the adverse effects that have been long suffered by both urban dwellers and urban environment. The impacts that are now becoming a great threat to the urban dwellers and environment are including higher the air temperature, increasing of indoor thermal discomfort and loss of green areas. Not only the process is affecting the environment, urbanization also generates economical and social problems such as the increasing of cost of life in urban area and boost up the stress or tense feeling in the urban environment. The findings from this study shall help to encourage other researcher to carry out more research on green roof technology that is suitable to the local climate of Malaysia. It is perhaps that this study could also give benefits the built-environment related professional and buildings owner and promote the implementation of this technology in order to improve the quality of life in urban area as well as to achieve sustainability in Malaysia.

HARVESTING OF PEDAL POWER FOR BATTERY CHARGING: GENERATION AND CONDITIONING AND ITS MEASUREMENT THROUGH NON-CONTACT MEANS

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In this poster, an electromechanical Pedal Power Energy Harvester is designed to harness the vibrational power from road track deflection due to cars, which converts the kinetic energy of vehicles into an electrical power for battery charging. The resulting energy may be used for small load applications such as in emergency lights. Whereas typical existing vibration energy harvester is built for low power applications, the proposed energy harvester will be designed for higher power applications. To achieve this goal we present new mechanism, in this system irregular bidirectional linear vibration are transformed into regulated unidirectional rotational motion, which means that the motion mechanism includes bidirectional to unidirectional conversion and flywheel speed regulation. It bears some advantages like improved reliability, efficiency, and quality of output power. An analytical model relating input force applied to the output energy generated which is then measured through non-contact means using inductive coupling approach. The energy plots versus force applied to flywheel will show the results obtained so far in this work.

HIGH RISE SCHOOL: DESIGN CRITERIA IN CONTEXT OF KUALA LUMPUR

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Education is one of the most important aspects of children and young peoples lives. Besides providing the perfect syllabus for the children, literature has suggested that the design of the physical environment of schools is important to the wellbeing of students. Scarcity of land has been a major issue in cities such as Singapore and Hong Kong due to their increasing population and massive developments within the city area. As pioneers of high-rise school design, many good examples can be found in Singapore and Hong Kong. In the context of Kuala Lumpur, the increasing population has reduced the available land within the city area, and the newly developed schools have to be high rise buildings. The aim of this study was to identify the main design criteria in designing high rise school in Kuala Lumpur. In order to achieve this aim, three questions were investigated: What are the design criteria of schools? What are the design criteria of high rise educational buildings? What are the good examples of schools and educational buildings locals and overseas? The overall research design was case study. The study was divided into two main stages. The first stage involved a pilot study, which investigated an existing high rise school in Kuala Lumpur. The second phase involved reviews of the guidelines available worldwide and a parallel study of good school design to justify the outlined criteria. Repetitive or similarities themes were identified and evaluated in the current context of Kuala Lumpur to ensure all criteria valid and relevant. The main finding of this study is that there are four major criteria of high rise school design: Safety and Security, Flexibility in School Design, Accessibility for the Disabled Person and Space for Religious Activity. It is hoped that this study will benefit the school designers, policy makers, students, and the wider community to understand the high rise school.

HOLD TIME FATIGUE CRACK PROPAGATION OF SOLID-SOLUTION-STRENGTHENED SUPERALLOYS AT ELEVATED TEMPERATURE

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In NGNP (next generation nuclear plant) program, solid solution strengthened superalloys, INCONEL 617 and Haynes 230, have been considered as candidate materials for intermediate heat exchanger (IHX) in the very high temperature reactor (VHTR), which will be subjected to thermal static/cyclic stress impact during operation. Therefore, understanding the Fatigue crack propagation (FCP) behaviors of alloy 617 and 230 under alternative static/cyclic loading condition is important for component design and operation life assessment. In this study, two solid solution strengthened superalloys 617 and 230 were conducted FCP tests at elevated temperature under cyclic and hold time fatigue conditions to explore the FCP behaviors.

HOVERCRAFT VEHICLE FOR SEA-TO-LAND RESCUE MISSION

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The lives of human race is threatened by natural disasters around the world such as tsunami in 2004, typhoons in 2013 in the Philippines, since then, governments have been developing new technologies to make the rescue missions more efficient and saving more human lives. By developing swarm amphibious vehicles, we can save on more man-power by not endangering life-guards or crew lives. Time is cruel aspect that is most likely wouldnt be in our side, with the swarm amphibious vehicles, the rescue missions would be much effective and efficient.

HUMAN ARM IMPEDANCE CHARACTERISTICS TO CONTROL POWER ASSIST AID FOR DISABLE PEOPLE

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Bio-mechatronics is the field which combines electrical and mechanical technology to biological enhancement emphasizing the improvement of the locomotion of human body joints. The mechanical property of a muscle can be controlled by using electro-stimulation. But the investigation of the mechanical property is much important. If a set of command is given to the muscle to achieve a desired response then it can be potentially used as and assistive or rehabilitative technology. Equation of motion is used for investigating the impedance characteristics. Movement chose in this study is closely related to one of the daily activity. Input parameters of the model are positional data and the force. All processing and simulations are done by using MATLAB.

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HYBRID TECHNIQUE USING SINGULAR VALUE DECOMPOSITION (SVD) AND SUPPORT VECTOR MACHINE (SVM) APPROACH FOR EARTHQUAKE PREDICTION

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A novel earthquake prediction method that uses a combination of singular value decomposition (SVD) based technique for feature extraction and support vector machines (SVM) as classifier is proposed. Using the proposed technique, the earths electric field signal is transformed into a new domain using SVD-based approach by projecting it on the left eigenvectors of impulse response matrix of the linear predictive coefficients (LPC) filter to enhance the performance of the classifier. Several features have been extracted from the transformed signals which are then applied as input to the SVM classifier in order to predict the location of the upcoming earthquake. Once the location is determined, a similar approach is used to estimate its magnitude. Finally, the determination of the incoming time of earthquakes is estimated based on statistical analysis. The result shows that the proposed method achieves the accuracy of 77.8% and 66.67% in location and magnitude determination, respectively. Furthermore, the time of the forthcoming earthquake can be predicted within seven days depending on the predicting magnitude.

IDENTIFICATION OF COST DATA INPUT IN LIFE CYCLE COST (LCC) FOR BUILDING PROJECTS

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Life Cycle Cost (LCC) is an economic assessment technique that produces outputs, which will give useful cost information to many including clients, estimators and researchers in facilitating them to make better decision in the process of determining the most optimum total costs of an asset, such as a building, over an anticipated life or in comparing the most cost-effective of mutually exclusive alternatives. Past studies have confirmed that quality, currency and adequacy of cost data used as inputs as well as the method used for the LCC analysis are of paramount importance in effort to produce reliable LCC outputs. There are different kinds of data to be used as inputs in LCC analysis and the type of data to be used is contingent upon the intended output of the LCC analysis. In the current research the focus is on cost data inputs for buildings LCC. The objective of the poster is to present the outcome of a study to identify the types of cost data as inputs requirements for a comprehensive LCC estimation for building works in the Malaysian construction industry. The study being reported herein is drawn from a three-year programme of research to purposely enhance the quality of LCC outputs for building projects in Malaysia. The methodology employed for the study comprised comprehensive review of related literature and three rounds of modified Delphi. The participants that completed all three rounds of modified Delphi questionnaire were 20 experts on LCC in Malaysia. The key findings of the study include that in the context of Malaysia (i) the major hurdle of conducting LCC analysis is somewhat homogeneous: lack of reliable, accurate, and current cost data inputs; (ii) quality of data input requirements for producing reliable LCC outputs should possess the following characteristics: availability, accessibility, currency and reliability of cost data; (iii) a total of 35 types of cost data requirements for producing reliable LCC outputs that are available and accessible have been identified; and (iv) 5 formulas have been identified and considered most appropriate for use to update historical data for use in LCC estimation. The outcome of the study is considered significant in effort to assist clients, estimators and researchers to make better decision in terms of determining the most optimum total costs of an asset. In addition, the findings seem to dispel the common belief that cost of an asset comprised of the capital costs only and that the lowest capital cost is the best.

IIUM MONTHLY ASSEMBLY ATTENDANCE SYSTEM

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Attendance system is one of the basic requirements in a college or university. Through this system it is an assurance that staffs attend all monthly assembly. The result of this is that the staff, who misses the assembly, finds himself in difficult position about news update on university systems or events. Due to this reason, we have come up with the system of attendance that will not only reduce the abuse of the system but will also make sure the staffs attend the assembly on a regular basis. We have developed an attendance system which enables the staff to use an RFID card upon entering the gathering. This system will automatically mark the attendance. Since each staff will have their own RFID cards, it will be difficult for one staff to mark for his friend. Hence, the abuse of the attendance system is reduced.

IMPLEMENTATION OF KAJANG MUNICIPAL COUNCIL LOCAL PLAN 2020 WITH REFERENCE TO STAKEHOLDERS VIEWS ON PUBLIC FACILITIES SECTOR

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The research on development plan implementation was inspired during Town Planning Day Conference 2012 when some of the speakers highlighted the weakness of Malaysia development plan implementation due to (i) constant complaint of inefficient local plan implementation as development blue print, (ii) Lack of awareness of other government agencies and (iii) the review of local plan is timely in order to make the plan as strategic plan. Throughout the literature review process, researchers have found out that the implementation topic has receive less attention from the researcher, practitioner as well as decision maker compared to the preparation of plan or public participation issues. The research attempts to focused on the provision of public facilities in the Kajang Local Plan 2020 based on the views and perspectives of the stakeholders. To examine the dynamic of implementation of local plan in details, the case study of Kajang Municipal Council Local Plan 2020 has been selected. Based on the multi research methodology adopted, the study found a number of issues related to the implementation of local plan in Kajang Municipal Council area starting from (i) Local plan preparation stage, (ii) Local plan implementation stage and (iii) Monitoring and maintenance. The issues are (i) Lack of stakeholders involvement in decision making process, (ii) Lack of awareness among the local community, (iii) Public facilities monitoring and maintenance, and (iv) Inability of the policies to be implemented on site. In order to increase the effectiveness of implementation, some recommendations has been proposed such as (i) Improving the application and implementation of local plan by involving all planning stakeholders in the preparation process, (ii) Improve the local community awareness of local plan by improving the publicity method during public participation, (iii) Create separate bodies at the local level that act as planning inspectorate to ensure the implementation of local plan, (iv) Technological applications to assist planning for public facilities

IMPLEMENTATION OF MAGNETIC DAMPING FOR CHATTER CONTROL & TOOL WEAR REDUCTION IN TURNING OPERATION

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Chatter in turning can have drastic negative outcomes, such as: reduction in tool life, surface finish, productivity, machine-tool life etc. This work presents an innovative approach to chatter suppression using permanent magnet in turning of stainless steel (AISI 304) with cemented carbide inserts. A special fixture was fabricated and mounted on the carriage of an engine lathe for housing a powerful 4500 Gauss neodymium permanent bar magnet. The magnet applied uniform magnetic attraction to the tool shank from the Z direction. Experiments were then conducted for with and without magnetic damping conditions and the vibration and tool wear data recorded. The primary cutting parameters: cutting speed, feed, and depth of cut were varied over the same range for both experiments while keeping the tool overhang constant at 120 mm. It was found that magnetic damping reduced vibration by an average of 42% and tool wear by about 50%. Therefore, this method promises an easy and cost effective way in reducing vibration and facilitating improved tool life. Secondary benefits like machining accuracy, good surface finish, and reduced maintenance costs can also be realized in implemented in the industry.

IMPROVEMENT OF CADMIUM SORPTION FROM AQUEOUS SOLUTION BY FUNCTIONALIZED PAC-CNTS

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Cadmium (Cd+2) is one of the toxic heavy metals that is used very often in several industrial products. The wastewater from these industries contains residual cadmium which is difficult to remove from the effluent economically. Therefore, carbon nanotubes (CNT) were synthesized and functionalized to achieve high adsorption capacity to remove cadmium from water and wastewater. Fixed catalyst chemical vapor deposition reactor (FCCVD) system was fabricated to synthesize CNTs. Growth parameters (reaction time, reaction temperature, and gas flow rates) for CNT on powdered activated carbon (PAC), as a novel substrate were optimized. The PAC was impregnated with Fe3+ catalyst. The surface properties of CNT-PAC were modified by oxidative functionalization using three different methods: sonication with KMnO4, refluxing with HNO3 at 140 oC and in-situ gasification with CO2 at 750 oC. By comparing the performance, the best modified sample was found to be the one, which was functionalized with KMnO4. Design Expert software was used to optimize the removal of heavy metals from water with pH, contact time, adsorbent dose and agitation speed as controlling parameters. KMnO4 treatment of the most promising CNT-PAC sample (B3) enhanced the Cd+2 removal from 38.87% to 98.35%. The selected functionalized sample was used to perform optimization study on removal of Cd2+ from water using central composite design (CCD) experimental design. The optimum conditions were pH 4.92, agitation speed 160 rpm, contact time 60 min and adsorbent dose 214 mg/L. Langmuir and Freundlich adsorption isotherms were studied for the novel adsorbent. Langmuir constants were qm = 69.759 mg/g, Kl = 0.223 and R2 = 0.924. The system was found more likely to follow Freundlich model with R2 of 0.961, Kf of 9.215 and n of 3.015.

IMPROVEMENT OF CRUSHED STRENGTH OF AIRCRAFT STRUCTURE USING FOAM-FILLED HONEYCOMB MATERIAL

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Cell walls of honeycomb structure are weaker than vertical edges, as they buckle earlier than vertical edges when the honeycomb is subjected to compression loading or low velocity impact loading. Hence, low density polyurethane foam was used as filler material to straighten and strengthen these weak cell walls in order to improve their energy absorption capability. Unfilled Nomex honeycombs, polyurethane foams, and foam-filled Nomex honeycombs were subjected to quasi-static compression loading, and the influence of honeycombs density, height, cell numbers, and polyurethane foams density on force-displacement behavior and energy absorption capability of the structures were analyzed. Failure mechanisms of foam-filled honeycomb were identified, analyzed and compared with unfilled honeycomb. Crushing load and energy absorption of foam-filled honeycomb were found to increase significantly, higher than summation of individual components (unfilled honeycomb + polyurethane foam). The increment was mainly due to the change of boundary condition on top and bottom surfaces from free-free to fixed-fixed boundary condition, which resulted in the initiation of global buckling in the middle structure. It was also due to boundary condition applied on filled foam by hexagonal cells, foam densification at locations of wall buckling, and fill of the folds by foam. To reduce computational cost, symmetrical three-dimensional finite element models were used for all three structures, because of their symmetrical geometry and loading conditions. Force-displacement behaviors obtained from numerical simulations were validated by experimental findings, and distribution of energy absorption between cell walls and filled foam of the foam-filled honeycomb was analyzed.

INNER AMBIENT CONTROL OF THE PARKED VEHICLE IN A HOT SUNNY DAY BY REMOTE ACCESS

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Rise of interior temperature during daytime for a fully locked and parked car is a problem that needs to be addressed. The main reason for this significant rise in interior temperature is the heat that is trapped inside because of the closed glass window. This situation is very uncomfortable for people inside the car especially for toddlers and pets. . Several measures had been proposed and some of them implemented to counter this issue such as leaving the windows partially open for the parked car or installing an external ventilation unit like a blower to regulate the internal temperature. However, none of these solutions are reliable and beneficent and moreover at times leave serious security loopholes apart from other typical drawbacks like power inefficiency and high cost. As of such, there is an immense requirement to come up with a 'smart' and reliable solution for this issue keeping in mind factors like cost, power efficiency, user friendliness and reliability. A smart system has been developed which gives a comprehensive control over the whole car cooling system of the vehicle from a remote area. Moreover, other customizable necessary features like window control, safety and security are also be included. Results shows the proposed system can efficiently bring down the inside temperature of the car to a comfortable range for the passengers.

INTELLIGENT STAND FAN

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Intelligent stand fan is a development of an ordinary stand fan that consists of several features to help more comfortable and easier life. Ordinary stand fan is operated manually which people has to determine the speed of the fan and the oscillation of the fan is fix at a certain degrees. The intelligent stand fan is developed to have a speed regarding to the environment temperature and it will only operate as there is presence of human. Furthermore the fan is designed to oscillate with respect to the human location. The working principle of intelligent stand fan is interrelated between electromechanical, electronics and control system. The LM35 is used to determine the environment temperature meanwhile the passive infrared and ultrasonic sensors are used to determine the presence of human and to detect the human location respectively. The system is controlled by microcontroller which making the typical stand fan to be smarter.

INTERIOR DESIGN ELEMENTS AND FACILITIES FOR PEOPLE WITH DISABILITY (PWD) IN THE MOSQUE

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Abstract Mosque is the place of people or jammah to pray in worship of ALLAH serves more than as congregational prayer places five times daily .The mosque is as a community centre, learning centre, the seat of government, Welfare centre, Prison, Hospital and legitimate recreational activities which is stated in the holy Quran and Hadiths. Means that all Muslim generations, races whether normal and handicapped community to enjoy the facilities at the mosque for the seek of one ummah. Due to welcome all the Muslim community to the mosque, the facility and requirements as the above mentioned matter shall be fulfilled in a certain limit of expectations especially for the People with Disability (PwD) personally and his categories to enjoyed and also to communicate well during the occasion happened in the mosque. However at the same time as the mosque was asserting itself as a nucleus of the Muslim Lives as gradually as a majority of precepts of Islam, a code of ethics had to be established. Those who reject Faith, Neither Their possessions Nor their numerous progeny Will avail them aught Against Allah: they are themselves but fuel for the fire. The establishment of the Code of Practice and the law of practice have to be implemented and the necessary bodies to monitor and ensure to fulfill the overall ummah needed. The recommendation of the design as proposed items at the external and internal will make the space more organized, having aesthetic value and practical for thus disabled people especially and all Muslim Ummah generally. This is will be blown up the integrity of Muslim Ummah and disabled people especially to achieve the real ummah as a real Muslim.

ISLAMIC UNIVERSITY MALAYSIA: A STUDY ON FACILITIES FOR DISABLED WITHIN GOMBAK MAIN CAMPUS

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The research focusses on the provision of basic facilities for the disabled within the International Islamic University, Gombak Main Campus (IIM). As a higher learning institution, the built environment is supposed to cater the needs of the community of disabled as one of its components in the campus society. Lacking of facilities for the disabled hinders the nurturing of a dynamic society as stated in one of her philosophy of establishing. Apart from secondary data acquired from several administrative offices of the IIUM, the study basically used observation and interviews in data collection. The area is found to be in quite moderately lacking of disabled facilities. The current provisions are not evenly distributed and some are absolutely absent, such as sensor detection and audible signal for the blind and deaf, except for a very basic facilities like elevators with tactile signal, toilets and added-on ramps in some areas. Most of the current facilities provided are in bad conditions because of its poor maintenance. As the facilities for the disabled are not incorporated from the early days, reactive policy in the provision is now in practice. However, it is insufficient to nurture satisfactory progress in the human resource development. This is worsened as the budget is scarce along with administrative procedures that slow down on action upon request. The paper proposed two categories of recommendations, short term and long-term, for its reactive provision of the existing buildings.

INVESTIGATION OF INDUSTRIALLY USEFUL HYDROLASES FROM THE INDUSTRIALLY WASTEFUL SKIM LATEX SERUM OF HEVEA BRASILIENSIS

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Hydrolases extracted from Hevea brasiliensis,source of very useful industrial enzymes

INVESTIGATION OF THE EFFECTIVENESS OF -GLUCOSIDASE ENZYME IMMOBILIZED IN CNT-NANOPARTICLES AND CA-ALGINATE BEADS

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Enzymes are extensively used in various industrial, biomedical and biopharmaceutical applications. However, enzymes in their free form are unstable and expensive besides being characteristically susceptible to inhibition by high product concentrations and highly sensitive to pH and temperature changes. Immobilization technology offers solutions to these challenges by increasing pH and temperature stability, allowing continuous process and reuse of enzymes for many reaction cycles. Ca-alginate beads provide a gentle environment for immobilization, but have certain limitations such as low stability, high porosity and limitations in biocompatibility. Carbon nanotubes (CNTs) on the other hand have excellent mechanical, thermal and electrical properties, as well as dimensional and chemical compatibility with biomolecules like DNA and enzymes leading to the interest in development of biosensors. Hence, in this study the enzyme -glucosidase was immobilized in Ca-alginate beads and multi-walled carbon nanotubes (MWCNT) using standard techniques and their activity was determined in comparison to free enzyme activity. At the same substrate concentration the free enzyme activity was highest (12.53 U/ml), the activity of enzyme immobilized in Ca-alginate beads was the lowest (9.768 U/ml) and the MWCNT immobilization gave an activity of 12.20 U/ml. The immobilized enzyme in CNTs was found to incur decreased loss in activity compared to the Ca-alginate beads. The immobilized -glucosidase on Ca-alginate and MWCNT supports as well as free enzyme are found to follow Michaelis-Menten kinetics and are well represented by Langumuir linearized plot.

ISOLATION OF ACTINOMYCETES FROM KUANTAN MANGROVE

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Actinomycetes, Gram-positive prokaryotes that form mycelium branches with asexual spores, are widely distributed inn ature and are important industrially and pharmaceutically. Mangrove actinomycetes have garnered global interest due to high species diversity and unique capabilities to synthesize bioactive metabolites. In this study, various selective isolation media were employed for the isolation of actinomycetes from mangrove ecosystem of Kuantan, Pahang. Sediment samples from six different locations were collected, air dried and pre-treated using wet heat method followed by dilution plating on 5 media (oatmeal agar, inorganic salt-starch agar, starch casein agar, glucose asparagine agar and actinomycete isolation agar). A total of 3270 actinomycetes had been successfully isolated. Based on the results obtained, inorganic salt-starch agar (ISP4) yielded the highest number of isolates, followed by actinomycete isolation agar (AIA). However, starch casein agar (SCA) was found to be more efficient in isolating a wide variety of actinomycetes based on their morphological appearance. Moreover, SCA was able isolate non-Streptomyces actinomycetes. Maximum number of actinomycetes was recorded from the site of mangrove forest far from the intertidal region, with Streptomyces and Micromonospora-like isolates being the most predominant observed from all sampling sites. The presence of relatively large number of isolates suggests that Kuantan mangrove is a potentially rich source of actinomycetes.

LEADME:LAMINATE ANALYSIS AND DESIGN MADE EASY-AN EDUCATIONAL SOFTWARE

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Composite materials are extensively becoming the material of choice for many structural applications, particularly in aerospace and automotive industries, hence a course on composite material have been made as core in mechanical engineering study programs worldwide. A course on Composite Structural Design/Analysis involves very lengthy and complex calculations which demoralize students and prevent students from solving many problems. It is here that an educational software is useful, which is a self-study package, with students learning on their own, away from their class without taking away the time of the lecturer. The students can repeat and research with a variety of problems in a short time and gain confidence in the subject, thus achieving the required outcomes of the course. Furthermore, lecturers can use this software for framing short term projects. The lack of such an educational software on composite material analysis in institutions nationwide was the motivation behind the development of this software. The analysis considered in this software starts from the micro to macro mechanics analysis of lamina/laminate. It can also be used to study the stress analysis of a laminated beam under different loading condition and also useful to design a laminate for a given loading. The software has been developed using MATLAB which is well known for matrix manipulation and the Graphical User Interface (GUI) based Input/ Output windows makes it easier for user interaction with the software. Results are presented in both tabular and graphical form for better visualization. The results obtained from this software have been validated against the available literature and were found to agree well. It is expected that this LEADME software will serve as an educational tool complementing textbooks for students to gain better understanding of composite structural analysis.

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LINEAR ATOMIC COUPLER

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We investigate the entanglement transfer from a two-mode squeezed state (TMS) to the atomic system by studying the dependence of the negativity on the coupling between the modes of the waveguides. The entanglement is an important feature which has no classical counterpart and it is the main resource in quantum information processing. We use a linear coupler which is composed of two waveguides placed close enough to allow exchanging energy between them via evanescent waves. Each waveguide includes a localized atom. We focus on the case when the initial state of the field is given by two-mode squeezed vacuum state.

LOW COST ACTIVATED CARBON FROM SAGO WASTE BY ONE STEP STEAM PYROLYSIS

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Due to abundant agro industrial wastes in our environment, this invention aimed at exploiting the use of agro industrial waste in the production of activated carbon in a cost effective and environmental friendly manner. Sago waste based activated carbon (SW-AC) from the sago industry is regenerated using different activation techniques (physio-chemicals). Among the methods applied, thermal activation technique with steam as activating agent showed better performance in maximizing the carbon yield, adsorption capacity and total surface area. The inuence of activation conditions on the properties of SW-AC and batch adsorption of different dyes are researched to evaluate a potential SW-AC. The findings of maximum yield and iodine number observed are 12.6 % and 1208.5 mg/g respectively. The equilibrium adsorption capacity of SW and SW-AC for methylene blue estimated to be 80.8 and 507.5 mg/g respectively. The SW-AC showed high surface area and a substantial total pore volumes of 1126m2/g and 7.2 cm3g-1 respectively as well as developed textural structures compared to its original raw material. The results indicate potential application of the physically activated carbon for liquid phase adsorption involving high molecular weight compounds, typically for color removal in wastewater streams.

LOW COST AND HIGH YIELD LIPASE FROM PALM KERNEL CAKE FOR BIODIESEL APPLICATION

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Increasing demand for environmental friendly processes for industrial applications has directed the researchers to find a cost-effective method for production. Therefore, searching for renewable source such as agro-industrial waste, namely, palm kernel cake (PKC) is one of the attempt in this invention for cost reduction as well as waste utilization. Solid-state bioconversion (SSB) of palm kernel cake (PKC) by Candida cylindracea was proved to be a cost-effective method to produce lipase from abundant raw material in Malaysia. Statistical designs were used in sequences to optimize the media components as well as the process conditions. Based on the lab-scale results, an activity of 4003 U/g dry PKC was achieved. The fermentation process was successfully scaled up to tray bioreactor to achieve an activity of 350.944 U/gds. This invention provides the basis of large scale production of lipase for enzymatic application (esterification) of biodiesel production.

LOW ENERGY CARBON NANOTUBE FIELD EFFECT TRANSISTOR (CNTFET) MODEL

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The purpose of this research is to study novel carbon nanotube-embedded Field effect transistor (CNTFET) that can applicable for environmentally friendly electronics devices. Carbon nanotubes (CNTs) are rolled sheets of carbon with atoms arranged in a hexagonal pattern. CNTs measure about a millionth of a millimetre in diameter and show great promise for applications in nanotechnology. Use of CNTs in nano-electronics can lead to nano-scale FET. Carbon Nanotubes (CNTs) are the most promising replacement for Silicon channels because of their size, electrical properties and high electron mobility.

LOWER LIMBS REHABILITATION SYSTEM FOR RESTORATION OF GAIT

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Disability rehabilitation of the lower limbs becomes a burden to the therapy and health service sector because of the insufficient expertise. In most of the cases, proper therapy for the non-ambulatory patient is not possible due to the limitations of physical strength of the therapists. Moreover, physical therapy for gait training is a continuous and long term process. As a result, robot assisted lower limbs rehabilitation and gait training are in the focus of the scientists. Basically the robot assisted gait trainer is nothing but a man-machine cooperation system. Stroke, Transient Ischaemic Attac (TIA), Subarachnoid Haemorrhage (SH), and Vascular Dementia (VD) are the most common types of Cerebrovascular disease (CBVD) which cause neurological disability. The people, middle aged, elderly or even children, who are affected by CBVD, most of them are left with loss of movements or impaired limbs. A recent study on Ischemic stroke in young adults (ranging from 16 to 49 years) shows that the mean age of Malaysian stroke patient was 41.57.4 (mean SD) years where the study was conducted on 67 patients. About 15 million people globally suffer from stroke where 5 million people die and 5 million become permanently disable. Rehabilitation training provides the opportunity to patients for recovering their limbs movement functions to the maximal degree and can leave a better quality of life

MECHANICAL SYSTEM DESIGN OF FLAPPING WING BASED UNMANNED AERIAL VEHICLE

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In the flapping wing based aircraft (ornithopter), wing must provide forces of thrust and lift. These forces are generated by the wing when flapping up and down; and they are depend on geometric and speed of the wing. The geometric of the wing is function of wing span, wing chord length and ratio, and type of aerofoil used in every its section. While the speed of the wing is depend on motor power, servomotor, gearing system, and mechanical of link-rod of the wing frame. On that account a flapping wing mechanical system become importance part. The main objectives of this research are to develop mechanical system for flapping wing,such that the wing produce optimum lift and thrust, while in the same time it consumes minimum energy to move the motor and reduce loses energy in its mechanical system. Determination of a suitable material for the mechanism and the wing, are also tyhe goals of this research. A simulation program using Autodesk Inventor software is used to simulate the mechanical system and motor motion during flapping the wing.

MEDIUM VOLTAGE RANGE BOOST CONVERTER FOR ENERGY HARVESTER

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In this work, a linear trend of output voltage in the range of (4 49) V is successfully converted from (0.1 1.5) V sources using a conventional DC-DC boost converter. The low sources (such from the environment) can be increased by controlling the transistor switching frequency, duty cycle, inductance, load capacitor, rise, and fall time. Both computer simulation and experiment results are performed in details. An Experiment results have shown an error less than 6 % with the simulation low switching frequency of 2 kHz. The circuit parameter for this voltage range are L = 100 H, D = 50 %, tr = tf = 2.9 s for considering CL = 10 F, and RL = 10 k. This circuit is suitable for medium voltage range application energy harvesting purposes such as in automotive, aircraft, industry, and wireless measurement system.

METHODS IN ASSESSING CLAIMS FOR LOSS AND DAMAGE TO THE WORKS INSURED UNDER CONTRACTOR'S ALL RISKS (CAR) TAKAFUL POLICIES

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In a contract for construction works, it is a condition precedent to the commencement of the works for the contractor to insure the works against loss and damage by perils including fire, lightning, etc. as prescribed by the major standard forms of construction contract. Increasingly, due to the improved understanding and the interest to adopt the concept of shariah compliant in commercial transactions, more contractors are choosing to insure their works via takaful. One such takaful product is the Contractors All Risks (CAR) Takaful policy. Upon the occurrence of any loss or damage to the works, the contractor would submit a claim and the monies received therefrom would be utilized to recover his losses and/or to restore the damaged works. However, there are comments and complaints among the contractors and other construction industry players on the lack of transparency in the way in which CAR Takaful claims were assessed. Consequently, a study was carried out with the key objective to identify methods in assessing claims for loss and damage to the works insured under CAR Takaful. The methodology used for the study combined (i) review of related literature, (ii) content analysis of published and unpublished materials on methods of assessments for claims under CAR Takaful and conventional insurance policies as practiced in Malaysia and globally, and (iii) a series of interviews with eight (8) experts representing shariah knowledge areas, those from the insurance, takaful and the construction sectors. The findings of the study include that (i) several but company specific methods for assessing claims for loss and damage under CAR Takaful policies exist, (ii) takaful operators relied almost entirely on assessment made by their internal or appointed assessors but basis for the assessment was not entirely known to the contractors and even the takaful operators themselves, and (iii) a model on what would be considered an appropriate method of assessment for CAR Takaful has been developed. The outcome of the study reaffirmed the belief by contractors and other construction industry players that standardization and transparency in the assessment of loss and damage under CAR Takaful are lacking. The takaful industry is rapidly expanding but the absence of properly designed, standardized and transparent method of assessing claims for loss and damage to the works insured under CAR Takaful would not augur well for the future of the Malaysian takaful industry.

MINIMIZING AQUACULTURE WASTE THROUGH INTEGRATED AQUACULTURE OF ABALONE AND SEAWEED USING A USER-FRIENDLY RECIRCULATING SYSTEM

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Presently, awareness is growing in the society that the fish farming has a significant impact on coastal ecosystem because around 65-89% nitrogen and 64-87% phosphorous supplied as aquaculture feed are lost in the surrounding environment. On the other hand, it is necessary to increase the fish production for a growing human population. Therefore, it is urgently needed to develop aquaculture systems, which can minimize adverse environmental effects. To minimize environmental problems associated with aquaculture, we wanted to develop an abalone and seaweed integrated culture approach in a recirculating aquaculture system housed in an air-conditioned recycled freezer container. An experiment was conducted using two recirculating systems and each of which consisted of two biofilters and two abalone culture tanks. Each abalone culture tank contained three plastic baskets for abalone. The experimental system was incorporated with both a protein skimmer and a seaweed culture tank (PSS) to evaluate their effects on water quality and abalone growth. 20 abalones were stocked in each plastic basket and fed with pelleted artificial feed six days per week at 2.3% of abalone body weight per day. The pH, dissolved oxygen, total inorganic nitrogen, total inorganic phosphorus, and bacterial abundance were monitored daily. The duration experiment was 70 days. DO concentration was significantly higher in the system with the PSS than the system without PSS. An opposite trend was observed in case of total inorganic nitrogen concentration, total inorganic phosphorus concentration, and bacterial abundance. PSS had no effect on pH. Abalone consumed more feed and had significantly lower FCR and higher growth rates in the system with PSS than without PSS. The PSS system was not only better for abalone growth, but also produced an additional crop in the form of seaweed. The system discharged zero waste. Therefore, future abalone culture systems can be focused on this model.

MIRRORLESS CAR

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Mirrorless cars are the cars in which the mirrors which are used as a visual aid for safe driving are replaced with camera and LCD screens thus making it totally mirrorless. These cars without mirror projections results in clean external aerodynamics thereby reducing considerable amount of drag and hence offers a high potential to achieve higher fuel economy in driving a car. This mirrorless car is how far feasible in terms of driving experience is yet to be studied and till date no work has been reported in the literature. Extensive work has been reported on ergonomics of conventional car but no such reports on mirrorless car, thus around the globe, it is the first mirrorless full scale car developed and test driven extensively for its feasibility. Thus the latest modern technology is fused in a Malaysian car model (Myvi, PeroDua) transforming it to mirrorless; with the cameras replacing mirrors and the dashboard modified to install the LCD screens on it. The modified car was tested for its characteristics on safety, comfort and ergonomics. The drivers behaviour while driving the mirrorless car was studied extensively and numerous interesting conclusions were derived. Based on the comprehensive test drive it can be concluded that the mirrorless cars are potentially feasible and compatible to be used on the road and they show great potential as modern future cars with enhanced driving conditions in terms of comfort, safety, ergonomics and fuel economy.

MODELING AND SIMULATION OF FOG DEPOSITION IN SEWER PIPELINES USING CFD

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The release of fat, oil, and grease (FOG) into collection systems results in the blockage of pipes and subsequent sanitary sewer overflows (SSOs). SSOs are a risk to public health and the environment. Currently, municipalities who are responsible for maintaining these collection systems have little guidance as there is a substantial lack of scientifically-based information regarding the effective control method of FOG. In this study, sewage flow laden with FOG is modeled using ANSYS FLUENT coupled with Discrete Element Method (DEM). The FOG particles is tracked in order to understand the mechanism of the FOG deposit build-up. The results of the simulation will be compared with experimental data obtained from the pilot scale model.

MODELING OF A HYBRIDE LENS ANTENNA IN TERAHERTZ

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Millimeter wave and THz technologies are increasing rapidly in applications like, radio-astronomy, Terahertz (THz) imaging, remote sensing, secure communication links, THz radars, plasma diagnostics, etc. and in these applications integrated lens antennas are providing attractive solutions due to their less effect on atmospheric conditions and better resolution. But perfect modeling and simulation of the lens antenna and beam pattern calculation is still a challenge for the antenna engineers. The design procedure of an integrated silicon lens antenna with a planar logarithmic spiral feed is shown in WR-1.5 band for the future communication. Rectangular and 3D plot of the far-field, 3-dB beam symmetry between =0 and =90 plane and axial ratio results are presented of the designed antenna.

MODELING OF TWO DIMENSIONAL ARRAY BASED OVERLAY NETWORK FOR LIVE VIDEO STREAMING

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The live video-stream data is streamed in a proposed two dimensional array-based overlay network. The overlay network utilizes the additional upload bandwidth of peers to minimize chunk delivery delay and chunk loss rate. As there is always a peer or a live video streaming server to upload the live video stream data, so the overlay network is very stable. Peer placement in a two dimensional array enhances the scalability of the overlay network and peers are placed according to their upload and download bandwidth, which enhances the balance of load and performance. The performance analysis has been conducted by simulating the overlay network with QualNet from Scalable Network Technologies and benchmarked with other networks.

MODELLING SUSPENDED SEDIMENT TRANSPORT IN MONSOON SEASON: A CASE STUDY OF PAHANG RIVER ESTUARY, PAHANG, MALAYSIA.

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Sediment transport based on two-dimensional real time model in Pahang River Estuary, Pahang, Malaysia have been evaluated and verified with time series of tidal elevation, flow and suspended sediment load. Period of modelling was during highest high tide and lowest low tide in Northeast Monsoon (December 2010) and Southwest Monsoon (July 2011). Model verification and validation with satellite data produced significant agreement. Pahang River estuary show ebb-dominated characteristic in Northeast monsoon with higher mean discharge than Southwest monsoon. The average of suspended sediment concentration and suspended sediment load were higher during Northeast monsoon, which increased the sedimentation potentials. Total of suspended sediment load discharged to the South China Sea were higher during Northeast monsoon with 442.55 tonnes/day and 25.28 tonnes/day during Southwest Monsoon. Yearly suspended sediment load estimated approximately 3.33 tonnes/km2/year and 96727.5 tonnes/year of total load. It is found that gradual deposition and erosion in sensitive area corresponded with the amount of suspended sediment load supply. The annual SSL supply need to reached at least 32,120 tonnes/year or 88 tonnes/day for erosion prevention. Thus, Pahang River estuary found to be directly impacted by the monsoon factors especially due to high amount of river discharge and suspended sediment load from catchment areas. This study provides some useful understanding on the hydrodynamic and sediment transport in Pahang River estuary.

MODIFICATION OF ITU-R RAIN FADE SLOPE PREDICTION MODEL BASED ON SATELLITE DATA MEASURED AT KU-BAND IN MALAYSIA

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Rain fade slope is one of fade dynamics behaviour used by system engineers to design fade mitigation techniques (FMT) for space-earth microwave links. Recent measurements found that fade slope prediction model proposed by ITU-R is unable to predict fade slope distribution accurately in tropical regions. Rain fade measurement was conducted in Kuala Lumpur (3.3 N, 101.7 E) where located in heavy rain zone by receiving signal at 10.982 GHz (Ku-band) from MEASAT3 (91.5 E) on 77.4 elevation angle. The measurement has been carried out for one year period. Fade slope S parameter on ITU-R prediction model has been investigated. New parameter is proposed for the fade slope prediction modeling based on measured data at high elevation angle, Ku-band.

MOLECULAR CHARACTERIZATION AND MICROSCOPIC EVALUATION OF TAL AGAINST BACTERIAL ENDOTOXIN

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Endotoxins (chemically known as Lipopolysaccharide) triggers the clot formation in horseshoe crab blood stream when it is accidentally encountered from ambient environment. This natural mechanism has tremendously helped pharmaceutical companies in deriving an active Lysate product (LAL/TAL) from horseshoe crab blood that can eventually quantify the bacterial contamination level in biological samples including drugs. In this paper, we tried to explore 1. the step wise molecular mechanism that triggers the clot formation in Malaysian horseshoe crab (Tachypleus gigas) blood by Phase contrast microscopy and 2. fractionation of reduced (lysated amebocytes of T. gigas) and unreduced (TAL reacted with E. coli reference standard endotoxin) samples using 10% SDS-PAGE. The results showed that the end product (Tachypleus Amebocyte Lysate) derived from Malaysian horseshoe crab (T.gigas) is active against bacterial endotoxin.

MULTI-DIRECTIONAL RADIATION DETECTOR USING PHOTOGRAPHIC FILM

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Environmental radiation is an ionising radiation that present in the natural environment which source are mostly from cosmic rays and the industrial waste. This may lead the environment and the population to be exposed to ionising radiation. Therefore, the environmental radiation needs to be observed cautiously to minimize the ionising radiation impact that may harm the environment and human health. In order to monitor the radiation; there are three main points that should observe cautiously which are; energy, quantity and position or location of the radiation sources. Currently, there are a few devices available in the market to monitor an outdoor environmental radiation. However, the device cost is high and it is quite complicated to use. In addition, most of them can only be used to detect the energy and quantity of the radiation except the position of radiation sources. For that reason, a new low cost and easy to use outdoor environmental radiation monitoring device with a multidirectional ability need to be developed. Therefore, a photographic film will be used as a radiation sensitive material. Hence this invention is designed to develop the covered photographic film attached with variable filter with a multidirectional ability that can be used to develop an environmental radiation monitoring device for detecting the ionising radiation.

MULTI-LEVEL DC-AC INVERTER FOR GRID-TIED RENEWABLE ENERGYSYSTEMS

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This Poster presents a single-phase 50Hz transformer-less PWM-operated Grid tied inverter for renewable energy systems

MUTAGENESIS OF CYANOBACTERIA FOR HIGHER CO2 UPTAKE AND VALUE ADDED PRODUCTS

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Microalgae have attracted a great deal of attention for carbon dioxide (CO2) bio-fixation. In order to reduce atmospheric concentration of CO2, biological method of mitigation of CO2 has been introduced as a sustainable approach for greenhouse effect. Mutagenesis on cyanobacteria has been performed to enhance carbon dioxide (CO2) bio-mitigation. Chemical mutagenesis by ethyl methanesulfonate (EMS) was conducted in this study on marine microalgae strain Synechococcus PCC 7002. In this study, two different concentrations of EMS; 0.01 M and 0.40 M; were introduced. Two types of mutant strain; M1 (0.01 M EMS); M2 (0.40 M) had been produced by chemical mutagenesis. The mutants were supplied with 15% of CO2 to measure the CO2 uptake by the cells. All strains were maintained at 40oC under a 12h/12h (light/dark) cycle and illumination of 2500 lux. A comparison of CO2 uptake was measured followed by specific growth rate; optical density (OD), carbohydrate analysis and total lipid. Based on the obtained result, M1 showed high CO2 uptake compared to wild and M2 strain. Besides, M1 has highest specific growth rate (0.0007 h-1) and total lipid (49.67 mg/mL). While M1 produced high carbohydrate (145.78 mg/L) compared to others.

NAOH MODIFIED BANANA PEEL POWDER AS ADSORBENT IN REMOVING PB AND CU FROM AQUEOUS SOLUTION

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ABSTRACT Wastewater originated from industries has a potential hazard for our environment because of introducing various contaminants such as heavy metals into soil and aquatic environment. Wastes are also produced in large quantity from agro-based industries such as fruit peels and seeds. This study was conducted for the removal of heavy metals including Pb and Cu from aqueous solution using banana peels as natural bioadsorbent. Banana peel is considered as an agricultural waste which causes much disposal problem but could be utilized as low cost adsorbent to remove heavy metal from aqueous solution. Adsorption capability of banana peel is evaluated in removing Pb and Cu from aqueous solution. The banana peel is chemically modified (BPPT) by treating it with 0.1 M sodium hydroxide. This is to examine the improvement in the adsorption capacity compared to the untreated form (BPPU). Parameters such as adsorbent mass, initial pH, initial concentration and contact time were tested. The adsorbent mass with the highest adsorption capacity for both Pb and Cu were 0.9 g. As for effect of pH, adsorption of Pb was favourable at pH 7 and Cu at pH 9. For effect of concentration and contact time, maximum adsorption is achieved at 4 mg/L at 120 min for untreated Pb and 6 mg/L at 150 min for treated Pb. As for Cu, both untreated and treated adsorbent achieved highest adsorption rate at concentration 2 mg/L with contact time of 120 min. Scanning Electron Microscopy is used to observe the difference in morphology of the peel between BPPT and BPPU and before and after adsorption. FT-IR is used to determine the functional groups present in it which is responsible for the adsorption process. Equilibrium data of both metal were well fitted with the Langmuir and Freundlich isotherm with (R20.99). Overall BPPT proved to have higher adsorption capacity than BPPU . BPPT gives the highest maximum coverage capacity (Qo) for Pb adsorption with 89.286 mg/g and 5.720 mg/g for Cu in a favourable condition. In general banana peel is able to act as adsorbent to remove heavy metals from aqueous solution. Keywords: Adsorbent, Banana peel powder, heavy metals

NON-INVASIVE, NON-CONTACT EMOTION IDENTIFICATION SYSTEM

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In the 21st century, there will be more robotic systems developed either to complement or totally replace the jobs previously done by the human. The robotic systems can works with high precision and accuracy, however many do not have ways to incorporate and respond to emotions. The efficacy of the system is further reduced if the robotic system has to take commands from human in order to operate. Existing identification systems have two major weaknesses : 1). The identification is limited to group of people (i.e. demography etc) 2). The hassle to wear the sensor system by the user Thus, the emotion identification system developed can be used throughout wider range of human population as well as its hassle free as there wont be any sensors attached to the body of the human subject. The identification of the emotion is deduced from the measured electromagnetic signals radiated from the human body. The results obtained from a series of experiments show promising trends where the system is able to classify the type of emotions with high accuracy.

NONORTHOGONAL UNITARIES IN TWO-WAY QUANTUM KEY DISTRIBUTION

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Two-way Quantum Key Distribution (QKD) schemes commonly make use of a set of unitaries corresponding to binary encodings which can in principle be distinguished perfectly. In this work, inline with the proposal in Chiribella et al. (2008) [13], we introduce a non-entangled two-way QKD scheme with two sets of unitaries of which the elements in one set can be viewed as nonorthogonal to elements in the other with the aim of naturally suppressing an eavesdroppers information to provide for a higher security threshold. Security analysis is done in the context of individual attack strategies for a quick comparison with the conventional two-way QKD scheme. This poster is derived mainly from excerpts from J.S.Shaari, Physics Letters A 378 (2014) 863868.

NOVEL CAROTENOIDS FROM LOCAL SWEET POTATO (IPOMOEA BATATAS) FLESH TUBERS

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Sweet potato (Iopomea batatas) or locally known in Malaysia as KELEDEK, is considered as one of the most important food crops in the world. Sweet potato is rich withcarotenoids and pro-Vitamin A. Carotenoids are antioxidants with pharmaceutical potential as well as food science and technology, medicine, pharmacy and nutrition for more than a century. This study was conducted to verify the high nutritional value of Malaysian sweet potatoes by identifying and comparing carotenoids composition quantitatively and qualitatively in orange, yellow, purple and white sweet potato tuber flesh colors from different locality in Malaysia namely Kelantan, Terengganu, Pahang and Selangor. HPLC analysis established that orange tuber flesh from all localities were detected with substantially highest total carotenoid content. Among the four localities orange flesh tuber from Kelantan showed the highest total carotenoid followed by Pahang, Selangor and Terengganu. In term of individual carotenoids only 3 types of carotenoid detected namely lutein, zeaxanthin and -carotene. -carotene and zeaxanthin content were detected highest in Kelantan orange sweet potato with 1331.150.49 g/g DW and 4020.92 g/g DW respectively. Whereas lutein was found only in Terengganu OSP with value of (11.890.07) g/g DW. Interestingly carotenoid profiles for orange fresh tubers from 4 localities demonstrated marked differences in individual carotenoids composition. In general, from the above comparison individual carotenoid pigments and total carotenoid content can differ with type of sweet potatoes flesh tuber colour, location or environment.

NOVEL PROCESS DEVELOPMENT FOR FREE RADICAL SCAVENGER FROM SELECTED PLANTS

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One of the best ways to protect our body against oxidative stress is by neutralizing the free radicals which can be done by consuming natural antioxidants like herbal plants. The consumptions of vegetable and fruits in the diet can protect the body from dangerous diseases. In the present study, antioxidant compounds were extracted from the three combinations (20%:40%:40%, 40%:20%:40%, 40%:40%:20%) of three herbal plants which are pegaga (Centella asiatica), mas cotek (Ficus deltoidea) and drumstick tree (Moringa oleifera) respectively. Combination 1 shows the highest antioxidant properties while ethanol was found to be the best solvent for extraction. The optimization process which involving three factors (extraction temperature, time and agitation speed) shows that under optimum conditions, the total phenolic content (TPC) is 627.86 mg/L GAE. 2,2-diphenyl-picrylhydrazyl (DPPH) assay and Ferric Reducing Antioxidant Power (FRAP) under these conditions were found to be 86.39% and 1.66 mM Fe(II)/L respectively.

NOVEL REAL TIME SNATCH ROBBERY ACTIVITY DETECTION AND PREDICTION FOR SMART SURVEILLANCE SYSTEM

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One of the National Key Result Areas (NKRA) under the Government Transformation Programme (GTP) is to reduce the crime rate. It is well known that, snatch robbery is becoming more prevalent and growing crime activity in Malaysia and a measure must be taken to reduce it. On the other hand, CCTVs or surveillance system are becoming more common in Malaysia. Many areas such as banks, shop areas, pedestrian streets and many more areas are monitored by the CCTVs. Moreover, the surveillance systems are getting cheaper nowadays, making it easily deployable. Unfortunately having human to monitor the video feed is very costly and inefficient. Human tends to become bored due to the dull nature of the monitoring activity. In our past research, we have designed and developed a smart surveillance system where monitoring of video footage was done autonomously by the surveillance system. Early autonomous detection and prediction of snatch robbery can help to stop the crime from progressing. Hence, we aim to extend our research so that snatch robbery activity can be automatically detected and predicted in real-time. The output of the research would be a smart surveillance system that can quickly alert nearby enforcers and supply them with the visual tag of snatch robbers such as their plate number, faces or clothing. Unfortunately, to produce a robust and real-time detection and prediction algorithms of snatch robbery activity is not a trivial task. Even for a human being, identifying a snatch robbery is not easy and, predicting it, is even more difficult. Moreover, unlike detection on a single frame, detection and prediction of an event such as snatch robbery requires a number of features to be sampled in temporal space which makes it more difficult for real-time implementation. Therefore, an extensive fundamental research on novel method to robustly detect and predict the snatch robbery activity in real-time must be conducted. Possible visual cues or features of snatch robbery behavior need to be identified and optimal artificial intelligence algorithms for detection and prediction must be investigated and developed. Our proposed research methodology is (1) to survey the literature on related research, (2) to collect and analyze video data of snatch robbery, (3) to identify and extract useful visual feature of snatch robbery, (4) to develop the snatch theft detection and prediction algorithms, and (5) to integrate the developed algorithm onto smart camera system.

OPTIMIZATION OF A CO2 BACKPULSING METHOD FOR INCREASING THE PERMEATE FLUX IN COLD MICROFILTRATION OF SKIM MILK: A PILOT-SCALE STUDY

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The major challenge associated with cold microfiltration (MF) of skim milk is the decrease in permeate flux, caused by fouling. To address this, a novel CO2 backpulsing technique capable to counteract membrane fouling was developed and optimized. Five portable CO2 backpulsing ports were attached to the membrane housing. Five different combinations of CO2 backpulsing frequencies and durations were tested. The MF experiments were performed at a temperature of 6 1C, a cross-flow velocity of 3.8 m/s and a transmembrane pressure of 83 kPa. A series of 45 min experiments were first performed. The combination of 3 ports at 120s frequency with 1s duration (120s/1s) produced the highest flux: 46.09 L/m2h at 45 min. In a series of three hour MF runs, permeate flux from the treatments with 3 ports at 120s/1s and 5 ports at 180s/1s was significantly higher than for the control. After 3 h, the flux for the control was 25.85 0.99 L/m2h, while for the optimized CO2 backpulsing experiment, a flux of 30.02 0.48 L/m2h was obtained. In addition, a smaller drop in flux was observed for the optimized CO2 backpulsing run (15.57% after 3 h) as compared to the control (29.83% after 3 h). Furthermore, the protein transmission into permeate was also the highest in treatment of the 3 ports at 120s/1s. Another study was conducted to evaluate the performances of optimized MF and control at a higher cross-flow velocity (6 m/s). The permeate flux after 3 h for the optimized MF was 82.32 4.42 L/m2h while for control was 71.39 4.21 L/m2h. The developed CO2 backpulsing technique is an efficient and affordable solution to mitigate fouling and thus increase the permeate flux in cold MF of skim milk, and could also be applied to other cold microfiltration processes, including filtration of juice, or heat sensitive fluids that require cold processing.

OPTIMUM HEALING SPACES OF PUBLIC AREAS FOR CHILDREN AGED 4 TO 12 IN MALAYSIA HOSPITALS

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Hospitals are evolving to cater its patients needs that emphasis on promotive rather than curative healthcare that should become more patients-centric with greater attention paid especially young patients with families and visitors that come regularly to visit these young patients. This research deals with the possible healing environment that caters children while being hospitalized and children are prone to feel unfamiliar of new surroundings, the environment is scary, depressed and frustrated of being hospitalized. The aim is to understand the characteristic in creating an environment that would decrease children anxiety. The research design will look into a concise area of the public spaces in all the three cases analysed. And method used in this paper is mostly through site visits to the case studies and taken photographs of physical observations at public spaces where the general public would experience the environment. The findings would look into three exemplar hospital design that has expertise on children health care in Malaysia and Singapore. The analysis of the cases data will identify whether these case studies comply with the design characteristic and how can it be improved. In conclusion, the research can give a little contribution in the hospital environment settings and creates exciting hospital that applies also for children.

PARAMETERS SCREENING FOR CO2 BIO-FIXATION USING MUTANT SYNECHOCOCCUS SP. PCC 7002

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An increasing CO2 into atmosphere has led to unbalanced production of CO2 globally. Microalgae biofixation of CO2 by its photosynthesis metabolism process is an encouraging strategy for CO2 mitigation. Synechococcus sp. is an abundant unicellular cyanobacteria and major participants in global carbon cycles. This study was designed to screen parameters that affecting CO2 fixation into cellular biomass via its photosynthesis of mutant Synechococcus sp. (PCC 7002). The effects of four factors; light intensity, temperature, nitrogen-phosphorus-potassium (NPK) fertilizer and NaNO3 concentration were studied by using Design Expert version 8.0. The selected experimental design was Min-Run Res IV which consisted of 12 experimental runs. Approximately, 15% (1) of CO2 was supplied at constant flow rate. From the study, highest CO2 uptake, total carbohydrate, cell dry weight and specific growth rate were obtained from Run 2 with 15.26%, 2.11 g/L, 33.6 g/L and 0.025 /h, respectively. The condition for the run were at temperature of 30C, light intensity of 2500 Lux, NaNO3 concentration of 1 % (w/v) and NPK concentration of 0% (w/v). Highest total lipid of 89.2 mg/L was obtained from Run 6 with light intensity of 3500 Lux. These results indicate that temperature, light intensity, nitrogen sources are important factor that affect growth, dry weight of cell, CO2 uptake and biochemical composition in marine algae Synechococcus sp.

PARAMETRIC EXCITATION OF SOLITONS IN DIPOLAR BOSE-EINSTEIN CONDENSATES

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In this paper, we study the response of a BoseEinstein condensate with strong dipoledipole atomic interactions to periodically varying perturbation. The dynamics is governed by the GrossPitaevskii equation with additional nonlinear term, corresponding to a nonlocal dipolar interactions. The mathematical model, based on the variational approximation, has been developed and applied to parametric excitation of the condensate due to periodically varying coefficient of nonlocal nonlinearity. The model predicts the waveform of solitons in dipolar condensates and describes their small amplitude dynamics quite accurately. Theoretical predictions are verified by numerical simulations of the nonlocal GrossPitaevskii equation and good agreement between them is found. The results can lead to better understanding of the properties of ultra-cold quantum gases where the long-range dipolar atomic interactions dominate the usual contact interactions.

PARAMETRIC STUDIES OF APPROPRIATE PIPE MATERIALS FOR EARTH-AIR PIPE HEAT EXCHANGER (EAPHE) SYSTEM FOR THERMAL COOLING AND ENERGY CONSERVATION

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The implementation of the earth-air pipe heat exchanger (EAPHE) system as a passive cooling technology for both residential and commercial buildings in the hot humid climate of Malaysia is relatively new. To date this technology has not been implemented in Malaysia, although it is proven in many studies particularly in drier climates, that it has the potential to reduce energy consumption for passive cooling. Studies by local researchers on EAPHE are also limited as a passive cooling system for the country. Thinner on the ground are the potentials of the appropriate pipe materials for the EAPHE system. The research intents to find the most appropriate pipe materials that will predict the optimum air temperature reduction through parametric studies for achieving thermal comfort. The study utilizes the Energy Plus simulation program to investigate the performances of three pipe materials system: single pipe material, hybrid pipes and insulated hybrid pipes system. Through an exhaustive enumeration process the study found that the insulated hybrid pipes system reduces the air at the outlet with a 3C difference than at the inlet indicating promising cooling and energy savings potentials.

PHOSPHORIC ACID ACTIVATED CARBON AS BORDERLINE AND SOFT METAL IONS SCAVENGER

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Three activated carbons have been prepared, two from oil palm shell and one from coconut shell, by phosphoric acid activation process. Adsorption isotherms of copper(II) were determined to evaluate and compare the performance of experimental carbons. The obtained data are fitted very well to Langmuir and Freundlich adsorption models. All prepared activated carbons show 4-7 fold high adsorption capacity (qmax 19.523/18.6-21 mg.g-1) than that of the commercial one (qmax 5.6/2.9 mg.g-1) under the conducted experimental conditions. The mechanism of adsorption was evaluated from the competitive adsorption of copper(II) and calcium(II) in a binary solution depending on their behaviour as Lewis acid and assessed as inner-sphere complexation. The competitive adsorption of copper(II) with other borderline and soft metal ions was evaluated by the best scavenger using a solution of ternary solute of copper(II), nickel(II) and lead(II). The adsorption selectivity order is determined as follows: Cu¿Pb¿¿Ni. It was also, tested in vitro to determine its adsorbing capacity for paraquat as a toxin. For optimum adsorption ability of activated carbon for paraquat, 0.9% NaCl solution is the most suitable solvent. The paraquat preferentially adsorbed onto the activated carbon in NaCl solution. The adsorption ability of the activated carbon (the amount adsorbed) for paraquat observed to be 99.9 mg g-1.

PHOTOTROPHIC BACTERIA: POTENTIAL FISH FEED SUPPLEMENT IN AQUACULTURE INDUSTRY

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Tor tambroides (Kelah) is the most expensive fresh water fishes in South-east Asian countries. In fact the survival and growth of infant to juvenile of this fish still not satisfactory by using commercial feeds alone at different treatments. Carotenoids are structurally diverse pigments that bring out the biotechnological interest as natural colorants and in the prevention diseases to human and animal. It has been used extensively in pharmaceutical, aquaculture and animal feed industries. Based on above perspectives, this study was aimed to determine whether dietary carotenoid supplement from phototrophic bacteria, which are Marichromatium sp. and Rhodopseudomonas sp. could enhance the growth and survival of Tor tambroides, freshwater fish. The bacteria Marichromatium sp. was isolated from the mangrove sediments, Kuantan Pahang. While Rhodopseudomonas sp. was collected from fish rearing tanks Institute of Oceanography and Maritime Studies (INOCEM) IIUM. The bacteria were cultivated and monitored by using 112 media under anaerobic light conditions at 2500-lux light intensity of continuous illumination of 60-watt tungsten bulb at 302C. Spirilloxanthin series contain in the both bacteria as carotenoid pigment were supplemented in the fish diet and a commercial pellet without carotenoid supplement served as control. After 10 weeks of rearing, the fingerling showed a better growth in terms of growth and survival for the diet supplemented with Marichromatium sp.Dry cell weight of Phototrophic bacteria has shown significantly higher compared to commercial fish feed (P¡0.001) which shows these bacterial cells have physiologically active substances/chemicals/carotenoids that act as probionts. Consistent in good water quality, higher percentage of survival and growth reveals that the phototrophic bacterial diet can be used as feed supplement and alternate therapy by replacing antibiotics in fish feed additives.

PORTABLE FINGERPRINT ATTENDANCE SYSTEM

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Students attendance can be a representation that display their credibility and commitment in performing their life as a knowledge seeker. In most cases, students attendance is taken by signatures. The problem with this method is that the authorities are easily hoodwinked with fake signature or "ghost attendance". Students who are absent from the classes received help from their colleagues to sign the attendance sheet for them. Therefore, to reduce problems that involve dishonesty among students, a portable system equipped with a fingerprint based biometric technique to record the attendance is introduced.

PORTABLE SHOE TYING AUTOMATIC ROBOT (P-STAR)

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Robotic hand is used widely in industrial for many applications for example pick and place, drilling, dispensing and etc. Robotic hand is very important in our life because it can do task that human being cannot do such as lifting a heavy object. However most of the previous robotic hand is just a mechanism designed to accomplish the desired task. Recently, engineers focus more on the development of robots with both appearance and functionality that are close to human being. Therefore this research focuses on the development of robotic hand that has a close appearance as human hand to perform shoe-tying task.

POTENTIAL OF CINNAMOMUM BURMANNIIS ESSENTIAL OIL & CINNAMALDEHYDE AS ANTIBACTERIAL AGENT: MODE OF ACTION AND SYNERGY EFFECT

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Cinnamomum burmannii is one of the species in Cinnamomum genus and belongs to the Lauraceae family. The aims of the present study were to investigate the antibacterial activity of essential oil and its major compound, cinnamaldehyde as well as to examine their synergic effect when combined with current antibiotics. This study also aimed to study their mode of action against S. aureus. Steam distillation was used for the extraction of essential oil. The isolation of active compound from the essential oil was carried out using column chromatography and the characterization of the compound was analyzed using spectroscopic techniques. Minimum Inhibitory Concentration (MIC) was determined against Staphylococcus aureus. Synergic effect was tested upon combination of essential oil as well as cinnamaldehyde with antibiotics such as ampicillin, chloramphenicol and streptomycin against S. aureus using micro-dilution methods. There were four modes of action tested, which included time-killing assay, salt tolerance assay, crystal violet assay, and leakage of cellular metabolites. The MIC value of essential oil and cinnamaldehyde was found at concentration of 0.33 mg/mL. The Fractional Inhibitory Concentration (FIC) index upon combination was in the range of 1 ¡ FIC Index 2 and evaluated as indifference effect. The antibacterial action on the cell membrane was dose-dependent whereby stronger action was observed by cinnamaldehyde at concentration equal to 4MIC (1.33 mg/mL) as compared to the essential oil. The present study was able to clarify the crucial role of cinnamaldehyde as a potent antibacterial compound of the cinnamon essential oil and proven to act on the cell membrane of S. aureus.

PREDICTION OF SURFACE ROUGHNESS IN CNC HSHT USING ELM AND FUZZY SET

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Surface roughness plays an important role in the final quality of the machining parts. Therefore, predicting and simulating the roughness before the machining process is an important issue. The purpose of this research is to develop a reliable model for predicting and simulating the average surface roughness (Ra) in high speed hard turning. An experimental investigation was conducted to predict the surface roughness in the finish hard turning with higher cutting speed. A set of sparse experimental data for finish turning of hardened steel (AISI 4340) and mixed ceramic inserts made up of aluminum oxide and titanium carbide were used as work piece and cutting tools materials. Three different models for the surface roughness were developed by using regression analysis and artificial neural network techniques. Two Full factorial Design experiment was conducted . Moreover, the extreme learning machine(ELM) and the Fuzzy modeling using ANFIS conducted to estimate the roughness. The adaptive-network-based fuzzy inference system (ANFIS) was found to be capable of better predictions for surface roughness within the range that they had been trained.

PRELIMINARY MORPHOLOGICAL EVALUATION OF STEVIA REBAUDIANA BERTONI ACCESSIONS IN IIUMS GERMPLASM

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Stevia rebaudiana Bertoni, belonging to the family Compositae, has a long and successful history of use as a commercial sweetening agent. Stevia originated from Paraguay and it was first introduced into Malaysia in 1970s. The sweetening agents are the steviol glycosides which are 150 to 350 times sweeter than sugar, and are present in the leaves at 12-20% of dry weight. Stevia is a self-incompatible plant and the pollination is assisted by insect. Currently in IIUMs germplasm collection, there are a total of 10 stevia accessions available which are collected from all across Malaysia. Being an introduced species, the number of stevia accessions available is still small, and therefore is inadequate for effective breeding purposes. In order to broaden its genetic base, introductions of exotic accessions have been made which include accessions from Paraguay. Subsequently, three new Paraguayan accessions have been introduced together with four others new stevia accessions collected from various places in Malaysia. Morphological evaluation on these seventeen stevia accessions is substantial as the jumping base before further breeding process can be initiated. All accessions are planted in an experimental plot at IIUM Kuantan, Pahang. Morphological evaluations include plant height, number of branches, number of leaves, leaf size and widest branch. From observation, results showed that accessions MS007 and MS012 have the most promising characteristics in terms of plant height, number of leaves and leaf size which could be exploited for further breeding purposes. However, morphological diversity observed in all seventeen stevia accessions in the germplasm showed a wide genetic variations which would be useful for future hybridisation studies.

PREPARATION OF FLEXIBLE PLA FILMS USING NOVEL PLASTICIZERS

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Most of research attention is focused on the replacement of petro-based commodity plastics by biodegradable polymer with competitive mechanical properties. Poly(lactic acid) (PLA) is produced from renewable resources and is readily biodegradable. Due to the brittleness of PLA, it has limited usage in the packaging and structural applications which require flexibility. In this study, novel type plasticized PLA films were prepared. The plasticized PLA was mixed with 3-amino-1,2,4-triazole (ATA) in an internal mixer. The mechanical studies revealed the elongation is increased significantly with small amount of ATA accompanied with whitening and the modulus is decreased. Melt rheological analysis showed that viscosity increased with content of ATA. This can be concluded that the plasticizer has effect in increasing the flexibility of the brittle PLA.

PREPARATION, CHARACTERIZATION, AND SWELLING BEHAVIOUR OF SUPERABSORBENT HYDROGELS FROM REFINED AND SEMI-REFINED KAPPA CARRAGEENAN CROSSLINKED WITH ACRYLIC ACID

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This study is to promote the use of natural-based polymeric material which is semi-refined kappa carrageenan (SRC) in the preparation of superabsorbent polymer (SAP) which is easier and cheaper compared to pure kappa carrageenan (C). SRC as the main part of the natural-based hydrogel and acrylic acid (AA) were crosslinking through graft copolymerization method to produce SAP. Grafting conditions that influence the swelling of the superabsorbent such as the amount of monomer, initiator, crosslinker and NaOH concentrations were optimized to achieve semi-refined kappa carrageenan-graft-polyacrylic acid (SRC-g-PAA) hydrogel with high water absorbency. FTIR spectroscopy was carried out to identify the functional groups and crosslinking of the hydrogels. The IR spectrum of the partial hydrolysis of SRC-g-PAA acid in showed there were new absorption bands at1557.67, 1452.23 and 1403.77 cm-1. These peaks attributed to symmetric and asymmetric stretching mode of carboxylate group, respectively. The maximum swelling capacity of SRC-g-PAA (251.14 g/g) in water was achieved under optimum conditions. The swelling measurements in different aqueous solutions were studied by comparing the swelling capacity of the SRC-g-PAA with the commercial polyacrylate and pure kappa carrageenan-graft-polyacrylic acid (C-g-PAA) hydrogels. Two-Way ANOVA statistical method was used to make a comparison between the commercial polyacrylate SAP hydrogel and the experimental products. The statistical analysis showed there were significant interaction between the various pH solutions and the hydrogels, on the water absorbency (p¿0.05). Furthermore, there were significant interactions between the distilled water, synthetic urine and synthetic serum solutions on the water absorbency (p¿0.05). Therefore, it can be concluded that SR C-g-PAA hydrogel has the capability to absorb water as comparable to the C-g-PAA and commercial polyacrylate SAP hydrogels

PRODUCTION OF ARTIFICIAL PHYTOREMEDIATION AGENT FOR INORGANIC POLLUTANTS

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The innovation in biotechnologies field allow plants to be germinated with more efficient way as to produce an eco-friendly and cost effective product to be applied in green technologies. Aquatic macrophytes known as a good accumulator for heavy metals in phytotechnologies approach since the last decades. Therefore the study aimed to produce artificial phytoremediation agent to assess the heavy metals sequestration rate in water pollution. The seeds were produced using two aquatic free floating plants which are Salvinia natans and Lemna minor. Both of the artificial phytoremediation agents were then exposed to three types of heavy metal (Fe, Cu and Zn) respectively. All heavy metals concentrations were analyzed through Hach DR5000 spectrophotometer. Among three types of heavy metal experimented, Salvinia natans capable to sequester Fe, Cu and Zn at 0.021mg/L, 0.007mg/L and 0.087mg/L where as Lemna minor capable to sequester Fe, Cu and Zn at 1.343mg/L, 0.257mg/L and 0.171mg/L respectively. Artificial phytoremediation agents required for Salvinia natans and Lemna minor to treat inorganic pollutants are 50 beads/L and 200 beads/L accordingly. Therefore both can be applied as high potential product to remove heavy metals from unhealthy freshwater .

PRODUCTION OF CAROTENOID-RICH EDIBLE BIRD NEST FROM HALAL FOOD COLORANT

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Combined efforts following the announcement of two National Key Economic Areas (NKEAs) in healthcare and agricultural sectors promotes comprehensive exploitation of Malaysias mega-biodiversity to develop pharmaceuticals, nutraceuticals, cosmeceuticals, functional foods and related products from natural resources. Additionally, it has been seen that halal products are gaining extended recognition as a new benchmark for safety measure and quality assurance especially among the Muslim consumers. In this preliminary study, we established a series of phytochemical extraction and purification procedures to draw out a group of plant pigments (collectively known as carotenoids) from vegetable waste. The extracted carotenoids seems to pose high potency to be introduced as halal natural food colorants. The extracted coloring additives were then being incorporated into the edible bird nest which was initially white in color. Here, we could conclude that these targeted yellow-to-red biocolorant can be further developed prior to commercialisation especially in the halal market for coloring products as well as pharmaceutical ingredients. The significant outcome of this research will be a new discovery of food colorants and active pharmaceutical ingredients from our natural resources which are compliant in accordance to shariah law, at the same time being nutritious, hygienic and safe for human consumption as compared to synthetic ingredients

PRODUCTION OF L-ASPARAGINASE FROM ISOLATED BACTERIA OBTAINED FROM LOCAL HOT SPRING

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L-asparaginase has been preferred in this study because of their wide range applications in medical and food industry. The first part of this project was isolation of bacteria producing L-asparaginase from Sg. Klah Hot Spring water sample. The isolated bacteria producing the desired enzyme were identified as Acinetobacter baumanni HSS2 and Actinobacillus capsulatus. In broth studies, Acinetobacter baumanni.HSS2 showed a good growth and the highest L-asparaginase concentration(15.88 g/ml).This strain was selected for optimization of L-asparaginase production. Central Composite Face Centered (CCFM) design was used to design the experiment for optimization of culture conditions. The highest specific L-asparaginase activity obtained was 221.20 U/mg with the agitation rate at 250 rpm, pH of 8 and 2% of inoculums size. Based on ANOVA analysis, the most influences factors for the maximum enzyme production were pH and inoculums size. Higher pH value (more alkaline) and lower amount of inoculum resulted better L-asparaginase activity. Agitation rate had no effect on the enzyme production.

PRODUCTION OF MULTI-CROSS LINKED ENZYME AGGREGATES FROM CHANNEL CATFISH (ICTALURUS PUNCTATUS) VISCERA

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Cross-linked enzyme technology (CLEA) is a promising immobilization technology that replaces the known conventional methods with higher enzyme activity, recyclability and stability. Fish viscera is considered as a high potential by-product rich with many enzymes of industrial uses. In this study, existence of various hydrolases were studied. Protease and lipase were selected for their high activity to be immobilized using CLEA technology. The multi-CLEA produced was evaluated for its pH and thermal stability, it can be recycled for up to 6 cycles while maintain 28% of its activity.

PRODUCTION OF ROBUST CROSS-LINKED ENZYME AGGREGATE (CLEA) LIPASE FROM WASTEFUL COCOA POD HUSK

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Cross-linked enzyme aggregate (CLEA), a new method of carrier-free enzyme immobilization has many advantages and considered as an economical method in the context of industrial biocatalysis. In this research, a highly active and stable CLEA-lipase has been successfully prepared from cocoa pod husk (CPH), a by-product of the cocoa industry. Based on the Face Centered Central Composite Design (FCCCD) under Response Surface Methodology (RSM) using three important parameters, the optimal preparation condition of CLEA-lipase shows that the highest activity achieved is 9.407U or 83% of the activity of the free lipase. It was prepared using 20% saturated (NH4)2SO4 as the precipitant, 60 mM glutaraldehyde as the cross-linker and 0.169 mM BSA as the feeder. The optimal reaction temperature and pH for both CLEA-lipase and free lipase differed, where they were 60C and 8.2 and 45C and 8 respectively. A systematic study of temperature and pH stability showed that CLEA-lipase is more stable than free lipase. Results also show that the prepared CLEA-lipase retained more than 50% of the initial activity after five repeated runs. The observed high stability and recyclability of CLEA-lipase prepared from CPH demonstrated that it has potential to be used in different industrial applications.

PRODUCTION OF ZINC NANOPARTICLES USING ASPERGILLUS NIGER

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A simple method for the production of zinc nanoparticles is described. Zinc nanoparticles were produced using Aspergillus niger and zinc sulfate. One at a time optimization method (OFAT) was used to determine microbe's biomass, salt concentration and temperature that will affect the zinc nanoparticles production. The zinc nanoparticles were partially characterized visually as well as using SEM and TEM.

QUANTITATIVE PROTEIN EXPRESSION STUDY OF MALAYSIA BROILERS AND ORGANIC CHICKEN LIVER

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Antibiotic treatment is one of the methods used in animal farming. Most of it was given to treat disease and increase growth in animal. Despite its benefit, there are concerns about the residue of antibiotic resistance and toxicity. The purpose of this study is to analyse the protein expression of chicken liver tissue between antibiotic treated and non-antibiotic treated chicken by using proteomics analyses. Two types of sample were examined, antibiotic treated chicken liver and non-antibiotic chicken liver. The concentration between two types of sample were obtained using Bradford assay. Protein expressions of the samples were examined by using isoelectric focusing and two-dimensional gel electrophoresis. The mean protein concentration of antibiotic treated chicken liver is 12.94 g/L, which is lower than the mean concentration of protein for non-antibiotic treated chicken liver (15.003 g/L). It was found that proteins with molecular weight of 37 kDa were expressed in higher intensity in antibiotic chicken liver compared to non-antibiotic treated chicken liver. There are protein spots present on the gel near pH 5 with molecular weight of 55 kDa and 75 kDa in antibiotic chicken liver in 2D gel electrophoresis but absent in non-antibiotic chicken liver. The possible candidate for the protein spots are glucose-regulated protein (GRP-78) and calreticulin for molecular weight 75 kDa and 55 kDa respectively when matched with ExPASy SWISS-2DPAGE database. The presence of GRP-78 and calreticulin in antibiotic treated chicken liver sample may indicate the damaging of the liver tissue because of the antibiotic administration.

QUASI QUANTUM QUADRATIC OPERATORS ON M_2(C)

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We study quasi-quantum quadratic operators (quasi-QQO) acting on the algebra of 22 matrices M2(C). It is known that a channel is called pure if it sends pure states to pure ones. In this work, we introduce a weaker condition for the channel called q-purity. To study q-pure channels, we concentrate on quasi-QQO acting on M2(C). We describe all trace-preserving quasi-QQO on M2(C), which allows us to prove that if a trace-preserving symmetric quasi-QQO is such that the corresponding quadratic operator is linear, then its q-purity implies its positivity. If a symmetric quasi-QQO has a Haar state, then its corresponding quadratic operator is nonlinear, and it is proved that such q-pure symmetric quasi-QQO cannot be positive. We think that such a result will allow one to check whether a given mapping from M2(C) to M2(C) M2(C) is pure or not. On the other hand, our study is related to the construction of pure quantum nonlinear channels. Moreover, we also indicate that nonlinear dynamics associated with pure quasi-QQO may have different kind of dynamics, i.e. it may behave chaotically or trivially.

RADIATION HARDNESS OF GAN/INGAN AND QUANTUM DOT-IN-A-WELL (DWELL) DIODES

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Despite of their useful optoelectronics functions, Gallium nitride (GaN) and quantum dot (QD) based structures are also known for their radiation hardness properties. With demands on such material structures, it is vital to compare the hardness properties between these two devices. For this purpose, three sets of GaN LED samples and InAs/GaAs DWELL samples were irradiated with thermal neutron of fluence ranging from 31013 to 61014 neutron/cm2 in PUSPATI TRIGA research reactor. The radiation tolerance of each types of device was evaluated based on their electrical characteristics. Results from the I-V characteristics indicate no significant changes in the leakage current of the GaN samples both in forward-bias as well as reverse-bias after a maximum neutron irradiation of 91014 neutron/cm2. However, the leakage current is observed to increase by up to 2 orders of magnitude for the DWELL samples after being irradiated to 91013 neutron/cm2.Other increment include the resistance value of the DWELL samples from 0.015ohm to 0.05ohm due to carrier removal effect and the Neutron Transmutation Doping (NTD) effect.

RAPID DETECTION OF SOAP AS IMPURITY IN BIODIESEL

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A new analytical method was developed for the determination of soap in biodiesel by FTIR spectroscopy. Soap from 0 to 80 mg/kg oil was produced in situ in the oils and/or biodiesel by adding sodium hydroxide. The FTIR spectroscopy was with an attenuated total reflectance (ATR) element, and the partial least-squares statistical method was used to calibrate a model. The accuracy of the method was comparable to that of AOCS Method Cc17-95, with coefficients of determination (R2) of 0.98. The standard errors of calibration were 1.73. The calibration models were cross-validated, and the R2 of cross-validation and standard errors of cross validation were computed. The standard deviation of the difference for repeatability of the FTIR method was better than that for the chemical method used for determining soap in biodiesel. With its speed and ease of data manipulation by computer software, FTIR spectroscopy is a possible alternative to the standard wet chemical methods for rapid (2 min) and accurate routine determination of soap as contaminant impurity that may be produced during biodiesel interesterification due to incidence of using alkaline catalyst.

RARE EARTH ELEMENTS (REES) ACCUMULATION IN DIFFERENT TYPES OF ROCKY SHORE ORGANISMS

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Interspecies and interspatial variations of rare earth elements (REEs) in soft tissue of Saccostrea cucullata, Thais clavigera and Nerita chameleon from 17 sampling sites along the east coast of Peninsular Malaysia were determined. Significant interspatial variations (p¡0.05 and p¡0.01) in REEs were recorded. Significant positive correlations (p¡0.01) were found among all REEs concentration. Filter feeder S. cucullata is highly potential as bioindicator for REEs due to its feeding behaviour that is much related to particulates as REEs sources. The REEs fractionation patterns normalized to chondrite were remarkably similar indicating a common source of the REEs for the whole east coast region. Typical deviations from this pattern were found for Ce and Eu and could be explained by their redox chemistry. The ratio of light to heavy REEs, La/Yb in the S. cucullata of 27.3 and T. clavigera of 29.47 are remarkably similar to Terengganu River basin soil of 33.00 and of Terengganu River sediment of 27.60 while N. chameleon shows slightly lower ratios (22.29).

REACHING A CONSENSUS IN MULTI-AGENT SYSTEMS: A NONLINEAR PROTOCOL

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Multi-Agent Systems (MAS) give a complete description for large-scale systems consisting of small subunits, called agents. The behavior of MAS is particularly interesting because the agents may fulfill certain tasks as a group, even in the individual agent does not know about the overall task. MAS have attracted more and more interest in recent years. A lot of examples come from nature, such as schooling fishes or fireflies flashing in unison. A collective behavior is also interesting for engineers when solving problems such as flocking or synchronization. This is mainly due to its important applications, including the cooperative control of unmanned air vehicles (UAVs), autonomous underwater vehicles, congestion control in communication networks, swarms of autonomous vehicles or robots, autonomous formation fight, etc. In all cases the goal is to control a group of agents connected through a communication network to reach an agreement on certain quantities of interest. This problem is called the consensus problem. Most researches in the study of discrete-time MAS, presented in the past few years, have considered linear cooperative rules. However, local interactions between agents are more likely to be governed by nonlinear rules. In this poster, we investigate the consensus of discrete-time MAS with time invariant/varying nonlinear cooperative rules. Based on our presented nonlinear model, we show a consensus in the discrete-time MAS. Our model generalizes a classical time invariant DeGroot model. It seems that, unlike a linear case, a consensus can be easily achieved a nonlinear case.

SALICYLIC ACID ALLEVIATES PB TOXICITY IN NICOTIANA TABACUM

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Lead (Pb) is a persistent and widespread environmental toxicant which becomes one of the major environmental problems nowadays. Phytoremediation is a promising technology to clean up Pb contaminant attributing to the ability of plants to accumulate metal in the above-ground part. However, since Pb is a non-essential element, it excessively increases the production of reactive oxygen species, causing oxidative damage in plants. Investigation on compounds capable of reducing Pb-induce oxidative damage would increase Pb tolerance in plants used for phytoremediation. Recent studies have shown that SA has the ability to reverse the effect of oxidative damage in plants. SA has many physiological roles in plants. It is involved in regulation of plant hormone, growth and development including photosynthesis and respiration. SA was found to reverse cadmium (Cd) toxicity in soybean, reduce Cd accumulation in Oriza sativa and lower lipid peroxidation and concentration of hydrogen peroxide and superoxide radical. It is likely that SA would reduce Pb-induced oxidative stress in N. tabacum. In this study, the effects of SA on morphology, physiological parameters, and Pb uptake in N. tabacum grown under Pb treatment were evaluated. Firstly, N. tabacum was propagated and then subjected to SA and Pb treatment. Morphology of plants was visually observed and physiological parameters including plant height, root length, and leaf length and width were measured. Pb content in N. tabacum treated with and without SA was determined. SA was found to reverse Pb toxicity in N. tabacum.

SIGNIFICANTLY HIGHER GROWTH RATES OF GROUPER JUVENILES REARED BY A DEMAND FEEDING SYSTEM USING AN INFRARED LIGHT SENSOR

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Demand feeding is a new feeding method in which fish switch on the feeding device when they require food. This feeding method has several advantages, for example, the fish can eat food depending on their appetite, thus minimize feed loss and reduce water pollution. Recently, the most urgent issue facing by the Malaysian aquaculture industry is seed production, especially, groupers. In this study, we developed a new demand feeding device for groupers. This study was conducted to examine the juvenile rearing of orange-spotted grouper, Epinephelus coioides and brown-marbled grouper Epinephelus fuscoguttatus using demand feeding devices. Two types of feeding devices, automatic-timer feeder and demand feeding device were examined in this study. The demand feeding device was developed with an infrared light sensor (infrared light 950 nm) which was located 2 cm below the water surface. A target, which was a red pellet-like knob, was attached near to the infrared light sensor. When fish attacked this target, the sensor detected the fish, and pellets were dispensed from the food container of the demand feeding device. Two experimental groups, automatic-timer feeder (AF) and infrared light sensor demand feeder (IRDF) were set up. The automatic-timer feeder (AF) was setup to dispense 150-170 pellets at 8:00 am and 4:00 pm. The demand feeder (IRDF) was setup to dispense 10-15 pellets each time of fish attack. In the rearing experiment, ten juveniles of each species were kept in a 500 L round polyethylene tank respectively (a total of two tanks, 20 fish). Both tanks were equipped with running water system with water exchange of 90% every morning. Throughout the experiment, fish were exposed to natural photoperiod. Water temperature was 28.0-31.5 C and salinity was 27-28 ppt. The rearing experiment lasted for 25 days. Fish standard length (SL), body weight (BW), and feed conversion ratios (FCR) were compared. Fish growth rates were calculated following this formula ((Final value / Initial value) x 100 100 (%)). Each individual was determined as the same individual following the order of the standard length at the beginning and final. In both grouper species, SL growth rates of IRDF group were significantly higher (p¡0.05) than that of AF group. BW growth rates of both grouper species had no significant difference. FCR were better in IRDF group of both grouper species. This study suggests that the demand feeding device of this study is a suitable feeder for grouper juveniles.

SKIM LATEX SERUM EFFLUENT-AN INEXPENSIVE BASAL MEDIA FOR PROTEASE PRODUCTION BY BACILLUS LICHENIFORMIS

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Globally over 100 millions liters of effluent from rubber factories are generated every day. Microbial proteases prove to be a critical tool to combat the problem of organic waste management. The study was taken up to utilize the abundantly wasteful effluent as a major substrate to produce proteases which is potential in detergent industries. The screening result identified four variables (galactose, skim latex serum effluent, agitation and pH) as the most significant factors and selected for further optimization to enhance protease production using Face Centered Central Composite Design (FCCCD) under Response Surface Methodology (RSM). The protease production was found to increase from 2U/ml to 18.11 U/ml, approximately a nine fold increase as compared to the original medium. Validation of experiment was carried out with 70% (v/v) of skim latex serum effluent to verify the adequacy and accuracy of the model, and the result showed that predicted value agreed well with experimental values. Thus, this study present a novel-economical approach the bioconversion of agro-industries waste for producing a highly marketable proteases enzyme that industrially significant and minimize water pollution released to the environment by latex rubber industries.

SMART PHONE-BASED DIAGNOSIS OF LEUKEMIA USING RADIAL BASIC FUNCTION NETWORK

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Without treatment, leukemia is the major cause of many deaths. Based on statistics it is been realized that leukemia is the fifth and sixth cause of death among men and women in the world [1]. Leukemia is curable if it is detected and treated in the early stages. Therefore, early detection is absolutely essential. Currently, identification of leukemia requires skilled physicians with the help of a set of sophisticated equipment. Diagnosis starts by visual inspection of microscopic images of blood cells. From the identification of blood disorders, it can lead to classification of certain diseases related to blood. Only after diagnosis, suitable treatments can be sought. According to the World Health Organization (WHO), many people in the rural areas usually get diagnosed with leukemia late due to a shortage of health-care professionals and equipment. Therefore, we propose a mobile phone based leukemia detector using a radial basis function network in conjunction with RGB scale-invariant feature transform and shape-context descriptors. We have performed experiments using blood microscopic images from the literature. The proposed system obtained an accuracy rate of 94% in detecting leukemia and classifying the type of leukemia. The satisfactory experimental results demonstrate the efficacy of our framework. The proposed leukemia diagnosis software requires only a mobile phone with an attachable microscopic lens. Since mobile phones are now an every commodity in the world, many poor people in the remote rural areas of under-developed countries will benefit from the proposed leukemia detector.

SMART WHITEBOARD CLEANER

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Whiteboard is an important tool for teachers and lecturers in a classroom. Cleaning whiteboard is an easy task but sometimes can be annoyance when: i. The previous user left without cleaning the board ii. The lecturer has to write a long note where the old note needs to be erased to provide space The user has to spend his precious time to erase the whiteboard so he can continue writing the class notes on the whiteboard. Furthermore at the end of the day after several classes the stain remained from the marker pen usage on the whiteboard becomes more difficult to erase. The system developed has a mechanism to clean the whiteboard automatically during the lecturer, between the lectures and has a timing feature to turn it on.

SURVEY OF ERROR CONTROL CODE ALGORITHM TO IMPROVE BER PERFORMANCE IN OFDM SYSTEM UNDER RAYLEIGH CHANNEL EFFECT

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Orthogonal Frequency Division Multiplexing (OFDM) is one of the promising modulation techniques suitable for high data rates in wireless communication system. OFDM is an effective modulation technique suitable for multipath communication channel and fading environment. However, the existence of Error Control Coding (ECC) in OFDM system is necessary for reliable data transmission. This study aims to show that ECC algorithm can be used to improve BER performance of the OFDM system under Rayleigh Channel consideration. Results are included to show the effect of ECC algorithm towards the BER performance.

SUSTAINABLE ANIMAL FEED SUPPLEMENT FROM FRUIT WASTES

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Bioconversion of fruit wastes to values added product is a new biotechnological approach for the production of animal feed supplements through cultivation of edible fungi. Submerged state bioconversion is method that improves protein of fruit wastes making it useful as animal feed supplement. Phanerochaete chrysosporium (P. chrysosporium), Panus tigrinus (M6) and RO2 were grown on selected fruit wastes (Banana peel, Pineapple peel and Papaya peel). P. chrysosporium improved protein synthesis from 8.3 mg/g to 18.6 mg/g; M6 synthesized 15.4 mg/g while RO2 synthesized 19.9 mg/g from 8.3 mg/g. Mixture of P. chrysosporium and RO2 in the same ratio further increased the protein synthesis to 33.8 mg/g thereby increasing protein by more 2000 folds. Enzyme amylase and cellulase produced in the process also increased as the protein synthesis increased.

SYNTHESIS AND ANTIMICROBIAL ACTIVITY OF METAL NATURAL EXTRACT COMPLEXES

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SYNTHESIS AND ANTIMICROBIAL ACTIVITY OF METAL NATURAL EXTRACT COMPLEXES Siti Aminah Kaida1, Fiona N. F. How1, Deny Susanti Darnis1 and Solachuddin Jauhari Arief Ichwan2 1 Department of Chemistry, Kulliyyah of Science, International Islamic University Malaysia, Jalan Sultan Ahmad Shah,Bandar Indera Mahkota, 25200 Kuantan, Pahang, Malaysia 2 Department of Basic Medical Sciences, Kulliyyah of Dentistry, International Islamic University Malaysia, Jalan Sultan Ahmad Shah,Bandar Indera Mahkota, 25200 Kuantan, Pahang, Malaysia Pluchea indica (L.) less, Clinacanthus nutans and Phyllanthus niruri are traditional herbs that possess excellent biological properties. This research was carried out to synthesize and investigate the antimicrobial activity of metal-natural extract complexes of Pluchea indica (L.) less, Clinacanthus nutans and Phyllanthus niruri. Extracts from leaves of Pluchea indica (L.) less, Clinacanthus nutans and Phyllanthus niruri were synthesized with various transition metal salts to yield metal-natural extract complexes. The antimicrobial activity of the synthesized metal-natural extract complexes were assessed using disc diffusion method against four pathogenic bacteria, Bacillus cereus, Eschericia coli, Pseudomonas aeruginosa and Staphylococcus aureus. It was found that the metal-natural extract complexes were more active against the microorganisms when compared to the crude extracts itself. This study showed the potential of metal-natural extract complexes of Pluchea indica (L.) less, Clinacanthus nutans and Phyllanthus niruri as a potent source of antimicrobial agents that will give contribution to the field of medical and pharmaceutical.

SYNTHESIS, CHARACTERIZATION AND CYTOTOXIC STUDY OF POTASSIUM PHENETHYLDITHIOCARBAMATE AND ITS S-SUBSTITUTED DERIVATIVES

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Synthesis, Characterization and Cytotoxic Study of Potassium Phenethyldithiocarbamate and Its S-substituted Derivatives Fiona N.-F. How, Chemistry, Kulliyyah of Science Rahima Z. A., Biotechnology, Kulliyyah of Science Solachuddin Jauhari Arief Ichwan, Basic Medical Sciences, Kulliyyah of Dentistry Compounds bearing dithiocarbamate moiety are known for its metal chelating ability, stability, with wide range of applications in agriculture, industry, and medicine. However, few studies were reported on the S-substituted derivatives of this type of compounds and their potential cytotoxic activities. Thus in this study, potassium phenethyldithiocarbamate (PE) and its five novel S-substituted derivatives, which are S-benzyl phenethyldithiocarbamate (SBPE), S-2-methylbenzyl phenethyl-dithiocarbamate (S2PE), S-3-methylbenzyl phenethyldithiocarbamate (S3PE), S-4-methylbenzyl phenethyldithiocarbamate (S4PE), and S-naphthalen-2-ylmethyl phenethyldithiocarbamate (SNPE) were synthesized and successfully characterized using typical spectroscopic technique, FT-IR, 1H and 13C NMR.The synthesized compounds were then evaluated for their cytotoxic activities using MTT assay against two human lung cancer cell lines, p53-positive (A549) and p53-negative (H1299). All compounds showed significant cytotoxicity against H1299 cancer cell line, when compared to standard cytotoxic drug, cisplatin, with SBPE was found to be the most potent. However, only PE and SNPE showed some activities against A549 cancer cell line.

SYNTHESIS, CHARACTERIZATION, AND ANTIFUNGAL ACTIVITY OF 4-HALOBENZOYLTHIOUREA BEARING AND -ALANINE

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Thiourea derivatives possess broad biological activities includingantibacterial and antifungal activities (Saeed et al., 2009). Thus, in this study six new 4-halobenzoylthiourea compounds and -alanine with different halogen atom substitutions have been successfully synthesized and characterized using CHNS microelemental analysis and spectroscopic methods including FTIR, UV-Vis, and 1H- & 13C-NMR. Microelemental analysis data of the compounds were in agreement with the calculated values. The FTIR spectra showed the presence of important bands and 1H-NMR and 13C-NMR exhibited the expected chemical shifts. Antifungal screening has been evaluated by zone of inhibition, MIC and MFC studies against C. albicans and T. mentagrophytes. The antifungal activity of the compounds were related to the presence of difference halogen atoms and also due to and -alanine presence in the compounds.

THE DECAY COEFFICIENT OF SOLID WASTES TO BIOFERTILIZER BY SSB (IIUM CASE STUDY)

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The rate at which solid wastes is generated across the globe is currently of great concern due to its social and institutional impacts on the environment and public health. The conventional method of wastes collection and its landfilling or incineration was observed to be unsustainable due to cost, pollution and the environmental effects. In this study, waste inventory was used to evaluate the effect of comingled and source separated solid wastes inside IIUM Gombak Campus, almost around ten tonnes of wastes cost the University around RM 100,000 monthly, approximately more than 85% of the municipal solid waste (MSW) generated in the IIUM Gombak is disposed of in landfills, with the remainder managed via recycling, composting, and combustion. The source separated organic wastes (FW and YT) were composted using selected fungal strains (Phanerochaete chrysosporium, Lentinus tigrinus, Aspergilus niger and Penicillium Spp) in a solid state bioconvers ion process. The physicochemical properties of comingled waste (pH range of 3.83 4.17, COD range of 3431 96650 mg/l COD, EC range of 4.59 16.40 dS/m and BOD5/COD range of 6.7 1 0-3 9.82 10-2 mg/l) indicated it potential for material corrosion, greenhouse gas and primary leachate formation aside from the decrease in the economic value of the waste. The intercepted source separated food and yard trimmings wastes were composted using locally isolated fungal strains (Phanerochaete chrysosporium, Lentinus tigrinus, Aspergilus niger and Penicillium Spp) in two low technology adopted designs (open and close systems) in SSB process. Results obtained at p 005 after pH range of 6.03 7.05, DD range of 9.44 10.12% and C/N ratio range of 16.99 18.20% for the open systems of composting. The closed system indicated relatively lower yield values of percentage decrease in C/N ratio range of 8.60 13.38% and DD range of 6.42 7.57% at pH range of 5.68 6.37. Toxicity and stability of the compost were evaluated with germination index range of 43 105% and EC range of 2.57 3. 17mS/dm for open system while the closed system indicated germination index (GI) range of 46 132% and EC range of 2.72 2.95mS/dm for close system respectively. The decay coefficient was positive in the second order kinetics with R2 values closed to unity for both the opened and closed system. These parameters indicate the viability of the produced compost for large scale production especially with the C/N ratio ¡ 25 and the significant GI value ¿ 100 at harvest. Prediction of the rate of decay coefficient production from bioreactor landfills is important for the optimization of energy recovery and for estimating greenhouse gas emissions.

THE ELECTRONICALLY CONTROL OF CIVIL WORKS FOR INFRASTRUCTURE (O&M) (GREEN MANAGEMENT)

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The world is witnessing rapid developments in information and technologies different, it has become of electronic systems a strong influence and direct the knowledge society, where control of the individual and society, which uses information technology tools and communication technologies that allow the building of knowledge, control, increase protectively, accurate result and quality of life, being environmentally friendly (Green Management), and a giant of the technology as we know is the computer and covered by the programs and the characteristics of Informatics. The Computer & Computer Program can playing big roles in our lives, we only used the computer for Non-core like (Chat, game, music, etc). But it can be used for a lot of benefits work to controlling, Admin our Life and save money, by using the Computer Program. Hence, we want to convey a message (the computer is a double edged sword) and it is better for us to use good face for the computer with programs in our lives and in the field of new innovations. In this regard I will explain one of my innovations in field of maintenance and operation to show how important the role of computer programs and networks in the community and our lives, and to highlight the role of information technology and networking programs in the transition to a knowledge society through employment and the application of information technology and connect them with geographic information systems (GIS) (CMMS), so that can follow up and control by networks control: An invention enters the system electronic control in the civil works and could be called a (Civilectronics) and its definition simply is to integrate control and data transfer e- civil engineering to become a civil works more accuracy, control and abundant data and information. This invention can build a new concept (New Category). Here, I will explain my New Innovation to prove the roles of Computer Program in our live and how it will control a lot of engineering fields to improvement the Infrastructure Maintenance and Operation (Storm water O&M) and increase protectively, accurate result and quality of life, being environmentally friendly (Green Management). Automatically Smart Gates for Storm Water Inlets with Electronic Maintenance (Registered Patent No.: 2011/ 514 (Egyptian Patent Office)). & Patent Software No.: 001936/ 2012 (The Egyptian Ministry of Communications and Information Technology -Patent Office) ITIDA (Automatically Smart Gates for Storm water Inlets (Open & Close) on rain time by (Water sensor) to Prevent the entry of sand in the drainage of rain or filled in it, leading to the accumulation of rainwater in the street outside the storm water Inlet With Electronic Maintenance by (Distance sensor) to clarify the proportion of the amount of sand inside the inlets without (removing the inlet cover or check it) the invention is particularly useful in tropical countries (torrential rains are common), or desert countries (wind distributed sand before rains), it reduces the risk of environmental damage by floods

THE FEASIBILITY OF LINEAR THREE DIMENSIONAL (3-D) SCANNING FOR SIMULTANEOUS LOCALIZATION AND MAPPING

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THE IDENTITY OF COOLIA TROPICALIS, A HARMFUL ALGAL BLOOM SPECIES BASED ON MORPHOLOGY AND LSU RDNA

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Several group of phytoplankton namely benthic dinoflagellates have been known to produce potent toxin that may harm human being. In 1995, Coolia monotis, a species of benthic dinoflagellate has been reported to produce cooliatoxin. However, subsequent toxicity studies on the same species have not reported the same result. Through literature search it was found that the morphology of C. monotis claimed to produce toxin resemble another Coolia species, namely C. tropicalis. Unfortunely, the description of C. tropicalis is not complete. This raised question on what is the correct or complete description of C. tropicalis and does C. monotis produce toxin as reported. Therefore, in this study, the identity of C. tropicalis was studied in detail using samples collected from Belize (site locality), Malaysia, Australia (original pictures used in publication of cooliatoxin in 1995) and Indonesia. All samples were analyzed for morphological characteristics (SEM and light microscopy) and molecular sequences (LSU rDNA). Results on the morphology showed that both species have distinct characteristic and this was further support with LSU rDNA. Finally the taxonomic description of C. tropicalis is emended and the actual species that producing cooliatoxin is known. The important result found from this study help to clarify the confusion on taxonomy of Coolia.

THE IMPACT OF LANDSCAPE SETTING ON THE HOT-HUMID OUTDOOR MICROCLIMATE TOWARDS MITIGATING THE URBAN HEAT ISLAND - A PRELIMINARY INVESTIGATION

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Urban Heat Island is a phenomenon where urban area is experiencing hotter environment compared to the surrounding rural area. Among others this is due to the modification on the environment following the development processes where urban area has significantly more hard surfaces (buildings, road network, paved surfaces, etc) compared to the surrounding rural area. These hard surfaces tend to absorb and store the heat from the solar radiation as well as the terrestrial radiation, before releasing it back to the environment leading to increasing air temperature. Countries located within the tropical region are greatly affected by this situation as they struggle more in trying to achieve their thermal comfort. Thus, this research seeks to investigate the influence of the landscape setting by looking into factors such as vegetation, ground surface materials and its built environment dimension and their impact on the outdoor microclimate. Outdoor environment seems to give certain impact to the indoor environment. Thus, studying these factors and their impact to the microclimate will provide scientific/empirical evidence that would be useful to guide the designer in preparing the landscape layout and selecting appropriate vegetation that could filter certain amount of solar radiation from reaching the ground surfaces towards cooler outdoor environment. This preliminary study seeks to quantify the impact of the landscape setting on the microclimate of the investigated spaces. The environmental variables to be considered are air temperature, relative humidity and wind environment, whereas elements of the landscape setting will include the ground surface material (paved/turfed), aspect of tress (location, quantity, quality of foliage density, and canopy diameter). The environmental parameters are recorded during the daytime as to see the effect in the presence of the solar radiation and also due to safety aspect of the equipment. Four spaces within the IIUM are investigated which represent generally two categories of landscape setting which are: shaded/green area and exposed area. The findings suggested that the landscape settings do influence the microclimate of outdoor spaces where high quantity of trees and big tree size seem to lower the air temperature readings. Turfed surfaces seem to demonstrate lower air temperature of its surroundings as a whole compared to tar-mac surfaces. The aspect of trees also seems to be significantly influence the microclimate.

THE MULTISTAGE HOMOTOPY PERTURBATION METHOD FOR SOLVING HYPERCHAOTIC L SYSTEM

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In this paper, we employ the multistage homotopy-perturbation method (MHPM) to the nonlinear hyperchaotic Lu system. MHPM is a technique adapted from the standard homotopy-perturbation method (HPM) where the HPM is treated as an algorithm in a sequence of time intervals. To ensure the precision of the method applied, the numerical comparison with fourth-order Runge-Kutta method is made which proved that the MHPM is more efficient and powerful technique in solving hyperchaotic systems.

THE STUDY ON ISLAMIC COMPLIANCE TO INTERIOR SPACE PLANNING FOR RESORT DESIGN

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On the whole this research is to disseminate and illustrate the background of various concepts, approaches, terminologies used to describe the basic framework of an Islamic Resort. This paper will review the theoretical views in establishing a suitable and optimum environment for Muslim as well as non-Muslim guests in resorts while according to shariah. It involves a few research methodologies that requires the researcher to study on a few characteristics needed to create a new, better and more efficient in terms of social interaction, economic growth and other tolerable elements. Malaysia is an Islamic country and has billion of tourists coming over for business and recreational purposes. Therefore, having a conducive environment that best suit this target user is important in terms of generating the economy as well as providing a better understanding to the community on the benefits of applying these qualities in a conventional resort design. This study covered the topic of space planning in resort designs that is vital in creating a comfortable space for everyone. The number of people that are needed to make this change is huge, however, slowly, but surely, the result can be seen in the long run. In conclusion, it is important to take note that a lot of elements should be taken into consideration to create better flow and accessibility of the workers and guests. A shariah compliant space objective is to create a safer, more comfortable environment for everyone.

THREE TIMES HIGHER HATCHING RATES OF BROWN-MARBLED GROUPER, EPINEPHELUS FUSCOGUTTATUS UNDER

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Egg hatching rates vary under different environmental conditions such as temperature, salinity, and light conditions. Light conditions are important for aquatic living things, as they affect growth and development. A few studies have been done on teleost eggs regarding optimum light conditions for incubation. For example, haddock eggs show that they are not affected by light intensity. Walleye pollock requires dark condition for the egg incubation, high light intensity, while rainbow trout eggs incubation is optimum under dim light conditions. These studies show that light conditions for egg incubations are species-specific related to the characteristics of spawning grounds. Brown-marbled grouper, Epinephelus fuscoguttatus is an important species for aquaculture in Southeast Asia. However, there are only a few studies about its early developmental stage. Still we do not know what light condition is optimum for egg incubation of brown-marbled grouper. Therefore, this study was conducted to examine optimum light wavelength and intensity for the incubation of brown-marbled grouper eggs. Light emission diode (LED) lamps were used to examine egg hatching rates. Brown-marbled grouper eggs were obtained from the brood stock of the IIUM hatchery. The eggs were incubated in 40 L triplicate aquaria in dark room, using different light wavelengths of LEDs; white (430-460¡¡500-630 nm; = wavelength) as a control, blue (450-485 nm), green (500-560 nm), yellow (580-605 nm) and red (610-650 nm) with light intensities 0.53, 2.7 and 13.3 moles/m/s respectively. The LED lamps were set up 6 am on, 6 pm off. The water salinity and the temperature in the incubation aquaria were 31 ppt and 27.5-28.5 oC. The eggs hatched 24 hours after spawning, and then the newly hatched larvae were counted to examine the hatching rates. Nannochlropsis sp. frozen paste was put at the density of 1 million cells/ml in each aquarium. Statistical analysis was done using two-way ANOVA with two factors, light wavelengths and light intensities (SPSS ver15). Results of two-way ANOVA showed that light intensities had no significant difference, while light wavelengths had significant difference (p¡0.05). There is no interaction between light intensities and light wavelengths. Results of Tukeys post hoc test showed that green light wavelength was significantly higher than white and yellow light wavelengths (p¡0.05). Green light (2.7 moles/m/s) showed almost three times higher than white light (2.7 moles/m/s). Therefore, it can be suggested that green light wavelength is the optimum light for egg incubation of brown-marbled grouper, Epinephelus fuscoguttatus.

TOWARDS ZERO DISCHARGE STRATEGY FOR PALM OIL INDUSTRY

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Water pollution has been, and will always be the most pressing pollution issue amongst all other types of environmental pollutions due to its sensitiveness to life sustenance. Purification of polluted water/wastewater is a multifaceted and multidisciplinary problem which results in solving a specific pollution problem with a specific method or integration of methods. Here, we technically assessed the buoyancy of powdered activated carbon (PAC) from empty fruit bunch (EFB) produced through steam activation for wastewater treatment. Adsorption generally depends on molecular weight, polarity, hydrophobicity (or lack of solubility), pore structures and functional groups (surface chemistry). A multicomponent biotreated palm oil mill effluent (BPOME) was employed as wastewater with COD, Manganese and Hydrogen Sulphide being the specific contaminants to be abated. The experimental results fitted well with Langmuir and Dubinin-Radushkevich (D-R) isotherm models as well as Pseudo-second order kinetic model with coefficients of determination (R2) of unity, or close to unity in some cases. All the models pointed towards the partaking of ion-exchanging/chemisorption progressions in the adsorption processes. To ascertain the mechanism of adsorption, FTIR analysis of the PAC was carried out. It was found that the EFB-PAC is a complex material containing functional groups like aldehydes and ketones, mono-alkyl, amines, acid anhydrides, alcohol and phenols, sulfonyl chloride, sulfate and phosphoramides, that might have taken part in chemical bonding during sorption process. This implies that, besides physisorption, EFB-PAC has natural capacity for electrostatic sorption.

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Cloud Computing is a kind of distributed architecture that centralizes server resources on a scalable platform so as to provide on demand computing resources and services. The concept is same as that of Internet service providers who provide wide quality range of services to their customers in terms of surfing speed, downloading speed and much more other services.

UNMANNED AERIAL VIDEO SURVEILLANCE USING AUTONOMOUS HEXACOPTER

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The industries nowadays have been using autonomous mobile robots or unmanned aerial vehicle (UAV) with different purposes and different sizes of the robot existed to accommodate these purposes. The robots facilitate the experts in relation to rescue operation in cases of disastrous catastrophes environment. This results in the increase in the researches in the autonomous mobile robot area to develop a better robot for different applications. A camera and a GPS module was attached to aid the robot movement as they provide the computed vision capability and real-time location coordinates that will provide necessary information for the project. The UAV will also be equipped with a gripper that carries and release the load that is assigned to it. In this project we will be using a Hexacopter as our main platform of the UAV. The main focus of this project is to design an autonomous Hexacopter that has the capability to perform aerial video surveillance.

UPSCALLING OF ZERO EMISSION PROCESS FOR HYDROGEN AND ALUMINA PRODUCTIONS FROM WASTE ALUMINUM

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Abundance in aluminum scrap metals can cause problem such as limited space allocation and pollution. The solution to solve these problems were by recycling the aluminum scrap metal as secondary production of aluminum. Among the recycling process alternative is smelting, however the process consumes high energy but low production of the product. So another alternative is sought out by this experiment which are to optimize the value of product with minimizing the energy consumption from aluminum scrap is proposed. This study focuses on the optimization of the precipitation to produce aluminum hydroxide from two different cooling medium. Dissolution process of 5 gram Al scrap with 0.5 M sodium hydroxide (NaOH) produce 13.32 L H2 gas and 9.44 g of Al2O3. Results show that precipitation took place in both cooling medium which are normalizing (room temperature) and cooling (0-1 C). However, cooling medium results in faster process for precipitation to occur compared to normalizing medium.Cooling medium took 50 minutes to fully precipitate while normalizing took 170 minutes to precipitate. Therefore, cooling medium is more time efficient for obtaining precipitation than normalizing.

USE OF BAFFLE PLATES AS A COUNTER-MEASURE IN MITIGATING THE FORCES OF BREAKING TSUNAMI WAVES ON COASTAL STRUCTURES

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System and method for mitigating the effects of tsunami forces on coastal bridges is offered. A method presented includes adding baffle plates with specific configuration to the deck and pier of the Box Girder Bridge. This inventive system can be installed in new and existing coastal bridges to significantly reduce the tsunami forces including uplift, drag force and impact force under the bridges. This system can be installed quickly to overcome the risk of the bridge being washed away or damaged. This system can be used for all types of Box Girder Bridge and other types of bridges in zones susceptible to tsunami hazards.

UTILIZATION OF MULTI-LEVEL DATA IN CONTINUOUS META-ANALYSIS

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Meta analysis is statistical technique used to integrate quantitative results of the same research questions. A meta-analysis may be performed using aggregate data (AD) or an individual patient data (IPD). In practice, studies may be available at both IPD and AD level. In this situation, both the IPD and AD should be utilised in order to maximize the available information and reduce potential bias in the overall estimates. Statistical advantages of combining the studies from different level has not been fully explored. This study aims to quantify the statistical benefits of including available IPD when conducting a conventional summary-level meta-analysis. Simulated meta-analysis were used to assess the influence of the levels of data on overall meta-analysis estimates based on IPD-only, AD-only and the combination of IPD and AD (mixed data, MD), under different study scenarios. The percentage relative bias (PRB), root mean-square-error (RMSE) and coverage probability were used to assess the efficiency of the overall estimates. The results demonstrate significant advantages in utilizing the available IPD when conducting conventional meta-analysis using summary level data as they would significantly increased the accuracy of the estimates. On the other hand, if more than 80% of the available data are at IPD level, including the AD does not provide significant differences in terms of accuracy of the estimates. In fact, in this case, combining the data would increase the overall SE. In general, the IPD tends to slightly overestimate the treatment effects, while the AD has the tendency to produce underestimated effect estimates resulting in low coverage in both type of data, particularly so for the AD-only data. We noted that combining the IPD and AD has a moderating effects on the biasness of the estimates of the treatment effects produced using the IPD-only or AD_only studies. Our simulation study reveals that the mixed data adjusts for the overestimation in IPD-only and as well as the underestimation in AD-only data to produce better coverage, performing at its optimum at (AD=20:IPD=80) ratio. In terms of precision, as expected, the SE based on AD-only data are relatively smaller compared those from the other two type of data. This is expected as average values tends to be more centralized and less variable. Despite larger SE, MD consistently produces smaller RMSE compared to AD-only studies, suggesting better overall estimates. These results would be useful guide for meta-analysts in deciding if significant benefit is gained by pooling the two levels of data when conducting meta-analysis.

VMWARE AS AN INTERMEDIATE PLATFORM BETWEEN WINDOWS 7 AND LINUX FEDORA 15 FOR REAL-TIME MALAYSIAN SIGN LANGUAGE TRANSLATOR

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WHY HALAL SLAUGHTERING?

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قال تعالي:

حُرِّمَتْ عَلَيْكُمُ الْمَيْتَةُ وَالدَّمُ وَلَحْمُ الْخِنْزِيرِ وَمَا أُهِلَّ لِغَيْرِ اللَّهِ بِهِ وَ
الْمُنْخَنِقَةُ وَالْمَوْقُوذَةُ وَالْمُتَرَدِّيَةُ وَالنَّطِيحَةُ وَمَا أَكَلَ السَّبُعُ إِلَّا مَا ذَكَّيْتُمْ وَمَا ذُبِحَ عَلَى النُّصُبِ
[المائدة: ٣]

Prohibited to you are dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah , and [those animals] killed by strangling or by a violent blow or by a head-long fall or by the goring of horns, and those from which a wild animal has eaten, except what you [are able to] slaughter [before its death], and those which are sacrificed on stone altars, and [prohibited is] that you seek decision through divining arrows .etc. Both religious (Islam and Jew) slaughters claimed to be defined as religious obligation and humane method of slaughtering on permitted animals and poultry for food. The permitted animals are the same for both religions which are mainly poultry, cattle, sheep and any free-pork sources. The animals are also ensured with no severe and disease before they will be slaughtered. Islam being the flexible religion, allows to tolerate with animals deemed to be alive (hayat al-mustaqirrah) but not to Rabbinical Law. One of the main parts in making a valid halal and kosher slaughtering is that they both need trained slaughters to perform the slaughtering process that allows blood to drain away from the animal body flesh. The trained slaughter for Shechita (religious slaughter for Jews) is called Shochet (plural; Shochtim). According to A Guide to Shechita published by Shechita UK on 2009, the shochet is a well-trained person who prepared with knowledge on laws of Shechita, animal and pathology, inherits the knowledge by serving an apprenticeship with the experienced shochet and must be a God-fearing person with respect by the Jewish community. While for halal slaughter, according to MS1500:2009 (STANDARDS MALAYSIA, 2009), the slaughtering shall be performed only by a practicing Muslim who is mentally sound, baligh (hit puberty), fully understands the fundamental rules and conditions related to the slaughter of animals in Islam. The slaughter-man shall have certificate for halal slaughter issued by competent authority (for Malaysia; State Religious Department). Either the slaughter-man is man or woman, Islam has no restriction in making any of them as slaughter-men.

AGROBOT

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Increase in the interest for robots in Agriculture is being observed to cope up with the growing need of improved technology to meet the increasing demand of food. This robot is supposed to help technology based farming. With the aim of helping farmers the proposed model is of a reaper robot. These robots are supposed to assist farmers to get rid of repetitive physical labor by reaping crops and collecting them. The main components of the prototype are Arduino, Dc motors, batteries, robotic grip, blade, joysticks. The robot is RF controlled and Arduino programmed. A robotic grip has been designed in order to get hold of the crop. The grip is controlled by the motors. Dc motors with gears have been used for this prototype. The grip has the freedom of moving 180 degree backward and forward. When the grip gets hold of the crop the blade moves to cut the crop and the grip goes backward to drop the crop into a carrier. The robot can turn left or right and can go ahead and come backward. All these functions are controlled by the joysticks. Being RF controlled the man in charge can make the robot work as per his wish. The RF module used here comprises of transmitter and receiver pair of range 360MHz.To run the motors solar panels can be used. So there is also an opportunity of making proper utilization of the renewable solar energy in this project. A drastical change can be brought to the economy of the developing country Bangladesh by making robots take over farming, since it is an agro based country. These robots have great potential to be developed further. If it is made possible to get all the physical labor done by the robots, people will get the opportunity to involve in other tasks like thinking and making new innovations for better future.

Social Sciences and Humanities (SSaH)

7M TEACHER-LEADER MODEL FROM ISLAMIC PERSPECTIVES

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Prophet Adam AS was the first human being in the world and Allah taught him as a first teacher. The system of teaching to human beings was continued by Allah through the prophets who came to this world as a teacher of humanity. The prophet Muhammad SAW introduce himself as a teacher. In the early stage of Islam, teachers contributed splendidly to the spread of the message of Islam. They had a high degree of understanding of their responsibility and a wonderful ability to fulfill it through course of centuries and under most varied contribution. Teacher are the life of the society. They are not only the instructors, but also the teacher of manners and patrons of human beings. Teacher may also be known as Mudarris, Murabbi, Muaddib, Mualim, Mursyid, Mujtahid, and, Mujaddid depending on the role of teacher sees himself to his student. This can be formulated into 7M-Teacher-Leader Model from Islamic perspectives as shown below.

A COMPARATIVE STUDY ON CYBER ETHICS, RELIGIOUS AWARENESS AND SATISFACTION IN USING FACEBOOK FOR SOCIAL NETWORKING

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Throughout the Internet evolution , debates on cyber ethics have raised concerns within the educational system. New ethical dilemmas turned to emerge out of compounding Facebook communication among users. Ethical behaviour involving computer networking has immense power in promoting not only valuable academic networking, but could be shifted for self-fulfillment and even for evil ends. The issue of moral behavior involving computer networking is defined as cyber ethics. Studies relating to moral values further, systemize, defend and recommend concepts of right and wrong behavior. Despite the arguments of ethics as guidelines of social behavior and reflections of morality, ethics is defined as a set of values that lead to happiness, success and fulfillment. Guarded with some religious awareness, will cyber ethics make a difference across boundaries and could religious values guide the usage satisfaction during Facebook communication? This paper aims to address the doubts on cyber ethics using samples drawn from Facebook social communication among Malaysian and Indonesian undergraduates. It shall identify patterns of relationship between cyber ethics, religious awareness and usage satisfaction. The paper also discusses some implications of these relationships to reveal the level of satisfaction in using Facebook. Questionnaires were distributed to selected universities from Indonesia and Malaysia; 200 undergraduates responded. Correlation, independent t-test and multiple regression analysis were conducted on the data set. The measurement level such as honesty, truthfulness and respect were applied. The study revealed that cyber ethics across boundaries was significantly different. There is a significant relationship between religious awareness and cyber ethics. Facebook communication in the two countries was used by respondents with some religious awareness. This relationship has significant influence on the level of satisfaction while communicating in social networking sites.

A NEW APPROACH IN DESIGNING ARABIC LANGUAGE PRACTICES FOR PRIMARY SCHOOL STUDENTS IN MALAYSIA

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This is a project conducted to design Arabic language practices for primary school students in Malaysia. The main objective of this project is to provide the latest design of Arabic language practices which is specially designed to promote self-learning culture among the primary school students. The project was completed through different phases, beginning with data collection, data analysis, designing process and editing. The project was successfully conducted and six sets of Arabic language exercise books were produced and published by a local publisher in year 2012.

A RESILIENCE-BASED INTERVENTION FOR AT-RISK ADOLESCENTS

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The present study was carried out to test the effectiveness of a resilience-based intervention in improving at-risk adolescents perceived social support, life satisfaction and distress. A program named Percaya Diri dan Cemerlang (Believe in Oneself and Excel) was developed to increase resilience in adolescents. It was hypothesized that at-risk adolescents who participated in the program would report more social support, higher life satisfaction and lower distress than a control group who did not undergo the program. The intervention program was carried out for 90 minutes each week for 12 weeks. Thirty three at-risk adolescents were divided into two groups: the treatment group (n=16) and the control group (n=17). The two groups completed pre- and post-test scores on the three measures of support, life satisfaction, and distress. The study also collected qualitative data from the adolescents, their parents and class teachers after the intervention. Results showed that adolescents in the treatment group reported higher social support, but no difference was observed in their life satisfaction and distress scores. The qualitative results provided additional support, indicating the possible beneficial effects of such programs on at-risk adolescents.

A STUDY OF TOURISM ATTRACTION AND FACILITIES IN PULAU PANGKOR

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Tourism contributes economic growth, provide job opportunities, bring new development, increase a place value and also help to promote the local products. Nowadays, tourism industry faces a lot of changes, tourist start to demand for green tourism industry, good hospitality and high technology facilities. The research aim at analyzing the tourist perception on the tourism industry at Pangkor that concern on the existing tourism attractions and also the facilities provided at the island. The methods adopt to collect the primary data is structured questionnaire survey.

A STUDY ON THE HOUSE PREFERENCES AMONG DIFFERENT ETHNIC GROUPS

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The design and use of houses reflect cultural values and ideas, house buyers may have certain housing preferences according to their cultural background. Malaysia is a country of multi ethnic groups. Each of the ethnic groups might have its preferences on houses. It has been observed that there is a gap of understanding on the preferences of different ethnic groups on houses. The objective of this study is to study the house buyers preferences on their houses according to ethnic groups. Questionnaire survey has been conducted to achieve the research objective. The areas of preference covered by the questionnaire are land status, direction, location, numbering, security and nearby facilities. A total of one hundred and five (105) questionnaires were distributed. From the total, thirty five (35) were distributed to each race, i.e. Malay, Chinese and India respectively. All questionnaires were personally hand delivered and collected from the respondents by the researcher. A total of 105 answered questionnaires were collected for analysis. The study concludes that there are similarities and differences among different ethnic groups on preferences of houses. The similarities are mainly on the items related to land status, location, security, near to school and supermarket, and easiness of access. Meanwhile, the differences among the ethnic groups observed on the items related to house direction, facing and backing of hills, numbering, near to hospitals, and closed to commercial centre. It is important to understand and respect the differences in preferences among ethnic groups in the choice of their houses as such respect is crucial to maintain a harmony multicultural society.

A STUDY ON THE MALAYSIAN REGULATORY FRAMEWORK RELATING TO THE LAW OF THE SEA: ISSUES AND PROSPECTS

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The seas surrounding Malaysia are important to the country as they are rich in various resources. Some are also important shipping routes, with the Straits of Malacca being among the busiest in the world. Malaysia has a coastline of around 4800 kilometres long, a number of islands, atolls, coral reefs, a 200 nautical miles exclusive economic zone with various types of fish and other marine life, and a continental shelf which is rich in crude oil, natural gas, minerals and other living and non-living organisms. Malaysia has one of the largest continental shelf areas, is very rich in biodiversity, and considered to contain the greatest diversity of marine life in the world. As a maritime nation, the protection of the marine environment, maritime security and maritime enforcement are matters of life and death for Malaysia. The present research focuses on the evaluation of the effectiveness of the Malaysian maritime legal and regulatory framework on the basis of existing laws and practice. The main finding of the research is that although there is adequate legal/ regulatory framework, there are loopholes in the laws and there are overlapping of enforcement powers of various government agencies that need to be taken care of. The research suggests for a holistic rather than piecemeal approach in law making and more effective coordination among law enforcement agencies.

A VISUAL ANALYSIS OF INFORMATION SUMMARIES OF IPO PROSPECTUSES

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The presence of visuals in the form of diagrams, tables, graphs and other forms are instrumental in various academic and professional texts or documents. It does what normal narratives do not. For example a financial section of a business report or prospectus is more effective when it is tabulated. It gives quick comprehension. Aggregated content can be presented with less words usage but equally or more easily understood. Too often writers overlook the importance of graphics in their reports and papers. Correctly done, graphics are attention getting and informative (Sides, 1991, p. 50, as cited in Faridah Noor Mohd Noor, 1994, p. 157). The application of visuals in information summaries of Initial Public Offerings (IPO) of prospectuses at the Bursa Malaysia were analysed with regards to compulsory areas such as In the History and Principal Activities, Promoters, Substantial Shareholders, Directors and Key Management, Financial Highlights and Principal Statistics Relating To The IPO. Frequency, location and type of visuals or non-linear texts were reported. It is clear from the visual analysis conducted that non-linear texts are important and indispensable in both of the IS. They are needed to represent what words could not do effectively especially in representing numbers in financial proformas section and business structures in business and history section. The significance of visual analysis is apparent as instructors can impart knowledge on how to use non-linear texts for the above purposes accurately.

ACHIEVEMENTS OF AL-HAYTHAM IN THE LATE ABBASID PERIOD

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In the midst of slackening intellectual zeal of the late Abbasid period when the Muslim power was in decline, a series of pioneering Muslim scholars emerged who laid the foundations for modern science. The most prominent among those classical Islamic scientists was Ibn al-Haytham (965-1040 CE). Ibn al-Haytham (Alhazen) is known not only for his particular discoveries (notably in optics, astronomy, physics, mechanics and mathematics), which would make him one genius among many, but more so perhaps for founding the modern scientific method. Ibn al-Haytham founded the empirical method that marked a significant departure from the scientific culture of antiquity and is regarded as the most important strand in the Muslims role of reforming knowledge and transmitting the reformed knowledge of the ancients to the modern world. For example for the inspection of the solar and lunar eclipses, Ibn al-Haytham projected the blurred solar image through a small hole of a wall onto a plane surface. This preliminary function of camera obscura optics (later also used by Galileo) preceded the modern photographic principles. This paper explores the historical milieu and contributions of one of the most important scientific minds in the history of humanity.

AEC 2015: ASSESSING THE AWARENESS OF QUANTITY SURVEYORS IN MALAYSIA

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Association of South East Asian Nation (ASEAN) aims towards achieving mutual benefits through economic cooperation between member countries. Upon witnessing the success of the European Union (EU), ASEAN has agreed to establish an economic integration amongst ASEAN country members known as ASEAN Economic Community (AEC), to be realized by 2015. The AEC aims to transform ASEAN into (i) a single market and production base, (ii) a highly competitive economic region, (iii) a region of equitable economic development, and (iv) a region fully integrated into the global economy (ASEAN Secretariat, 2008). Service liberalization is one of the agenda towards realizing the AEC. ASEAN agreed to liberalize the trade of services through the workings of ASEAN Framework of Agreement in Services (AFAS) in addition to existing commitments through General Agreements on Trade in Services (GATS) in the World Trade Organization (WTO). Unlike the successful story of the EU, it is still unclear whether people within the ASEAN member countries especially professionals are aware of the policy. The objectives of this study are; (i) to discuss AEC and its policies related to service liberalization, and; (ii) to assess the level of awareness of professionals (focussing on Quantity Surveyors) of the policy. Data were collected through desk study and questionnaire survey among 31 registered and experienced practicing Quantity Surveyors in Malaysia. The key findings suggested that most of the professionals are aware of the policy. In addition, they also expressed their concerns on the potential effects which would include greater competition between domestic and foreign Quantity Surveyors, increase competition and etc. In the lights of the findings, the authors recommend that in order to address the concerns, the Government should take initiatives in providing more information to improve awareness among professionals. It would simultaneously help the member countries to successfully achieve the aim of AEC particularly on matters related to service liberalization in the construction industry.

AMPHIBIAN AS INDICATOR OF A HEALTHY AQUATIC ENVIRONMENT IN URBAN LAKES IN KUALA LUMPUR

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Sound of frog and toad always heard immediately after rainfall, these sensitive creatures can give a signal of the environmental condition. Thus, this research aims to investigate the relationship between the availability of amphibian and environmental attitudes that can be the bio-indicator for a healthy aquatic environment. Method such as observation, recording the amphibians croaking sound, survey questionnaire to identify the knowledge, behaviour, attitude and value of human towards environment and experiment to identify water quality have been conducted. There are 5 species found and 1 species Sunda toad/puru was commonly found. The nutrients found such as phosphor, nitrate and nitrite are lower than 1.0 and indicate that the water is not contaminated. Meanwhile, people value and attitude are good scores 3.0. However, people behaviour and knowledge are low. To encourage healthy environment, availability of these two species should be considered, for instance to build their breeding site like pond with well-vegetated and shade. This action has automatically turned a hectic urban setting into a desirable biodiversity hub for a healthy lifestyle.

AN ASSESSMENT OF SERVICE DELIVERY SYSTEM OF SOCIAL WELFARE DEPARTMENT (JKM)DEALING WITH VULNERABLE AND DISADVANTAGED GROUP IN PERAK

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Social equality and equal opportunity for all has emerged as the key component of social sustainability for majority developed countries. Realization on the important of social equality and equal opportunity for all, especially to the disabled, vulnerable and disadvantages groups, the implementation of government delivery services to these groups has become one of the main indicators to measure the effectiveness and efficiency of services delivered and offered by the government. Therefore, this research is to analyze the service delivery of a Welfare Department (Jabatan Kebajikan) dealing with vulnerable group as part of achieving social sustainability through good governance. This paper attempt to discuss on social responsibility and services rendered to the disabled and vulnerable group by assessing the current service delivery system of Welfare Department Jabatan Kebajikan in the State of Perak. Focus group discussion (FGD) and questionnaire survey were two main methods in data collection. Hence, this research in the same time will identify relationship between service delivery system performed by government agencies and quality of life in the context of social sustainability. The findings from this research will offer several recommendations in improving the government delivery system in Perak. Thus, it will lead to the establishment of the administrative system that is responsive and dynamic towards the needs of vulnerable and disadvantages group.

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AN EMPIRICAL ANALYSIS OF HUMAN CAPITAL, ICT AND ECONOMIC GROWTH IN THE CASE OF MALAYSIA

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The purpose of this study is to investigate the relationship between economic growth, human capital and ICT in the short and long run. In methodology, this study adopts multiple regressions and cointegration technique. By including interaction terms in multiple regressions, we examined whether human capital and ICT contribute to economic growth. There are three product terms included which are; human capital and labor; ICT and labor; human capital and labor. In addition, using cointegration technique, we utilized the autogressive distributed lag (ARDL) approach that applies the bound testing to examine the existence of the relationship between human capital and ICT to economic growth in the long run. The results suggest that human capital and ICT would positively and significantly contribute to the economic growth when they are linked to each other and to other variable that is labor. Human capital when linked to labor contributes to a positive and significant economic growth, as it is the case when it is linked to ICT and ICT to labor. Human capital or ICT alone will not contribute to economic growth. The findings also suggest that in long run economic growth is positively related to capital and human capital as compared in the short run where labor and ICT contribute positively and significantly to economic growth. The results imply that Malaysian Government should continue striving for a higher income nation and to increase the standard of living (GDP) that will directly affect human capital and ICT development

AN INSIGHT INTO IIUM STUDENTS ATTITUDE TOWARDS ONLINE TESTING

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This study explores technology as catalyst in investigating the attitudes of students towards online learning environment, especially in testing. Howell (2003) asserts that since instructors utilized more computer-based teaching or adoption of blended learning, test should also commensurate the medium used, without resorting to the usual paper and pencil assessment. In light of technology advancement in teaching and learning, the Ministry of Higher Education of Malaysia has introduced the Roadmap of e-learning which consist of E-learning Pyramid with 5 main components, such as Tradition, Professional Development, e-content and Curriculum, Organizational Structure and Infrastructure. These components are geared towards the adoption of e-learning in local universities. The roadmap has outlined e-assessment as an agenda to be implemented within 2012-2014, and the optimization to be viable in 2015. (Ministry of Higher Education Report, 2011). The significance lies in the exploration of attitudes from variables such as gender, experience and whether knowledge in technology creates positive attitude in accepting computer and internet as a medium of testing. This study takes the framework of Venkatesh et al., (2003) as its approach and explores the adaptation of UTAUT, and especially in areas of gender and experience. It also examines whether the attitude measured has a significant effect towards the Behaviour Intention that will influence the Use Behaviour. Dermos (2009) Six Dimensions are utilised in investigating the hypotheses. Four hypotheses are proposed in this study and an online survey of 32 questions are utilised for the study. The findings concluded that there is no significant difference of attitude among genders, and both genders showed positive attitudes towards online testing. Furthermore, the utilisation of LMS in teaching and learning has a positive effect in student attitudes towards online testing.

ANALISIS KONSONAN NASAL AKHIR DLAM DIALEK HULU TEMBELING: SATU PENDEKATAN SOSIOFONETIK

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Kajian ini meneliti pertuturan penutur Dialek Hulu Tembeling (DHT) varian Kg. Gusai berasaskan pendekatan sosiofonetik. Kajian terdahulu mengatakan bahawa konsonan nasal akhir kata DHT berubah menjadi konsonan nasal velar /ng/. Wujud juga kajian yang mengatakan bahawa konsonan nasal akhir kata digugurkan dan ciri nasal berpindah ke vokal yang mendahuluinya. Terdapat juga kajian lain yang berpendapat bahawa konsonan nasal akhir kata DHT berubah menjadi bunyi plosif yang dilemahkan. Kajian ini pula berusaha meneliti pola realisasi bunyi konsonan akhir kata yang dihasilkan oleh penutur DHT varian Kg. Gusai berasaskan analisis spektrografik dan menghubungkaitkan ciri-ciri khusus varian ini berasaskan maklumat sosiolinguistik setempat. Hakikatnya, pendekatan sosiofonetik memerlukan maklumat fonetik khususnya fonetik akustik dalam memaparkan pola varian ini di samping maklumat sosiolinguistik bagi membantu mengenal pasti hakikat kewujudan varian tersebut. Analisis spektrografik ke atas varian ini membuktikan bahawa nasal /m, n, ng/ di akhir kata berubah menjadi plosif tak bersuara (yang sama daerah artikulasi), misalnya perkataan /ayam/ menjadi /ajap/, /rotan/ menjadi /ghutat/, dan /padang/ menjadi /padak/. Maklumat sosiolinguistik pula menunjukkan bahawa variasi pertuturan di Hulu Tembeling ini dipolakan oleh elemen geografi (aliran kederasan sungai), tahap mobiliti serta komunikasi antar-komuniti. Dapatan kajian ini ternyata menyerlahkan keunikan varian ini berbanding varian lain dalam kelompok dialek Hulu Pahang.

APPROACHING VERTICAL GREENERY AS PUBLIC ART: A REVIEW ON POTENTIALS IN MALAYSIAN CITIES

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When landscape becomes the work of art, it is becoming more significant to the community. However, finding practical and effective ways in which public art could present an environmental solutions are yet to be fully explored. Therefore, one way to approach this is by increasing the Vertical Greenery technology's application at the wall of buildings in the city. Vertical greenery (VG) varies in term of definition, but all in all, it can be interpreted as the growing of plants in, up, or against the facade of a building. On the other hand, public art can be referred as an artistic expression that is positioned in a freely accessed public space for the public to use. Public art is not just any art placed outside, yet it still carries the basic concept of art, which to beautify spaces. Thus, to study the potential of VG implementation as public art, this paper reviews 25 selected real life projects in Malaysian cities including Kuala Lumpur, Selangor Johor and Penang, that have applied VG in their development. The study explores whether he VGs implemented for the buildings can also be a public art display. Based on the study, the researchers found that all VG that has been implemented in the developments in some ways fulfill the operational definition of public art. Hence, it suggests that VG can be introduced as a new form of sustainable public art in Malaysia that give aesthetic quality as well as support a better city environment.

ARABIC PERIODICALS INDEXER

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The project aims to produce a web-based database index of bibliographical details of scholarly periodical articles, book reviews etc. that are available in five Malaysian academic libraries that possess substantial Arabic periodicals. Using Dspace open source digital library software, the collected metadata materials will be synchronized into a single database that will be searchable by the authors name, titles and subjects, and will be accessible online to all users of the Malaysian academic libraries. The libraries from which materials will be collected are: International Islamic University Malaysia (IIUM), Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Sains Islam Malaysia (USIM), Kolej Universiti Islam Antarabangsa Selangor (KUIS).

ASSESSING THE QUALITY OF NEIGHBORHOOD OPEN SPACE IN MALAYSIA LOW COST HOUSING

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The benefits of neighborhood park have been a longstanding discussion, yet, it has to move forward together with the current demands, especially in Malaysia. The effectiveness of the provision of neighborhood park as a community space must be given serious attention despite the societal hierarchy. Studies on low-cost housing satisfaction pointed out that access to good quality of park is one of indexes that occurred most in residents perception of good housing. A pilot observation made on 29 neighborhood park in public low-cost housings in Kuala Lumpur shows that 80 percent of the park facilities are in poor conditions and harmful. Footprints of vandalism and discards on these parks by some means suggesting that; 1) the low-level of residents appreciation as a community space, 2) the poor quality of park facilities and lack of maintenance or, 3) the park design and facilities might not suits the community needs and aspiration. Therefore, this study is trying to understand the design performance of neighborhood park in Malaysia low-cost housing and the expectations of the community. The synergy between input from the community satisfaction as well as the neighborhood park design performance will help the provision of neighborhood parks in future towards more holistic process in place making. This Malaysian study is seen to be the ground test and it is hoped that by understanding these determinants, this study shall contribute to the establishment of strategies in providing good quality neighborhood park and mode for improvement that is valuable to the policy maker, landscape architects, developers and the community.

ASSESSING THE RELATIONSHIP OF LANDSCAPE ECOLOGICAL DESIGN TO STUDENTS LEARNING BEHAVIOUR: CASE STUDY OF KAEDS COURTYARD

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This study addressed the potential of introducing ecological design to campus environment. It assessed the correlation between ecology and students learning behaviour. The concept was evaluated from the aspects of landscape design. The followings are the objectives of the study. (i) to identify the elements of landscape ecological on study area (ii) to assess the relationship between ecology and students learning behaviour and (iii) to evaluate the implications of ecology on students learning behaviour. The courtyard of the Kulliyyah of Architecture & Environmental Design (KAED) was selected as the study area. There were three methods used in the study; (i) Personal Observation, (ii) Questionnaire Survey Due to budget and time constraints, the study was not able to collect huge sample size; 30 numbers of students varied from several departments of KAED. Findings suggest that ecological design have good outcomes to students learning environment of KAED. This explains that ecological environment plays an important role in providing the total quality of learning environment on campus area. It suggests that the design approach should be extended to others learning environment on campus. In order to realise the idea, support from the top management of the University is certainly important.

ASSESSING THE SKILLS OF EVALUATION IN THE WRITINGS OF POSTGRADUATES

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Writing is the tool of thinking and as such there have been attempts at assessing critical thinking in writing as seen in studies by Sargunan and Nambiar (2011), Kumar and Stracke (2007), Condon and Kelly-Riley (2004), Alagozlu (2007) and Stapleton (2001). Writing and the communication of ideas are central to all disciplines, whether one is in an institution of higher learning or at the workplace. The ability to write critically is a very important aspect of university writing. This critical writing skill is crucial for postgraduates as they need to write critical reviews of a journal article, a chapter or even a book, especially those pertinent to their area of study.

BAHASA MELAYU KOMUNIKASI PERUNDANGAN

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The absence of a textbook for the teaching of the Malay language in legal practise in Malaysia prompted two academic staff from IIUM to collaborate and develop one to serve the purpose. It is meant to assist instructors and students alike to master the legal language for their professional carrier. Hopefully this first attempt would inspire others to contribute more material to further improve and enrich instructional tests for the learning of Malay language in the legal profession

BARRIER-FREE CAMPUS: UNIVERSITY MALAYA, KUALA LUMPUR

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Currently, the provisions of the barrier free facilities are not well distributed and insufficient in the campus area. The university authorities neglected and not well maintained the existing facilities. This research highlighted the importance of the barrier free design and facilities from the PwDs perspective. Mean score analysis is used to measured the condition of facilities from PwDs point of view. Some of the selected area had low mean score and in need of improvement. Hence, the recommendations were suggested to improve the condition of barrier-free facilities.

BIRDS GUILDS AS ECOLOGICAL INDICATOR FOR URBAN BIODIVERSITY RICHNESS IN KUALA LUMPUR

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Biodiversity is a potential indicator of a sustainable urban environment because it has ecological benefits for its urban population. The bird guild concept will be explored as an alternative ecological indicator species both in environment, social and economic development. The aim of this paper is to investigate abundance of urban biodiversity and its benefits to the urban community. The triangulation methodology address three step approaches biodiversity observation, atmospheric measurement and human dimension. However, this study will present the abundance of bird observation in year 2010 and 2014. 11 species of birds were identified. The highest number of birds recorded is (Acridotheres tritis/common myna (n=56) in 2010 and (n=19) in 2014. It is recorded that there are decreasing number of birds species such as Zebra Dove and Magpie Robin. There are new species identified in 2014 the Black Crowned Night Heron which are rarely found in urban area. The study presents and empirical survey on bird species. The declining of green space in urban affected the bird species population. It is suggested that bird conservation in urban context should be emphasized. It could improve the ecosystem services as well as health and well being benefits.

BLENDED LEARNING: AN INSIGHT ON THE PERCEPTION OF LEARNERS OF ARABIC AS A FOREIGN LANGUAGE :

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يعد التعلم المدمج طريقة تعلمية جديدة تجمع بين الطريقة التقليدية في التعلم والاستفادة القصوى من تطبيقات تقنية المعلومات الحديثة؛ لتصميم مواقف تعليمية تدمج بين التدريس داخل الفصول الدراسية والتدريس عبر الإنترنت أو المواقع الإلكترونية. فيخرج بذلك المعلم من إطار الإلقاء، كما يخرج المتعلم من إطار الاستقبال - هذا الإطار التعليمي الذي يعتمد في الكثير من مراحله على التعليم التقليدي والذي يقع العبء الأكبر فيه على المعلم، ودور المتعلم سلبي إلى حد كبير - إلى إطار أكثر انفتاحًا يكون فيه المعلم موجهًا و مرشدًا، والمتعلم نشطًا ومتفاعلًا إيجابيًا. لذا تسعى الكثير من المؤسسات التعليمية إلى تطوير التعليم بإيجاد طرق جديدة تهدف إلى جعل المتعلم هو محور العملية التعليمية بدلاً من المعلم، والتركيز على استراتيجيات التعلم النشط والتعلم التعاوني، وإلى إيصال المعلومة للمتعلم بأقل وقت وجهد، وبأكبر فائدة. وهذه الوسائل تفتح المجال للتواصل بين الطلاب، وتعطي الفرصة للتعاون، إضافة إلى توريط الطلاب في تكوين المواد الملائمة لهم. (غيكاس، ٢٠١٣)

BUILDING A LINGUISTIC SYSTEM TO IMPROVE THE RESULTS OF MACHINE TRANSLATION

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ستتاول هذه الدراسة الأسس المنطقية التي ينبغي أن تبنى عليها الترجمة الآلية لأية لغة طبيعية، مع تطبيق تلك الأسس على واقع اللغة العربية، فأية آلية ناجحة للترجمة ينبغي ألا يقتصر اعتمادها على مجرد الاستبدالات المعجمية أو ما يوازي ذلك من الاتكاء على المستوى السطحي لمدخلات اللغة. إن الانتقال في عمليات الترجمة الآلية إلى البنية العميقة المتشابكة للغة ينطوي على كثير من الصعوبات والتحديات إلا أن نتائجه ستكون أكثر إيجابية في نتائج تلك الترجمات. وسيتعرض البحث لقواعد بيانات الترجمة الآلية مع وضع تصور للمعالجة التطبيقية للتداخل اللغوي في تلك القواعد، وذلك من خلال التعرض لتحليل المستويات اللغوية الصوتية والصرفية والنحوية والدلالية، ثم الانتقال إلى تصور واقعي تطبيقي لشبكة الدلالات العربية ومحاولة توظيف تلك المقدمات لتحسين أداء مخرجات الترجمة الآلية على نحو يرضي مستخدمي اللغة وعلمائها

COMMUNITY AND COASTAL MANAGEMENT IN SELANGOR, MALAYSIA

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Malaysia is a maritime nation blessed with invaluable coastlines. With the increase in world population in the coastal cities, there is a strong need to control the adverse effects of global warming and its related effects to the coastal areas. In this regards, the contribution of coastal community is essential to support a livable and sustainable coastal development. Community is one of the key stakeholders in managing coastal areas. As such, this research was initiated to see the roles and contributions of local community in coastal management in Kuala Selangor, Malaysia. Though various researches have been carried out regarding the management of the coastal area, there is still little effort to how best local communities can be equipped at practicing management of the coastal area in Malaysia. The research focuses on analysing the involvement of communities at the local level in coastal protection initiatives along Selangor coastlines in Malaysia, in terms of types of work, the level of contribution and other associated matters. A questionnaire survey method with the sampling size of 271 was employed in gathering primary data on the contribution of local community in the protection of coastlines. The main findings indicate that the local community has moderate level of awareness on the concept of coastal management even though they have great awareness of their roles as the coastal community in protecting the coastal areas. It can be concluded that the local community currently has little knowledge on coastal management but they have high expectation of their potential roles and contribution in supporting the achievement of livable and sustainable development at the coasts.

CREATING A HEALING ENVIRONMENT THROUGH A COMPUTER SIMULATION STUDY OF DAYLIGHTING DESIGN IN A 4-BED WARD OF PUBLIC HOSPITAL IN MALAYSIA

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Daylighting is considered one of the most influential factors to achieve visual comfort contributing to a healing environment that is physically and psychologically appropriate for patients in the hospital wards. To achieve good visual comfort one requires thorough analysis of daylighting design to address the conflicting issues of physical vs. physical (increased window size would significantly increase the solar heat gain, resulting thermal discomfort) and physical vs. psychological (reduced window size would have an adverse effect on patients health physiologically and psychologically). The investigation and analysis of visual comfort requires qualitative and quantitative approaches, thus a triangular method (questionnaire survey, measurement and computer simulation) is employed. A computer simulation is adopted as the third approach (after opinion survey and field measurement) in analysing the performance of daylighting vis-a-vis visual comfort in the four-bed ward environment of public hospital building in Malaysia. Design variables such as window orientation, the design of window (size, type and positions), shading device and indoor surface reflectance established for parametric study are the key physical factors in addressing the conflicting issues of daylighting design. Computer simulation software is used as a tool to perform a parametric study on a generic four-bed ward environment (i.e. base case model). The permutation of the variants in the parametric study aims to arrive at an appropriate daylighting design (i.e. the physical conditions) in order to achieve visual comfort. The factors affecting daylight will be examined by parametric studies in order to formulate design guidelines. The findings of the study through building simulation is relevant and pertinent to healthcare designers and providers as design guidelines for future hospital buildings that requires complex functional and psychological considerations.

CRITICAL SUCCESS FACTORS OF PUBLIC PRIVATE PARTNERSHIP (PPP) IMPLEMENTATION IN MALAYSIA

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There are two objectives of this study. First, it aims to examine the importance of the success factors as perceived by the overall respondents. Second, the study intends to identify the differences concerning the importance of the success factors between the public and private sectors. A questionnaire survey was used to elicit the perceptions of public and private sectors on the key success factors of PPP project in Malaysia. The overall results show that good governance, commitment of the public and private sectors, favourable legal framework, sound economic policy and availability of finance market are the top five success factors of PPP implementation in Malaysia. There were no significant differences in the perception of the public and private sectors concerning the importance of the success factors except for a few factors.

DECOLONIZING THE STUDY OF ENGLISH LITERATURE IN A MUSLIM-MALAYSIAN CONTEXT : AN ARGUMENT FOR A SPIRITUAL-BASED COMPARATIVE PARADIGM

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The study of English literature was first introduced to the British colonies and protectorates, including Malaysia, in order to consolidate the cultural superiority of the English people amongst the colonized natives. Its continuation in the postcolonial period of the twenty-first century, either as a component of the English language subject at Malaysian secondary schools or as a degree program at Malaysian universities, has mainly been justified by the liberal-humanistic belief that canonical works in English literature display universal values that should be cultivated in the minds of readers regardless of their nationality or religion. In the past few decades, confusion surrounding the exact nature of these values has resulted in the advent of materialistic philosophies of literary theory. In many Muslim countries, such as Malaysia, these theories have only served to increase reliance on Eurocentric readings of literature, ignoring resistance coming from Muslim readers who have their own Tawhidic spiritual outlook and values. This paper suggests the use of a paradigm that places a concern for spiritual matters at the core of comparative studies of English and Islamic literature, especially at Islamic educational institutions. This can benefit Muslims worldwide in the sense that it will present for them a more comprehensive role than literature alone can play in contributing to their spiritual development as well as generating appreciation for the universality of Islamic teachings.

DESIGNING COURSE MATERIALS FOR QURANIC LANGUAGE 1: TOWARDS PROMOTING STUDENT-CENTRED LEARNING CULTURE IN IIUM BASED ON TBLT APPROACH

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The Task-based Language Teaching (TBLT) has been employed by the Quranic Language Department as a new approach to teach Quranic Language Courses to students of the International Islamic University Malaysia effective from the 2012/2013 academic session. It is a systematic way of teaching a foreign language that is able to engage students in learning activities inside and outside the classrooms. It focuses on the use of authentic language and on asking students to do meaningful tasks using the target language. The Quranic Language Department has produced course materials to teach Quranic Language Level 1 in line with TBLT. This project aims at providing instructors with lesson plans and worksheets in accordance with TBLT approach as well as helping students participate in language activities. Initially, the course outline for Level 1 was studied before the lesson plans were prepared. The lesson plans were then examined and edited by a panel of experts in TBLT. Before they are printed, the worksheets for every lesson plan as well as the list of high frequency words were written and edited. After the pilot test in 2012/2013 session, the course materials were scrutinized in order to enhance and improve the content. At the end of the 2013/2014 academic session, a survey was conducted among instructors and students to find out their views on this project. Even though some instructors perceived TBLT as only suitable for teaching advanced learners, the findings indicated that majority of the Level 1 students enjoyed their Arabic classes. The tasks helped improve their confidence in Arabic Language skills especially speaking skills. Instructors also found these course materials useful and able to instil students interests in learning Arabic. It is hoped that this project will be able to benefit instructors and students equally.

DEVELOPING SOFTSKILLS AMONG MANAGEMENT STUDENTS

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Employers complain that university students are not employable because they lack softskills. Rather than focusing on specific micro-skills, I use projects to develop a broad range of softskills at the same time. The key to the students development is not the project itself but the quality of the reflection during the project.

DEVELOPMENT OF A FRAMEWORK INCORPORATION PROJECT DURATION INTO COST ESTIMATING

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In the design stages of a construction project, the reliability and accuracy of cost estimates are significant concerns for clients and quantity surveyors. Cost estimating is an assessment system that produces outputs of prediction cost, prepared by a quantity surveyor for a new project. The reliability of cost forecasting as output of cost estimating is important because this cost information facilitates better decisions from clients concerning business investment. This research aims to enhance the quality of cost forecasting output prepared by the quantity surveyors at the early design stage by incorporating the time dimension of the project duration. A mixture of quantitative and qualitative approaches were adopted in this research. Literature relevant to the theme of the research was reviewed qualitatively, while data was collected quantitatively from interviews and analysis of cost data from 1,088 Malaysian public educational projects. The qualitative data was subjected to direct content analysis, whereas the quantitative data was analysed using SPSS software. The study found that historical data is the most commonly used technique during the early design stage of the production of unit price rates used in cost estimating. However, current traditional cost estimating techniques suffer from a number of limitations in regards to adapting to real-world projects. In addition, although theoretically time is among the primary elements in the cost estimating process, in practice, it is often neglected by quantity surveyors when preparing cost estimates. Very little emphasis is given to the consideration of time in the process of producing reliable cost estimation. In light of this, traditional cost estimating is unlikely to be unreliable and as such, there is a need to change current cost estimating processes towards becoming more reliable. By way of remedy, a conceptual framework for a new approach to cost estimating that comprises of time was developed, evaluated and validated. The proposed alternative conceptual framework can potentially decrease and minimize risks such as cost and time overrun of a project, and subsequently assist in the successful management of a construction project specifically in project resources.

DEVELOPMENT OF AN INSTRUMENT TO MEASURE TEXTBOOK EVALUATION FROM STUDENTS' PERSPECTIVE

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Development of An Instrument to Measure Textbook Evaluation from Students Perspective. Textbook evaluation plays an important role since the usage of it is essential in the process of teaching and learning. Weaknesses in textbook content and ineffective approaches for teaching may prevent textbook reading from being effective. Therefore, the content of a textbook in particular, should be analyzed and evaluated on different dimensions before it is being utilized in the classroom. The purpose of this study is to develop an instrument to measure the effectiveness of a mathematics textbook entitled Mathematics for Matriculation: Algebra in the teaching and learning from students perspective. A textbook evaluation checklist was developed by adapting and adopting Garvins dimensions of quality product. The instrument is based on 8 different dimensions consisting of performance, features, reliability, conformance, durability, aesthetics, contextual, and perceived quality. A 7-Likert Scale questionnaire was developed to rate each dimension described in the textbook evaluation checklist. Data collected from 41 respondents of science-based foundation students were analyzed for internal consistency and reliability using the measurements of Cronbachs alpha. From the analysis using SPSS, it is found that for each of the scale, the Cronbachs alpha obtained for the instrument are greater than 0.80 except for the dimension of conformance. Analyses also include the values of Cronbach's alpha if that particular item was deleted from the scale. It is found that the removal of all items, with the exception of B4 (18), resulted in a lower Cronbach's alpha. This finding indicates that almost all items are important in the instrument except item B4 (18) Furthermore the, "Corrected Item-Total Correlation" value is the low (0.26) for this item in comparison to others which are at least 0.30. We inferred that the content validity for this survey instrument is good and is shown to yield reliable measurements. In short, the measurements appear to have some content and construct validity. The findings are expected to be useful for teachers as an instrument which can help and guide them to evaluate and select most appropriate mathematics textbook for their students. Keywords: textbook evaluation, dimension, instrument, quality textbook.

DEVELOPMENT OF ARABIC CASE SYSTEM ONLINE TUTORIAL USING SCREEN CAPTURE SOFTWARE

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In recent years, online tutorials have become well-established tools for the delivery of information literacy training as information professionals continue to seek new and more effective ways to reach audiences. This paper focuses on a project at the Quranic Language Department (QLD), International Islamic University of Malaysia to develop a new approach to online instruction. The goals of the project were to explore how the addition of video using screen capture might create a more engaging user experience, and how the online video tutorial might therefore both improve existing information literacy training as well as offering a just-in-time point of support. This paper researches the practical steps involved in creating useful and accessible online tutorials for Arabic Case System lessons. In order to examine the efficacy of this tool, students from Advance Arabic level were tested with formative test related to Arabic Case System topics. The result demonstrates that screen capture can enhance students performance and maximise the impact of e-learning tools, helping online tutorials to deliver information in a more personal and immediate way.

DEVELOPMENT OF INDICATORS FOR FAMILY WELL-BEING IN MALAYSIA

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This study was carried out to develop a set of indicators for measuring and reporting the state of family well-being in Malaysia, and subsequently, to produce an Index of Family Well-Being. To build the set of indicators, domains of family well-being and relevant indicators were identified from past studies. Focus group discussions with families, professional groups and NGOs helped to refine the indicators prior to the main study. Using a stratified random sampling design, 2,808 households were identified (a parent and a child aged at least 13 years), making a total sample of 5,616 respondents. Results indicated ten key indicators that can predict family well-beingresiliency, safety, savings, healthy lifestyle, time with family, work-family balance, importance of religion, number of bedrooms at home, debt and child caresupporting the notion of family well-being being multi-dimensional and interconnected. On the basis of the results, a model of family wellbeing was hypothesized. This model was used to guide the development of the Index of Family Well-being. Confirmatory factor analysis (CFA) was carried out to determine the fit of the model to data. Five domains of family well-being were identifiedfamily relationships,economic situation, health and safety, community relationship and religion/spirituality. The Index of Family Well-Being was calculated using the equal weighting strategy to each of these five domains. This index showed that the current family wellbeing of Malaysians is relatively high at 7.95 (SD = 1.38) on a 010 Likert response format. The findings suggest that family well-being is multifaceted, made up not only of the immediate family relationships and health and safety of its members, but include having adequate income to meet the demands of a minimum standard of living. Currently, the Index that is developed is only in the form of a numerical value reflecting the state of family well-being, but in future, it can be used to track changes in the family from time to time.

DRIVERS FOR VALUE FOR MONEY (VFM) PUBLIC PRIVATE PARTNERSHIP (PPP) PROJECTS IN MALAYSIA

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The objectives of this present study are two-fold. First, it aims to investigate the factors that enhance the VFM achieved from public private partnership (PPP) projects in Malaysia. Second, it aims to examine the differences in the perceptions of the public and private sectors pertaining to the VFM factors of PPP implementation in Malaysia. Design/methodology/approach - A questionnaire survey was used to elicit the perceptions of the public and private sectors concerning the VFM drivers for PPP projects in Malaysia; 122 usable responses were obtained and analysed using SPSS to rank the importance of the factors and to examine the differences in the perceptions between the government and private sectors. Findings - The results reveal that two factors are perceived as most important to enhance the achievement of VFM for PPP implementation in Malaysia private sector technical innovation and competitive tender. In terms of the differences in the perceptions of the public and private sectors concerning the level of importance of the VFM drivers, the results reveal that there are significant differences for half of the VFM factors. Originality/value - The exclusive contribution of this paper is that it highlights not only the factors that enhance the VFM achievement for PPP projects in Malaysia, but also offers evidence concerning the differences in the perceptions of the public and private sectors pertaining to the importance of the VFM factors.

EFFECT OF INDUSTRIAL TRAINING ON ACADEMIC PERFORMANCE: EVIDENCE FROM MALAYSIA

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This study aims to investigate the effect of industrial training on academic performance of accounting students in Malaysia. The performance measures used in this study include overall academic performance of the students in terms of GPA and CGPA as well as performance in subsequent relevant courses that are auditing and taxation. The study also analyses the impact of internship on academic performance based on gender. Design/methodology/approach: This study uses secondary data obtained from the university database was used. In particular, the data on the list of accounting students who went for practical training, information on GPA, CGPA, and the results for fundamental auditing, advanced auditing, fundamental taxation, advanced taxation, intermediate financial accounting and advanced financial accounting courses for each student were extracted from the database. The data were analysed using the Statistical Package for the Social Sciences (SPSS) software. In addition to the rudimentary statistical analysis techniques of mean score and standard deviation, paired-samples t-tests were conducted to examine the statistical significant impact of internship on performance for overall sample as well as based on gender. Findings: The findings revealed that there were statistically significant positive impact of internship on academic performance of overall accounting students for overall performance as well as for performance in auditing and taxation. For the analysis by gender, there were some differences in findings between male and female. In particular, the results for female group were consistent with the results of overall analysis. For the male counterpart, the results were mixed. Originality/value: The present study is one of the few studies that explore the impact of internship on academic performance from a developing country. Moreover, the study not only examined the impact on academic performance of overall students but also analysed the impact on gender basis.

EFFECT OF METACOGNITIVE STRATEGY TRAINING ON LISTENING COMPREHENSION AND STRATEGY USE OF ESL LEARNERS

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This paper reports on a quasi experimental research investigating the effects of metacognitive listening strategy training on ESL learners listening comprehension and on their metacognitive listening strategy use. The subjects of the study were 54 students enrolled in a 14 week pre-sessional English programme. During the training, the students in the experimental group were introduced to metacognitive strategies in listening and were taught how to employ them following the pedagogic cycle as proposed by Vandergrift (2003) while the students in the control group followed the normal listening course as prescribed by the host institution. The findings of the study showed that those students who underwent metacognitive listening strategy training did perform slightly better than those who did not but the difference was not statistically significant. Nevertheless, they had widen their strategy repertoire and increased the frequency of use of these strategies, reflecting characteristics of good listeners.

E-MAINTENANCE AT THE SYARIAH COURT: ITS EFFECTIVENESS IN HELPING SINGLE MOTHERS IN MALAYSIA

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E-Maintenance introduced by the Syariah Court of Malaysia is the only system of its kind available in the Muslims countries. The special feature of this system is its ability to monitor data and history of maintenance order granted by the Syariah Court. Under this system of e-maintenance, every maintenance order granted by the Syariah Court will be entered into the system to enable officials of Family Support Division (BSK) to take pro-active step by contacting the wife to find out whether or not her former husband has complied with the maintenance order issued by the Syariah Court. If BSK staff discovers that ex-husband fails to pay nafkah as ordered by the Court, then the parties will be required to undergo mediation process. The objective of this mediation process is to find out causes of failure of such payment by the husband. For the year 2010, 58% of 852 cases were successfully resolved through mediation throughout Malaysia. However, if the husband still refuses to pay nafkah after mediation sessions end, then the officer will file enforcement actions against the former husband/father in the Syariah Court. There are some form of enforcements that can be carried out by officers of the BSK such as judgment debtor summons, seizure and sale, and Hiwalah.

EMPIRICAL STUDY ON EFFECTIVENESS OF SHARIAH GOVERNANCE FRAMEWORK (SGF 2011)

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Islamic Financial Institutions in Malaysia have their own Shariah governance structure which is unique from the conventional banks. By virtue of CBMA 2009, the regulator came up with a Shariah Governance Framework 2011 (the SGF 2011) which was introduced in October 2010 and to take effect starting 1st January 2011. The implementation of this framework is expected promote stakeholders confidence and secure the integrity of the Islamic Financial Institutions besides reducing Shariah non-compliance risks and subsequently contribute towards maintaining financial stability in the country.

EMPLOYABILITY MODEL FOR DISABLED EMPLOYEES IN MALAYSIA

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This paper aims to examine the work challenges of disabled employees and predict the organisational behaviours of disabled employees and their involvement in employment. A self-developed questionnaire was used to gather relevant information from employers, disabled employees, and the co-workers. The questionnaires were distributed and administered by a number of trained enumerators. Both employers and co-workers perceived that their organisations have provided conducive organisation climate, comfortable work environment and reasonable adjustment for their disabled employees. The disabled employees are found loyal and committed. They are satisfied with the job. Organizational loyalty and commitment are predicted by the organizations ability to restructure their job design to suit to the needs of the disabled employees. Initially this study planned to use purposive sampling; however due to poor database maintained by the relevant agency of disabled employees employment in the country, we were unable to identify which employers employ how many disabled employees. The sampling then was based on convenient sampling. Job design, organisational climate and comfortable work environment have long been recognised for motivating employees performance (Hackman et al., 1975; Garg and Rastogi, 2005). Our findings show that these factors also motivate the disabled employees. This is an added value to the existing body of knowledge as limited is known about disabled employees motivation. This study is unique because it gathers data from several parties: disabled employees, the co-workers and the employers.

EMPLOYABILITY SKILLS, SELF-DIRECTED LEARNING READINESS AND JOB PERFORMANCE: A STUDY AMONG SME EMPLOYERS IN MALAYSIA

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Employers are becoming very selective in their hiring decisions maybe due to the fact that they have more graduates to choose from. Furthermore, they are looking for graduates with the soft skills (or employability skills) and stronger willingness to learn (self-directed learning readiness or SDLR). These were regarded as the best predictors for the future job performance. Thus, at this juncture, it is worth investigating the most sought after soft skills by SME employers and to determine whether the skill makes a significant predictor for performance and SDLR. The present study was conducted among employers in SMEs because of the unique criteria they set in job candidates which might be different from their larger counterpart. All the 104 respondents met the requirements set for the research - HR managers (or any managers who are in the capacity to recruit and hire people) of a company in SMEs and they have been hiring university graduates. The most sought after employability skills was oral/written communication skills and the least sought after skills were leadership and negotiation. Nevertheless, it is surprising to see that the Pearsons tests indicated that SDLR and job performance were strongly related to the less sought after skills (like leadership and negotiation) and not related at all to oral/written communication skills. This is very disturbing but plausible because SME recruiters tend to use the oral/written communication style of the job candidates during selection process especially during interview sessions. Therefore, they should come up with various measures that can be used to gauge the other soft skills like interpersonal skills, problem solving, team spirit and leadership skills and not to focus too much on the communication skills. Instead of using interviews only in job selection, employers should also use various selection methods like work sample tests, personality tests and assessment centers which can be conducted using many different ways like interviews, written tests and demonstrations.

ENGLISH LANGUAGE PROFICIENCY: A CASE STUDY OF THE QUANTITY SURVEYING (QS) GRADUATES OF THE INTERNATIONAL ISLAMIC UNIVERSITY (IIUM)

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Recently, the employers in the construction industry are concerned with the quality of Quantity Surveying (QS) graduates produced by the local universities; not only with respect to technical skills, but also on the soft skills, such as proficiency in English language. These weaknesses have resulted in employability among the graduates. Thus, the main aim of this research is to study the level of English proficiency among Quantity Surveying graduates and the importance of such language in relation to employability. A set of questionnaires were designed and distributed to 100 construction industry employers, to investigate the employers perception on the English language proficiency of the QS graduates of the International Islamic University Malaysia; and to distinguish their level of English language in comparison with QS graduates from other local universities in Malaysia. Based on the findings, it was found that the level of English proficiency of QS graduates from IIUM were perceived to be good and excellent. This might be due to English being used as the medium of instruction in IIUM giving a good foundation for the students upon graduation.

ENHANCING SERVICE QUALITY OF THE ISLAMIC BANKS IN BANGLADESH: AN APPLICATION OF QUALITY FUNCTION DEPLOYMENT (QFD)

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The present research has found that customers perception on performance of Islamic banking system in Bangladesh is lower than expectations in all the quality dimensions. Customer specific requirements and expectations were collected through interviews and those requirements were subsequently prioritized. Next, bank officials were contacted to elicit the required technical requirements which will fulfil the customer requirements. Finally, quality Function Deployment framework has been used to match the customer requirements with the technical requirements. It was found that research in developing and launching new Islamic products and services, research about Islamic banking and customer satisfaction and establishing long-term plan for service quality improvement are the most important factors to enhance customer satisfaction on Islamic banking services in Bangladesh.

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ESTABLISHING A MODEL FOR FAMILY MEDIATION IN MALAYSIA: REPLACING THE MARRIAGE TRIBUNAL UNDER THE NATIONAL REGISTRATION DEPARTMENT

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Dispute resolution outside of court is not new; societies world-over have long used non-judicial and indigenous methods to resolve conflicts. Family disputes, more often than not, are rarely concerned with matters of fact but is almost invariably complicated by the intense and intimate emotions of the parties in conflict. Therefore, the utilization of other processes, such as conciliation and mediation, independent of litigation will lead to a more satisfactory resolution of disputes rather than relying on the judgments of the court of law. Section 55(2) of the Law Reform (Marriage and Divorce) Act 1976 (the 1976 Act) provides that even when the parties have presented a petition for divorce, if it appears to the court at any stage of the proceedings that there is a reasonable possibility of a reconciliation between them, the court may adjourn the proceedings for such period as it thinks fit to enable attempts to be made to affect such a reconciliation. In the case of a petition for divorce based on the irretrievable breakdown of the marriage, the petitioner must first refer the matrimonial difficulty to a conciliatory body before filing the petition. No person shall petition for divorce, except under sections 51 and 52 of the 1976 Act, unless he or she has first referred the matrimonial difficulty to a conciliatory body and that body has certified that it has failed to reconcile the parties. Practitioners of family law are of the view that the conciliation process in Malaysia has not been very successful in helping disputing couples resolving their problems and this is supported by statistics which shows that the success rate for these reconciliation sessions is very low. This research highlights on some emerging issues related to the effectiveness of conciliatory bodies appointed under section 106 of the 1976 Act especially the Marriage Tribunal under the National Registration Department (NRD). It highlights the problems and constraints faced by the conciliatory bodies and will suggest amendments to the law and policy.

ESTABLISHING URBAN SPRAWL INDEXES USING REMOTE SENSING AND GIS APPLICATION: A CASE STUDY OF METROPOLITAN KUALA LUMPUR

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The term urban sprawl has decades-long history in academic discourse and yet there is no commonly agreed upon definite of what exactly constitute urban sprawl. Researchers all over the world has various techniques and methods in determining urban sprawl, one of the method s is spatial factors measurement. Characterizing urban sprawl using spatial measures requires a concise definition of what constitutes urban sprawling spatial patterns. This research attempts to study the measurement of defining urban sprawl by using spatial factors indexes namely Urban Density, Leapfrog Development, and Highway Strip through remote sensing and GIS application. The SPOT-5 with 2.5 meter resolution were used and combined with GIS database to analyse the geospatial indicators using these indexes. Kuala Lumpur city has been designated as the study area to examine the urban sprawl development based on land use pattern for year 2012. Kuala Lumpur has been divided into 6 district, the study area selected are new township residential area with approximately 60 acres in each district which are Taman Melati, Bandar Tun Razak, Bangsar Baru, Sentul Raya, Bukit Jalil and Kampung Baru. The finding shows Kuala Lumpur city has identified as a sprawl based on indexes calculated. These measurements of Urban Density, Leapfrog Development, and Highway Strip also shows the gap between sprawl and non-sprawl indexes was very low which indicates that the city is facing issues on urbanization especially in handling and planning the rapid development of land. This study on the urban sprawl growth will give an opportunity for stakeholders to determined measures to be taken in solving big cities issues. In present research on spatial measurement, GIS and Remote Sensing technology has contribute in providing a new direction in urban sprawl studies that address the finding of sprawl present a robust analytical approach for characterizing urban development in city scale.

ESTIMATING HEDGE RATIO AND THE HEDGING EFFECTIVENESS OF STOCK INDEX FUTURES CONTRACT

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This study investigates the hedging effectiveness of stock index futures for three Asian markets namely Kuala Lumpur Composite Index futures contracts of Malaysia, Heng Seng stock Index futures of Hong Kong and the Nikkei 225 stock index futures contracts of Osaka, Japan. We employed four different econometric methods such as-conventional ordinary least squares (OLS) method, vector autoregression (VAR) method, error correction mechanism (ECM) method and generalized autoregressive conditional heteroskedasticity (GARCH) methods to estimate optimal hedge ratio and its hedging effectiveness. We found that GARCH model provides better results with respect to hedging effectiveness and Hong Kong market provides the better hedging performance to market participants.

ETHEM BEU MOSQUE, TIRANA A SPARKLE OF ISLAMIC ARCHITECTURE IN ALBANIA

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ETHEM BEU MOSQUE, TIRANA A SPARKLE OF ISLAMIC ARCHITECTURE IN ALBANIA Abstract With the advent of Islam as a religion in Albania, Islamic architecture was developed in parallel with the events during that time. During fifteen and sixteen (XV-XVI) centuries when the centralization of the Turkish Empire had reached its peak, Ottoman art in Albania became very significant in religious buildings. In beginning Islamic Architectural features were similar to the Turkish models, creating a way to local physiognomy as such in the seventeenth (XVII) century, local contribution to Islamic buildings in Albania became as a greater influence. In the late eighteenth century and early nineteenth (XVIII-XIX) century, the blending of Ottoman elements reached its peak with the appearance of a particular style of Albanian-Islamic Architecture. This research is attempted through literature review, case study of Ethem Beu Mosque and social survey to promote the evolution of Islamic architecture in Albania and its significance in Albanian architectural development. Finally it is concluded that Albanian Islamic architecture is a blend of religious and secular elements from Ottoman Islamic, local and western civilizations. Assoc. Professor, ** Assist: Prof., *** Master Student Department of Architecture, Kulliyyah of Architecture and Environmental Design, IIUM, Jalan Gombak, 53100 Kuala Lumpur, Malaysia *Email: aliraza@iium.edu.my Tel: +60172841261

EVALUATING THE EFFECTIVENESS OF A FAMILY-BASED INTERVENTION FOR FAMILIES AT RISK OF DRUG-RELATED PROBLEMS

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Family-based interventions have shown promising results in improving parenting style and strengthening family capacities to prevent substance abuse and delinquent behaviour worldwide. However, the effectiveness of a similar intervention in Malaysia has not yet been fully established. The current study investigates the effectiveness of a family-based intervention for families at risk for drug use in Malaysia. A cross-sectional pre-post study design of 137 participants of a nationwide family intervention program was employed. The individual and joint effectiveness of the six intervention modules were measured by a test of the participants' knowledge, understanding, and satisfaction of the skills taught in each module before and after the program. Results show that in general, participants knowledge and understanding have slightly improved after the intervention, but these were not statistically significant. Overall satisfaction with the program, however, was high. The justifications of the findings and implications associated with the implementation of the program are discussed.

EXPLORATORY STUDY ON THE MANAGEMENT OF GENERAL OVERHEAD COSTS IN MALAYSIAN CONSTRUCTION COMPANIES

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In order to stay survive in the competitive environment, contractors have to control the costs and maintain the quality of their products or services. However, there is an issue regarding the unmanageable general overhead costs due to the unpredictable production volumes for a company. General overhead refers to those expenses that are required for the company to function comprehensively. Managing the general overhead costs is considered as one of the effective way to improve the companies financial situation. It is because the general overhead costs will affect the total profit gain for a company. Moreover, it is also one of the factors that will make the business goes into bankruptcy if not managed properly. Thus, it is very important to pay attention to the general overhead costs all the time. Accordingly, this research focuses on the management of general overhead costs within the construction industry. Primary data collection is acquired by conducting semi-structured interview among the targeted respondents, which are large construction companies to explore main components of general overhead cost, challenges and strategies to control general overhead costs. In order to manage the general overhead costs, major components of general overheads are identified, such as head office expenses, head office staff wages and automobile expenses. The various challenges faced by the contractors in managing their overhead cost highlights the need to effectively manage general overhead costs as it is one of the key success factors for any organization.

EXPLORING CYBERNATED STORY TELLING VIA MULTIMODAL LITERACY: STUDENTS ENGAGEMENT AND INSTRUCTIONAL STRATEGIES

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Communication terrain has changed dramatically over the last decade. Literacy in the 21st century can now take various forms especially in the era where technology rules. However, one of the oldest ways of communication was through storytelling. Students share stories with powerful themes of happiness and laughter, joy and hope, courage and fear, and sometimes even sadness to help make meaning of the world around them and to connect with other students. Thus, schools may be an appropriate place for them to learn to share their stories. Thanks to the developing technology of digital storytelling, teachers may have a potential answer to help students learning new words to their familiar life stories to share in the classroom. Multimodal literacy has been utilized in many parts of the world to help children and adolescents to connect more meaningfully towards their learning and people around them. Cybernated story-telling is one way in which multimodal literacy can be used. It does not only use the digital form of telling stories but also through popular networking sites such as Facebook, Twitter, Instagram and the like which are very appealing to students. The use of technology to aid the learning process is in tandem with the Malaysian governments effort to introduce and maintain innovative teaching and learning stated in the Preliminary 2013-2025 Malaysia Education Report. Thus, this study focuses on multimodality in the representation and learning potentials of teaching materials and ways in which teachers could engage students in classroom interaction to optimize students learning. Multimodality in this study involves print, visual, information, media and graphic literacy (Silverton PS Catalyst Team, 2008). Students of Forms 1 and 2 (13-14 years old) from 6 Secondary schools around Gombak and Wangsa Maju in Selangor, Malaysia and their teachers are selected as respondents. Students in groups (with the guidance of their teachers) work together to create their own stories using the media mentioned. This story is then presented in class and school assemblies. Interviews with students and teachers, classroom observations and video recordings are carried out to find out their thoughts on the process of digitising story telling. The findings point to the direction of how schools respond to the challenges of engaging students in the digital world as oppose to the needs for students to perform in school examinations. It also suggests the importance of the differences of purposeful literacy practices to schools to that in which are meaningful to the students.

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EXPLORING TEACHERS PERCEPTIONS IN MANAGING INTERRACIAL INTERACTIONS IN A MULTICULTURAL SETTING: A CASE STUDY OF FIVE MALAYSIAN SECONDARY SCHOOLS IN KLANG VALLEY

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The multicultural school environment at the Malaysian national schools presents a number of issues and challenges for the in-service teachers. This study investigated the experiences of 16 teachers in five selected national type secondary schools in Klang Valley through a series of semi-structured interviews. The findings of this study revealed that low proficiency of the national language among non-Malay students, inadequate multicultural trainings for teachers, and lack of programmes and initiatives that promote unity in a multicultural environment are among the major hurdles faced by teachers. The implications of the findings and recommendations from the teachers on ways to improve the multicultural environment in schools are also presented.

EXPLORING THE RELATIONSHIP BETWEEN QUALITY CULTURE AND ORGANISATIONAL CLIMATE WITH WORKFORCE PERFORMANCE

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This study explores the relationship between quality culture, organisational climate and excellent work culture with particular focus on workforce performance at eight established institutions of higher learning in West Malaysia. Given the consideration of the confidence interval guidelines of 95% and margin of error at 3%, 1068 academic staff and quality managers were sampled to collect the data. The study employed a mixed-methods approach, in which both quantitative and qualitative techniques were used. Of the questionnaires administered, 702 were returned. The received questionnaires were then analysed (120 in the pilot study and 582 in the final study) using SEM statistical tools. The results of PCA, PA and CFA demonstrated that constructs of quality culture is represented by nine distinct factors, organisational climate by four distinct factors and excellent work culture and workforce performance by two distinct factors each. Furthermore, the results also found evidence of construct validity and reliability concerning the factors that constituted the four constructs. The proposed model of workforce performance was tested through the application of the SEM technique and the generated results show that organisational climate and excellent work culture have direct causal effects on workforce performance. The generated results also indicate that organisational climate and quality culture have indirect causal effects on workforce performance through excellent work culture. The generated results however confirm that quality culture does not have a direct causal effect on workforce performance in the context of selected universities. The findings suggest that university top management should not consider teaching as the sole criterion on which decision of staff appointment is made but should consider a variety of qualities. The findings also suggest that the university should organise quality culture programmes for academic staff to educate them about quality culture initiatives. Moreover, the findings suggest that a reward system that appreciates individual and group efforts should be introduced. Finally, the study concludes with a number of theoretical and practical implications to institutions of higher learning that were derived from the findings.

FACTORS INFLUENCING THE ADOPTION OF SOCIAL NETWORKING SITES: MALAYSIAN MUSLIM USERS PERSPECTIVE

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For social, emotional and cognitive development of the human being, Social Networking Sites (SNSs) provide an important milieu that eventually leads the human experience to the new era. Malaysia is one of the top countries where social networking sites are adopted faster. The purpose of this study is to determine the factors influencing the Malaysian Muslim users to adopt social networking sites. It will justify the social, educational, technological and other factors behind the adoption of social networking sites like Facebook, twitter and MySpace. The paper is conceptual in nature and proposes that a future research can be conducted with the Structural Equation modeling approach to sort out the significance and the relative importance of these factors behind the Muslim users adoption of social networking sites in Malaysia.

FISH AS INDICATOR OF A HEALTHY AQUATIC ENVIRONMENT IN URBAN LAKES IN KUALA LUMPUR

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Fish is among miracles species that can detect changes happen in environment. ecologists have found that some plants and animals species might be considered as indicator species, which are capable to give an illustration on ecosystem health. The scenario can be summarized as simple as the presence of these species becomes sign of a healthy milieu, while their absence tells another story. Reflecting the statement, this research was made to investigate the relationship between the availability of fish with the quality of water and environmental attitudes that can be the new bio-indicator for a healthy aquatic environment in lake gardens of Kuala Lumpur. The findings from this research will involve two measures; scientific and human dimension. Beyond the scope, this study can also increase the understanding on ecological function, which can contribute some ideas when designing ecological settings. To conduct the research, some methods have been applied, include observation, and survey questionnaire in order to identify the knowledge, behaviour, attitude and value of human towards environment and experiment to identify water quality.

FORMULATING A NEW MODEL TO MITIGATE ACCESS TO FINANCING PROBLEM AMONG SMES IN MALAYSIA

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The economic potential of the Small and Medium Enterprises (SMEs) sector makes SMEs development as an important government agenda. Their contribution is crucial and remains as an integral part of economic development of the country. Developing a group of diverse and competitive SMEs is a central theme towards achieving sustainable economic growth. SMEs in total constitute a large proportion of the economic activity and considered to be an engine of growth in both developed and developing countries. In developing countries, concern on the role of SMEs in the development process continues to be in the forefront of policy debates as they comprise a majority of the business population in most countries and therefore play a crucial role in the economy. The realization of the significant economic contribution of SMEs has resulted in increased attention focused on the sector from policy makers as well as academics. Easy access to finance is crucial for companies, in general, and for SMEs, in particular, both for carrying out their daily activities and for realizing the investment activity but also for achieving the growth objective. The difficulties faced by SMEs when they seek to secure financial resources may prevent their current business processes and their development and even may constitute a major threat to national economies. The World Bank Enterprise Surveys, realized between 2006 and 2009, have shown that SMEs perceive access to finance as a major obstacle to their growth and development. Moreover, the results of the World Bank Enterprise Survey [International Finance Corporation, 2010, pp. 22] show that a much higher percentage of SMEs in developing countries indicate the access to finance as a major obstacle in carrying out their activity. In Malaysia, SMEs generally face difficulties in obtaining financing with lack of collateral, insufficient documents to support loan application and lack of financial track record especially at the start up stage. Therefore it is paramount to investigate further and recommend solutions to these problems. This research therefore intends to adopt and formulate similar model practiced by the government of China in addressing similar issues and assess its applicability to Malaysian SMEs landscape with the objective to mitigate this financing gap issue. The new measure formulated based on best practice from China in addressing the issue of access to financing by SMEs especially at the start up stage can assist the government bodies and also financial institutions to devise a new regulatory framework and relevant financial schemes to mitigate the financing problem facing the SMEs in Malaysia. This may then prepare them to embark steadily and confidently with strong financial support thus improves further and enhances the development of SMEs in Malaysia.

FOSTERING "MUHIBAH-LED POLICIES, PROGRAMS AND MODULES" (MPPM) IN MALAYSIA

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The poster advocates a Muhibah-Led Policies, Program And Modules (MPPM) as a feasible plan of action for fostering inter-religious relationship in Malaysia. The MPPM is regarded urgent as the term muhibah has always been cited in abstraction. The MPPM therefore explores the meaning of muhibah, the potential policies, programs and modules inspired that can be proposed to relevant national agencies to enhance inter-religious relation in Malaysia

GENDER, METACOGNITIVE LEARNING STRATEGIES AND VOCABULARY LEARNING OF MALAY ESL LEARNERS

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Vocabulary learning is an integral part in mastering a second language. Vocabulary learning is often neglected. The focus is usually on acquiring reading, writing, listening and speaking skills. Students need to be systematically guided in the learning of the vocabulary. Metacognitive learning strategies are higher order executive skills that may entail planning for, monitoring, or evaluating the success of a learning activity (OMalley & Chamot, 1990). Metacognitive strategies deal with pre-assessment and pre-planning, online planning and evaluation, and post evaluation of language learning activities (Cohen, 1998). Metacognitive strategies enable the learner to think about the learning task (vocabulary learning), monitor the task and evaluate how well he or she has completed the task.Many studies have demonstrated that students who use metacognitive strategies tend to learn the language more proficiently and effectively than learners who do not (Van Aaken, 1999; Vandergrift, 1999; Zheng, 1998; Kohler, 2002). There was a strong correlation between metacognitive strategies and vocabulary size (Anderson, 2002).Zhao (2009) claims that students should be encouraged to analyze their own learning processes in order to improve their metacognitive learning strategies. Metacognition is a strong predictor of learning (Coutinho, 2007).Anderson (2002) assures that metacognition results in the learners reflecting and evaluating, i.e. thinking about their thinking. It helps the students in making conscious decisions about what they can do to improve learning.

GEOSPATIAL TECHNIQUES ON CONSERVATION OF HERITAGE SITE IN LEMBAH BUJANG THROUGH EFFICIENT LAND USE PLANNING

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Lembah Bujang is the oldest historical site dated back 2 million years ago as starting point of civilization oh Kedah Tua Kingdom. Recently the issues of Candi Sungai Batu(Site 11) have been cleared for development triggered questions on status of land use and jurisdiction over gazetting heritage site. Difficulties in this case are to have clear boundary of buffer zone as currently there is no data recorded on the original main candi complex as the area is still under on-going study of Universiti Sains Malaysia. The objective of this study is to identify how deep the roles of land use planning in conserving and preserving historical site with studying the techniques in defining clear boundary as buffer zone for the heritage area and its criteria. A profound study need to be conduct in identifying the original site of the main candi and the current land use and also how to manage development in the area. As it is impossible to impose all area consist of candis under reserve as the distribution includes private houses, road reserves and open space area. Identifying the criteria of the land use and land cover of the site is important to impose historical area reserve. So, to have a strong, undoubtful techniques and criteria for planning the land need to be fulfilled insuring no historical site need to be sacrifice for development is vital.

GHAZNAVID SCIENCE: A FOCUS ON AL-BIRUNI

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The Ghaznavids arose in late 10th century CE in Ghazni and created one of the largest Muslim Empires. They carved out their empire out of the erstwhile territories of fast fragmenting Abbasid Caliphate. The Ghaznavids succeeded in reuniting the Muslim lands of the Abbasid east and thus gave a new impetus to the course of Muslim history. In an overview of the Ghaznavids historical rise from a minor branch of a Turkish tribe to their ascendancy in the Islamic East, the paper argues that the reign of Sultan Mahmud (998-1030) stands particularly distinguished for its patronage of science and astronomy. The reign is particularly epitomized by the Sultans recognition and patronage of the mathematical, astronomical, geographical, and pharmacological genius Abu Rayhan al-Biruni (973-1048). Sultan Mahmud brought al-Biruni to his court and provided him with necessary intellectual environment for scientific scholarship. It was indeed due to Sultan Mahmuds patronage that al-Biruni was able to achieve unparalleled feats in the field of mathematics and astronomy. In inscribing a nonagon in a circle, al-Biruni reduced the problem, through the trigonometric formula for cos3, to solving the equation x3 = 1+3x and for this he gave the approximate solution in sexagesimal fraction as 1; 52,15,17,13. Just as modern institutes of learning underpin scientific and technological progress, so the continuation and expansion of learning initiated during the Abbasid period would have inconceivable without the due patronage and facilitation of the Ghaznavids rulers.

GOVERNMENT DELIVERY SYSTEM: THE EFFECTIVENESS OF LOCAL AUTHORITIES IN PERAK, MALAYSIA

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GOVERNMENT INFORMATION SHARING IN NATURAL DISASTER MANAGEMENT

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The frequency of natural disasters has been increasing for the last 30 years in the world, having caused great damages and losses. Among those damages and losses, about 90% are concentrated in the Asian region where natural disasters bring about the loss of lives, property, employment and damage to the physical infrastructure and the environment. Disaster management (DM) including disaster risk reduction (DRR)efforts aim to minimize or avoid the potential losses from hazards, assure prompt and appropriate assistance to victims of disaster, and achieve rapid and effective recovery. While data,information, knowledge and resources sharing can enhance the process of DM, there is a perceived gap in government collaboration and coordination within the context of natural DM. The objective of this paper is to present the literature findings on success factors that ensure the quality of government information sharing (GIS) in supporting effectively DM. Accordingly a conceptual model of GIS is set-up to explore what factors influence government agencies participation in GIS. It is tested through empirical research taking disaster-related government agencies. It is showed that political leadership support, inter-agency collaboration,individual agency capacity including ICT, and agency expected benefits have significant influence on the participation of agencies and quality of GIS in DM.

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HOSPITAL ACCREDITATION STATUS: SAFETY CULTURE AND BARRIERS TO MEDICATION ERROR REPORTING

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Accreditation has been embraced by many healthcare providers as a mean to embark on a journey towards a safer care. As a systemic intervention, accreditation is expected to have a positive effect on safety culture, and, consequently, safety behaviour (e.g. error reporting). However, the evidence of its ability to enhance safety culture and patient safety behaviour, especially from the local perspective, remains inconclusive. Hence, this study aimed to investigate the safety culture and barriers to medication administration errors (MAE) reporting among nurses with regards to hospitals accreditation status. A survey, which consist of the MSAQ (Che Kar, 2013) and the Barriers to MAE reporting scale (Wakefield et al., 1999), was administered to nurses (n=175, with 76.1% response rate) of two public hospitals in East Peninsula of Malaysia which has a different accreditation status. Data was analysed using descriptive statistics, independent t-test, and Pearson correlation. Job satisfaction was the only safety dimension which was positively perceived by nurses (mean¿75) in both hospitals. There was no significant difference in overall safety culture level between accredited (mean=73.25) and non-accredited hospital (mean=74.25, t(120)=.357, p=.722). All the barriers towards MAE reporting were significantly lower in accredited compared to non-accredited hospital (p¡.05). Administrative response emerged as the major barrier to medication error reporting in both types of hospitals, followed by fear, reporting effort and disagreement over definition of error. Moreover, a correlation analysis showed that there was an association between safety culture and barriers to MAE reporting in accredited compared to non-accredited hospital (p¡.05). Although the present study showed that accreditation status was not related to the safety culture level in hospital within local context, nurses in accredited hospital does perceived fewer barriers in reporting medication error compare to non-accredited hospital. The association between safety culture and barriers to MAE reporting in accredited hospital demonstrated the positive influence of the former in overcoming the latter.

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HOUSING DEVELOPMENT AND CONSUMER PROTECTION: A STUDY ON THE ISSUE OF LATE DELIVERY OF VACANT POSSESSION FROM THE CONSUMER PERSPECTIVE

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A delay in completion of housing project is a common phenomenon in the housing industry in Malaysia. Buyers are often forced to accept the fact that it is 'better late than never'. Late delivery has several negative implications to the customers which actually causes financial, social and emotional problems to the house buyers. This study aims to explore consumers experiences with regard to the problems of late delivery in housing projects in Malaysia. In methodology, the paper conducts a survey on 406 house owners who had experienced the late delivery of the houses in the Klang Valley and Selangor areas. Findings of the study would provide the information of what are the implications of the late delivery to the consumers and analyse the adequacy of the existing legal protection to consumers of late delivery. Ultimately, the study hopes to shed light on further improvements of the policy to minimize or prevent the delay in completing the housing project as well as to protect consumer interests in the case of late delivery of vacant possession in the housing market in Malaysia.

HR PRACTICES, ORGANIZATIONAL ENGAGEMENT AND TURNOVER INTENTION: A STUDY ACROSS DIFFERENT GENERATIONS IN MALAYSIA

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The age gap between older and younger generations might pose challenges in management and development of potential employees. Generation Y were reported as individuals who look forward to challenging jobs, are receptive to changes and put high value on independence and their own skills. Unlike baby boomers, they perceive work-life balance as very important and willing to change organizations to expand their skills and experience (Salopek, 2000). This view is further supported by Hagemann and Stroope (2013) who posited that generation X and Y people are more loyal to their career progression rather than loyal to their organizations. This has triggered the needs to conduct a study that examines the effect of HR practices on the organizational engagement (OE) and turnover intention (TI) across the three generations. Data collected for generation Y and X were 199 each and for generation baby-boomers (Gen BB) was 169. In total, there were 567 respondents. The data was collected using questionnaire. The measurement items were adopted and adapted from Dulebohn and Ferris (1999), Sturges et al. (2000), Cable & Judge (1996), Abdel Halim (1981), Smith (1976), Saks (2006) and Camman et al (1979). All the items were measured on a 5-point scale, which ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). The study revealed that for generations X and Y, rather job enrichment programs that provide them with the opportunity to be assigned to different tasks, functions and projects that became one of the pivotal reasons to stay engaged. It is also worth noting that for gen BB, the fit between their values and the organizations was not only the sole significant predictor for OE, because it was also the sole significant predictor for TI. As for generation X, they have more significant predictors for TI. This implies that unlike gen BB, gen X are more prone to leave their employers when they receive more opportunities for career development. Therefore, it is important for employers to design an HR scheme that can develop skills but at the same time retain the gen X employees. It is also interesting to note that for gen Y, the training support they received became the sole significant contributor in reducing their TI. The overall Pearsons correlation tests across the generations BB, X and Y indicated two interesting observations. First, performance appraisal was found consistently related significantly to both OE and TI across the three generations. This was not the case for the other HR practices. This signifies the crucial role of evaluating, monitoring and managing performance of employees regardless of age. The second interesting observation which was quite unexpected is pay was only found as significantly related to OE across generations BB and Y but it was not related significantly to TI at all.

ICOLLECT: MOBILE E-PORTFOLIO APP

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The recent trends in the field of ICT initiates a rapid use of mobile devices among educators and students alike. In fact we could share wide range of information with our relatives, friends, and colleague using a wide range of mobile tools and gadgets (MLearning, December 2010). With the latest development in mobile technology, the use of hand phone can be extended not to only text-based messages but to also include rich multimedia contents. The issue, however, that should be taken into account is how best we might use these resources to support teaching and learning processes given the fact that the use of mobile gadgets among our students and lecturers is almost very much abundant (Thornton & Houser, 2004; Proctor & Burton, 2003; Colley & Stead 2003). The present research seeks to shed some light on the workable model for using and developing a mobile application for learning through electronic portfolio in particular, sharing various types of artifacts, reflective journal writing, learning experiences between the students and their peers in a more convenient way via mobile such as iPhone, iPad or android-based smart device. The present project tends to explore further the development and implementation of the mobile accessibility for the electronic portfolio service available via the Web. This obviously will equip it with an added value to be utilized by the end users. It enriches their learning and teaching experiences as well as realizing them the true unleashed potential of communicating and sharing via the mobile approach.

IMPLEMENTATION OF OPEN SPACE POLICY BY THE STATES IN PENINSULAR MALAYSIA

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The provision of open spaces within a residential development is often seen as unimportant. The Malaysian Government targeted to provide 2 hectares of open space per 1000 population to be achieved as a developed nation status by the year 2020. This vision can be seen as the Government attempt to ensure the sustainability of open spaces in Malaysia. The Federal Department of Town and Country Planning, Peninsular Malaysia (FDTCP) has produced a planning standard guideline to supervise the implementation of the open space policy in Malaysia. According to FDTCP; until December 2009, Malaysia has achieved a percentage of 1.19 hectares of open space per 1000 population. Achieving the standard requires commitment of local authorities to implement the open space policy. However, the adoption of open spaces policy differs among local authorities, from a simplistic general approach of land ratio techniques to an ergonomics method. The paper examines the local allocation practices using 5 different approaches and it argues that implementation of open space by local planning practices requires the knowledge of and understanding by planning profession towards a long term sustainable green objectives.

IMPLEMENTATION OF TQM IN PUBLIC UNIVERSITIES OF SAUDI ARABIA: CHALLENGES AND RESOLUTIONS

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Application of TQM in higher education sector is not new. However, at the time of implementation of TQM, university management faces myriad of problems, as implementation of TQM entails a cultural change in the organization. Therefore, making this change happen essentially faces daunting challenges. The purpose of this work to identify the challenges of TQM implementation in Saudi public universities. The research has also identified the ways how to overcome those challenges so that TQM is implemented in these universities without shading tears and the nation can attain academic excellence.

IMPLICATIONS OF VEGETATION AND LANDSCAPE FENCING ALONG JALAN RAJA LAUT ON URBAN POPULATIONS

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Streetscape is among the important elements of a city, for it relates to the quality of an urban environment and the well being of the population. On the other hand, vegetation and landscape fencing are the landscape elements observed to complement the functions of an urban streetscape. This study addressed the implications of vegetation and fencing on urban population using questionnaire survey and field observation techniques. The study area was along the Jalan Raja Laut, Kuala Lumpur with sample size of 33 respondents, who varied from tourists, dwellers and passerby. Interestingly, results of the field observation show that most of the urban populations (66.7%) enjoy sitting on planter box after lunch hour. On the other hand, results of a pilot test using questionnaire survey show that vegetation and landscape fencing have positively implicated the urban populations. Majority (81.8%) agreed that the landscape fencing has environmental friendly design approach. Secondly, 69.7% of the respondents agreed that the element has significant effect on the visual image of the nearby buildings. Finally, more than half (57.6%) of the respondents agreed that the fencing has scenic value. Surprisingly, less than half (47.7%) of the respondents agreed that the vegetation along the street has scenic value, while the rest agreed that it provides buffer and shade to urban populations. In summary, both vegetation and fencing introduced along the Jalan Raja Laut have significant roles and provide good implications to business and well being of urban populations. Therefore, both elements should be continuously introduced in the future planning of the City of Kuala Lumpur. In relation to that the effectiveness of the implementation should receive support from the local authority and others relevant government agencies.

IMPROVING WRITING SKILLS THROUGH FEEDBACK IN MYARABIC FORUM

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The use of a learning management system (LMS) has brought a renewed attention to language teaching. Yet, a question that remains to be answered is the extent to which the system can be used to support the pedagogical approach adopted by the instructor. This paper introduces the use of MyArabic to facilitate the teaching of Arabic as a foreign language. MyArabic was developed on a Moodle platform, and was used in a task-based teaching environment. This study will focus on how this LMS was used as a medium to encourage peer feedback to develop students Arabic writing skills in a research writing course. Over the course of one semester, 15 pre-university students in an FL Arabic course were taught the basic elements of research papers and each was expected to produce a research paper related to Arabic language studies. In the course of producing the paper they were required to discuss with peers any issues pertaining to writing the paper via the forum facility in MyArabic. To see if the online peer feedback positively affected the students writing quality, their writing drafts were compared. Analysis of the results indicated that the quality of writing improved. There was also a positive correlation between the number of words used in discussing the topic and the quality of writing produced.

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INNOVATION IN EDUCATION THROUGH LESSON STUDY: INCORPORATING DISASTER RISK REDUCTION IN MATHEMATICS LESSON TO INCULCATE TSUNAMI AWARENESS

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Measures for disaster risk reduction (DRR) can be integrated into a nations education system in order to help build long term resilience of the people and education system. Consequently, children can be taught about natural disasters so that they are aware of calamities and be reminded of Allahs greatness. Being exposed to emergency preparedness education may even enable them to save their live and other peoples lives . This paper reports on a research that aims to inculcate students awareness of natural disasters through a mathematics lesson that focus on saving ones life from tsunami, via lesson study. The lesson was repeated with two other classes and students were given pre and post test to determine their different level of understanding before and after the lesson. The year 5 students were found to have benefited from their lesson in terms of their increased knowledge of tsunami, and their ability to apply their knowledge on rates in finding the best alternative to the problem posed on saving their life. Students in the second repeat lesson was found to have significantly higher understanding of tsunami and rate, compared to the first and third classes due to some identified reasons. Finally, lesson study was able to help enhance teachers pedagogical content knowledge and help them to produce lesson plans that incorporate student-centred, authentic lesson that also integrate awareness of natural calamities, use of technology and students creativity in problem solving

INTERCULTURAL COMMUNICATION IN NATIONAL SECONDARY SCHOOLS: IN PURSUITS OF NATIONAL RECONCILIATION

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This study examines the practice of intercultural communication in selected Malaysian national secondary schools in Selangor. The two main purpose of the study are to identify perceptions toward intercultural practice in national schools among secondary pupils and to investigate whether there is any significant difference among ethnic groups in their perceptual factors towards the phenomenon studied. The findings of the study informed that even at secondary schools Malay, Chinese and Indian students already held significantly different social perceptions about intercultural communication in their school environment, which if not addressed seriously might be an impetus towards unparalleled vision and kindred spirit as Malaysian. The findings of the study are also discussed in the context of national reconciliation.

INVESTIGATION OF MALAYSIAN HIGHER EDUCATION QUALITY CULTURE AND WORKFORCE PERFORMANCE

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Purpose: The purpose of this study is to examine the relationship between the quality culture and workforce performance in the Malaysian higher education sector. The study also aims to test and validate the psychometric properties of the quality culture and workforce performance instruments used in the study. Methodology: A total of 267 academic staff from the International Islamic University Malaysia completed the survey questionnaires. A principal component analysis (PCA) technique was performed to extract the underlying factors, followed by the application of confirmatory factor analysis (CFA) to test factorial validity of the constructs. Findings: The analysis yielded a nine-factor-indexed quality culture construct, while the workforce construct constituted two factors. The findings of the study postulate statistically significant correlation between quality culture and workforce performance. Practical implications: The findings of the study suggest that a quality culture initiative can be used effectively in the context of the Malaysian higher education sector to enhance academic staff performance. Originality: The results are important since there have been few published studies on quality culture that examine its effects on academic staff performance in the Malaysian higher education sector.

IQBAL'S THEORY OF PERSONALITY: A CONTRASTIVE ANALYSIS WITH FREUD

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This study in the area of philosophical psychology is a contrastive analysis on the personality theories that have been showcased to the world by Freud and Iqbal. In analyzing the data pertinent to the study, the researcher has used the historical and content analysis methods. As a prelude to the kernel of the research, the researcher has explored the historical and philosophical developments that have taken place in the areas of human nature and personality in the West and Islamic world. The fact that both Iqbal and Freud believed the inner dimension of man, particularly the ego, which plays a pivotal role in all human behaviours has drawn the interest of the researcher to explore their concepts on the human psyche, and on how personality development takes place in individuals. Through the contrastive analysis, it has come to light that Freud and Iqbal had conceptualized their theories on personality as a response to the demands and challenges of their time. Besides that, factors like their personality, philosophy towards life, education and their travels have influenced directly or indirectly their conceptualization of their theories.

ISLAMS ENCOUNTER WITH WOMENS RIGHTS AND FEMINISM: THE NEED FOR GREATER ENGAGEMENT OF MUSLIM WOMEN

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The question of women's rights in Islam generates huge interest among Muslims and non-Muslims alike. Scholars of feminism are sharply divided on the question of women's status in Islam. One group associates Islam with misogyny and gender oppression, while the other celebrates the religion as a liberatory force for women. Remarkably, despite a surge in female educational attainment and consciousness in Muslim societies, compared to their secular counterparts, Islamic women have not taken an extensive part in the discourse of women's rights and feminism. In light of this perception, this paper will highlight Islam's gender egalitarian values and discuss the urgency and efficacy of Muslim women's greater involvement in the discourse of women's rights.

ISLAMIC BANKING AND FINANCE: PRINCIPLES AND PRACTICES

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This introductory textbook is presented in ten related chapters. A breakdown of the ten chapters of the textbook reveals a systematic synthesis of the conceptual framework and prevailing practices in the Islamic banking and finance industry. The book covers almost every aspect of Islamic banking and finance and each of the chapters reflects current practices in the industry through appropriate case studies and figures that will aid the understanding of the theories, concept and practices of Islamic banking and finance.

ISLAMIC VEXILLIA OF THE MALAY ARCHIPELAGO: ORIGIN, PATTERNS AND ORDINANCES OF THE HISTORICAL AND CONTEMPORARY FLAGS

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Until 1957, vexillology was a sub-division of heraldry, an ancillary science of history and archeology. It is the scholarly study of flags, standards and banners of the past and the present. Malay Peninsula and Islands with its rich and complex historical heritage is still a periphery of systematic research, professional classification and inventory of historical flags. This study is a systematic identification of all existing flags, banners and standards used in Borneo, Sulu Isles, Sulawesi, Maluku, Sumatra, Java, Mindanao and Malaysian Peninsula as the battle, royal, tribal, ethnic, regional, commercial, political and national insignia from the pre-colonial times until today. Author of this research analyzes the Muslim sultanates vexillia according their shape, tincture, charges and religious symbolism. The Islamic restriction on images of living creatures and figurative symbols drove the Muslim art and selection of flags (liwa, raya) into highly ornamental and calligraphic techniques. The oldest and most popular symbols or charges on the flags of the Malay Islamic states were/are crescents (hilal) and the double-bladed sword of the Prophet Muhammad (sws) and Hadhrat Ali(ra) called Dhulfikar. As late as the 19th century, the flags with such symbols, red field and white Quranic inscription were still in use. The Muslim flags of Nusantara had/have colors unknown in the European heraldry. They were profoundly inspired by the Islamic vexillia of the Indian, Arab, Turkic or Persian maritime banners of the Muslim regional powers (Osmanlis, Gujaratis, Timurids, Mamluks, Safavids and Hadramauti emirate) . The modern, national and nationalist flags of the ACEAN states are mostly replications of the European vexillia of the Dutch, Spanish or British states, ornamented with native flora, aboriginal motifs or artistic forms. Address: Prof. Dr. Ataullah Bogdan Kopanski, ISTAC, Taman Duta, 24, Jln Persiaran duta, K.L. tel. (Mobile) 016 2662615 ataullah@iium.edu.my

ISSUES AND CHALLENGES IN THE IMPLEMENTATION OF SCHOOL-BASED ASSESSMENT (PBS) IN SELECTED PRIMARY SCHOOLS

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The advent of the Information and Communication Technology has brought a paradigm shift in many areas of the curriculum. With the ease of access to information, the emphasis has shifted from the product or content to be fed to students to the process, that is the means or the skills necessary to achieve the educational aims. Thus, the shift from a subject-centred to the learner-centred curriculum. In fact the twenty first century skills for learning have changed. The abilities to find and organize information to solve problems, frame and conduct investigations, analyze and synthesize data, apply learning to new situations, self-monitor and improve ones own learning and performance, communicate well in multiple forms, work in teams, and learn independently have become the in thing. It was in this context and catalysed by the poor performance of Malaysian students in TIMSS and PISA, that drove the nation to introduce and implement the school-based assessment (SBA) in 2010. The SBA decentralizes the currently centralized public examinations and recognizes both the summative and formative assessments and thereby empowers teachers. The emphasis in on higher order thinking skills which is now one of the six aspirations in PPPM 2013-25. This reform is in line with the National Philosophy of Education which desires to produce a balance, holistic and integrated individual. Three years after it was implemented, teachers who are supposed to be the agents of change are still complaining against the SBA. Any school reform will fail without the support of teachers. This study is based on this concern and it attempts to highlight the issues and challenges facing this newly introduced reform in an effort to come up with a more teacher friendly SBA. Keywords: School-based assessment, soft skills, holistic education, teacher empowerment, curriculum reform.

ISSUES AND CHALLENGES OF USING CALL IN LEARNING ARABIC: CONSIDERATIONS FOR CONTENT DEVELOPMENT

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The objectives of this research: are to introduce Computer Assisted Language Learning (CALL) scholars and their activities to the Arabic readers, provide the Arabic readers with many issues of CALL, introduce CALL journals to our teachers as well as to our students in IIUM and the Arabic readers, provide our teachers as well as our students in IIUM with CALL organizations, provide our teachers as well as our students in IIUM with latest CALL information and books, introduce CALL conferences information to our teachers as well as to our students in IIUM and the Arabic readers. Methodology: The researchers designed questionnaire with eleven items about CALL issues e.g. (the future of CALL, CALL status at present, methodology of CALL, CALL and research, the theoretical framework of CALL, the development of CALL materials, the opportunities for training CALL teachers and the CALL in the third world as well as the CALL scholars comments and suggestions). The researchers sent this questionnaire to CALL scholars for their responses. The researchers used their opinions and suggestions after analysing their responses. The significant of this research are based on the researchers knowledge there is no other researchers dealing with Computer Assisted Language Learning in Arabic language, provides suggested Arabic CALL curriculum and guidelines to our teachers as well as our students in IIUM in designing Arabic CALL lessons and CALL curriculum, provide guideline to our teachers as well as students in IIUM in designing criteria of Arabic CALL evaluation. This research is also assisting our Arabic CALL teachers in CALL research as well as providing many articles and it is also reviewing CALL programs. The development of CALL material relates very much on education systems; an enhanced understanding of language pedagogy, each countrys education policies and resources. Training teachers is fundamental, but often neglected due to time and cost factors, computers will be used, but without a cogent argument to state that they improve the situation, administrators and policy makers will be hard pressed to justify additional expenses. Word-processing is still the most common application in CALL. The problem then as now knows enough about the technology and pedagogy to integrate the two effectively (see Ahmed , 2002b).

KM READINESS: A HOLISTIC APPROACH

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This study seeks to investigate the factors that contribute to overall organizational readiness for knowledge management (KM) process implementation. In this pursuit, this study considered KM oriented organizational cultural, structural and technological factors with human acceptance and intention to be involved in KM process as the determinants of organizational readiness for KM process implementation. Based on established measures, questionnaires were administered using survey research methodology approach on 313 executives working in the selected organizations in the Sri Lankan telecommunication industry. The first order measurement model using AMOS version 16, was used to validate the measurement employed. Subsequently, a second order analysis was performed. As all model fit indices are good and all the structural coefficients are significant, it suggest that the model fit to the data. Therefore, the suggested determinants can be used to explain the concept of organizational readiness for KM process implementation. The research provides a unique perspective of KM readiness and the measurement produced can be used as a research tool for more exploratory and explanatory research in the area of KM.

LAND USE, PHYSICAL, AND ENVIRONMENTAL IMPACTS OF AIRPORT EXPANSION: THE CASE OF KLIA 2 EXPANSION

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The research assessed the physical, and land use impacts of airport infrastructure upgrading and the expansion of Kuala Lumpur International Airport 2 (KLIA 2), the second budget airline. The study examined several indicators of impacts of development such as land use changes, air travel demand increase, community severity and the general air pollution and noise pollution impacts caused by an airport expansion. The sampling locations were selected based on the intensity of the development within the sites and the severity of the land use changes. The increased intensity of construction activities and land use changes had direct relationships with the noise and particulate matter levels.

LEGAL REDRESS FOR IDENTITY THEFT IN MALAYSIA: A HOPE OR HYPE?

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Identity theft is described as unlawful acquisitions of personal data that belongs to other individuals. It provides ammunitions for further action such as credit cards forgery or impersonated bank accounts that are used as a platform for further crimes. Though identity theft incidents increase from time to time, they hardly end up in prosecution. This situation has been largely credited to the absence of the specific law on identity theft. Against this background, the enactment of Personal Data Protection Act 2010 triggers huge interests. The law, which seeks to regulate the processing, storing and use of personal data of individuals in commercial activities, is now expected to fill the gap on identity theft issues. This paper analyzes to what extent this hope can be realised, by assessing the relevant provisions in the Act.

LOCAL RESIDENTS PERCEPTIONS TOWARDS SOCIO-ECONOMIC IMPACTS OF ISKANDAR MALAYSIA DEVELOPMENT

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The research discusses the implication of underlying regional economic theories and policies on social and economic development in Iskandar Malaysia. Furthermore, the study investigates local peoples knowledge and perception towards Iskandar Malaysia development as one of the main economic accelerators in the southern part of the Peninsular Malaysia. A questionnaire survey was conducted among the local people within the 5 flagship zones in Iskandar Malaysia regional economic development. The research had produced a picture on local people perception and knowledge towards the development in Iskandar Malaysia. Several social and economic issues and impacts of these issues are also identified in the research.

MAN: A CONTRASTIVE ANALYSIS BETWEEN WESTERN AND ISLAMIC PSYCHOLOGIES

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In the field of psychology, the research on man, which started in the ancient past, is an on-going study even during this modern and scientific age. It is an undeniable fact that with the passing of time from the primitive to modern, new things have emerged with regard to the study on man and his nature. Being perennial in nature, the old and the new studies conducted on man, try to unearth and bring to light many of mans potentials, which were not known previously. Although at times many of these studies complement one another in answering the intricate questions on the nature of man, there are also times when they contradict one another in their understanding on man. In view of this reality, this qualitative research is an attempt to provide a contrastive analysis on the concept of man portrayed in the mainstream Western and Islamic psychologies. As such, the researcher will analyze and highlight the differences and similarities on the concept of man found in psychoanalysis, behaviourism, humanistic psychology and Islamic psychology.

MAPPING THE VALUES OF URBAN SIDEWALK TOWARDS CREATING A RESPONSIVE PEDESTRIAN ENVIRONMENT IN KUALA LUMPUR

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In today's digital age, urban sidewalks can contribute to the quality of outdoor life for people in the city through facilitating better pedestrian movements, street activities and the citys green network. However, they are often regarded only as connective linkage for walking. Due to this, sidewalk designs lack concern on the social needs of pedestrians that lead to the loss potential of public spaces and green networks. The sidewalks in Kuala Lumpur are unique with informal street activities that make them attractions for people and tourists. The aim of this study is to re-examine the values of urban sidewalk towards creating a pedestrian environment that is responsive to social, environmental and economic needs. The study is conducted through case study of two street environments in Kuala Lumpur: Bintang Walk (modern shopping street) and Jalan Tuanku Abdul Rahman (heritage shopping street). The techniques used in this study was through a qualitative approach consisting of detail observations, behavioural mapping and semi-structured interviews with 60 pedestrians. The data was collected over the course of four weeks on weekdays and weekends, in four timing intervals morning, afternoon, evening and night. This method was selected to gain an in-depth understanding of how people occupy and value the sidewalk, as a way of construing lessons of how sidewalks can function as a responsive pedestrian environment. The findings from this study revealed that the roles of urban sidewalks have evolved to accommodate social, environmental and economic activities that are important in creating a vibrant and sustainable city. Planning and design of urban sidewalk in the future must be able to meet the needs of these vital aspects to ensure a responsive pedestrian environment. This is vital in guiding landscape architects, urban designers and city planners to plan and design urban sidewalk that has qualities suitable to the local environment and culture.

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MEASURING THE VOCABULARY SIZE OF MUSLIM PRE-UNIVERSITY STUDENTS

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The last decade has seen an increased interest in the field of second language vocabulary acquisition (SLVA). The findings in SLVA research point to a need to identify learners existing vocabulary size to ensure that they achieved the threshold level of vocabulary. The present study aims to measure the vocabulary size of pre-university students at a public university in Malaysia. The receptive and productive vocabulary size tests were administered to 190 students. The results indicate that these pre-university students have yet to achieve the recommended threshold level of vocabulary that is needed to enable them to successfully acquire vocabulary independently. It was also found that there was a strong relationship (r=0.737) between English language proficiency and vocabulary size, statistically significant at p¡0.01 level. Students performance in receptive and productive vocabulary was also found to be strongly related (r=0.862), statistically significant at p¡0.01 level. This study provides the empirical evidence of the importance of guiding students to acquire the threshold level of vocabulary, thus facilitating them with the skills to further develop their vocabulary repertoire independently.

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MEDIA ROLES IN INCREASING AWARENESS OF A CATASTORPHIC RISK IN MALAYSIA

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Hazard assessment is one of landscape planning procedure. These are to identify dangerous zones in the environment, where land use would be in jeopardy of damage or destruction. The study will highlight on media role in increasing human awareness to response to these phenomena. The intention is to foresee the important role of media to increase public awareness on dam failure and its safety procedure. It has been recorded worldwide that there are 30,000 of water retaining embankment (less than 10m) in the 19th century. However, due to the constraints from the site conditions, requirements of having greater water storage and higher and higher electricity demand have been the factors contributing to the increased height of dams to be more than 20m. However, based on previous experiences dams have periodically failed or suffered incidents due to various causes such as ages, flooding, piping, foundation or slope failures, human error, or war. To-date, Malaysia has not had any record of such failures. However, the age factor might put a dam at risk of failure and caution need to be taken in term of safety point of view. Concerning this hazard risk, Public Work Department (PWD) has established Interdepartmental Committee on Dam Safety in May 1986. This committee managed to conduct awareness programs on dam safety and in 1989 they have published Guidelines for Operation, Maintenance and Surveillance of Dams. However, this guideline was focusing on dam owner. It has been 24 years since the document was first published, and it is about time for it to be improved and public should be included in its awareness program. Hence, the purposes of this study are to identify media role in increasing awareness of dam failure hazard and also to assess public knowledge of their risk in the event of dam failure.

METHODS TO ESTIMATE REMITTANCE OUTFLOW FROM FOREIGN LABOURS IN THE MALAYSIAN CONSTRUCTION INDUSTRY

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The Malaysian construction industry today is much acquainted with the employment of foreign labours at construction sites. It is directly related with the series of remittance transfers since remittances have become a prominent source of income to many labour exporting countries. Remittance has been discussed by many and various studies have been done in regards to the issue. However, the study on sectoral contribution of remittance in particularly to the construction sector is still lacking. This study focuses on the issue of remittance outflow by the foreign workers employed in the Malaysian construction industry. The objective is (i) to understand the issue of remittance, (ii) to propose methods to estimate the amount of remittance from foreign labours in the construction industry in Malaysia, and (iii) to estimate the amount of remittance based on proposed methods. Through published data, particularly the daily wages and number of foreign labours in general and in the construction sector, the sectoral distribution of remittance outflow focusing on the Malaysian construction industry is estimated. Data was collected through desk research and published data was gathered and analysed. It was concluded with the comparison between proposed methods and its results, and suggestion for other methods, i.e; Computable General Equilibrium (CGE) Modeling.

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NEW DIMENSIONS AND PROSPECTS IN THE MODERN ERA OF ARABIC LANGUAGE TEACHING

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The study in this work aims at an effort to revitalize Arabic Language teaching in Institutions through the highlighting of modern challenges and introduction of new devices into the system. It establishes that Arabic language teachers should plan to teach as required by this present age, so that there will be achievement of the required goals of Language teaching in the present global scenario. The study deals with the importance of teaching Arabic to fulfill the ever growing demands for it. The methods and approaches adopted or followed by teachers in the past to teach Arabic language, the lacunae in their language teaching which is the second language for both teacher and students is discussed. Challenges before teachers in the present day ALT are taken up in this study. The way in which students can put their learning into practice in day-to-day use to fulfil their practical demands through effective communication skills apart from gaining command over Arabic language is highlighted. It also deals with various language games which are introduced in teaching to create interest of students in learning Arabic language apart from conventional learning. Likewise, the research concludes on the reasons for the commitment of the contemporary Arabic Language learners to the application of suitable cohesive devices in this linguistic aspect so as to achieve effectiveness of communication in the global community. The paradigm exploited in the research paper has made it easy to arrive at some findings, suggestions and recommendations through the method of description and analysis.

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NON- ACADEMIC DIGITAL LITERACY PRACTICES OF UNIVERSITY STUDENTS WITH IMPLICATIONS FOR ENGLISH ACADEMIC WRITING

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The purpose of the study is to investigate the existing non-academic digital practices of the respondents and describe ways in which they envision on bringing their digital literacy practices into their English academic writing assignments. In achieving the objectives of the study it is imperative to investigate the respondents engagement of non-academic digital literacy practices. Then examination of how these respondents think their non-academic digital literacy practices could effectively aid their English for Academic writing assignments will be performed. A mixed method study employing the semi-structured interviews, document analysis and a survey questionnaire are carried out with 200 university students of various courses and levels. A sample of each of the respondents assignments are analyse and is compared to their non-academic digital products such as posts on Twitter, Facebook, Instagram and the like. The results in which the identification of students non-academic literacy practices evidently support English academic assignment writing will point to the direction of how digital practices in general could be valuable in supporting students academic writing. Concurrently, it may also indicate students use of digital tools as a mediation of cognitive engagement in content reception of the course in which their non-academic digital practices is perceived as productive in helping them to excel in their academic writing afforded by various digital technologies.

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ONLINE SHOPPING IN MALAYSIA: LEGAL PROTECTION FOR E-CONSUMERS

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The rapid growth in e-commerce witnesses the emergence of a new group of consumers known as e-consumers. This new group of consumers is increasing in number over the years as online shopping become a trend and a manifestation of the modern life style. However a distance and complex nature of online shopping has led to some new problems and challenges pertaining to consumer protection. One of the perennial problems that needs considerable attention is the adequacy of the existing legislation in Malaysia to meet the basic needs of online consumers. Even though the Consumer Protection Act 1999 (CPA) was amended in 2007 in order to protect the interests of e-consumers, the question remains as to how far the CPA and other existing legislation, namely the Contracts Act 1950, Sale of Goods Act 1957, Direct Sales and Anti-Pyramid Scheme Act 1993 and Electronics Commerce Act 2006 can protect e-consumers in sale of goods contracts. Therefore, this paper is tasked to generally analyze the existing Malaysian law on sale of goods and to determine the extent to which those laws are adequate in providing protection and preserving the interests of e-consumers in order to overcome their anxieties as well as building up their confidence in purchasing goods online.

ORGANIZATIONAL LEARNING AND INNOVATION: THE CASE OF SMES IN MALAYSIA

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This research is an attempt at empirically testing the link between organizational learning and innovation in SMEs in Malaysia. According to the literature, organizational learning and innovation are crucial factors in firms performance but the focus of present study is to determine whether organizational learning lead to innovation. This study was conducted in a sample of 278 SMEs in Malaysia. The hypotheses in this study were developed to examine the relationship between organizational learning (OL) and innovation (OI). To conduct the analysis we made use of Analysis of Moment Structure (AMOS 18.0) and SPSS 17.0. The findings approve the hypotheses implying a significant positive relationship between OL and OI. Several implications for management and policy are also discussed in light of the findings of this study.

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OWNERSHIP STRUCTURES INFLUENCE ON AUDIT FEES

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The purpose of this study is to investigate the association between corporate ownership structures and audit fees paid to external auditors by Malaysian companies listed on Bursa Malaysia. This study focuses on the extent of the auditors reliance on the clients internal control inasmuch as the corporate ownership structures are varied, and, ultimately, affect the audit fees. This study applies the agency theory in formulating three hypotheses that guide the results analysis. By employing a multi regression model for a sample of 345 Malaysian companies listed on Bursa Malaysia, this study examines the relationship of ownership structure, namely, managerial ownership, foreign ownership and government ownership with audit fees using data for 2010. The results show a significant positive relationship between audit fees and firms with larger foreign ownership and government ownership but no significant relationship with firms with higher managerial ownership. This study contributes recent evidence concerning the relationship between corporate ownership structure and audit fees. The regulator may consider ownership structure on the standards or regulation setting in order to be practical and operationalized in line with the impact associated with different ownership structures. The practitioners may also design appropriate methodologies and procedures for the different ownership structures for high quality service and to standardize the risk mitigation process. The ownership structures have different influences on the audit fees, as well as complexity of the firms and their profitability. The study looks upon certain percentages of ownership structures, and how they affects audit fees, firms complexity and profitability.

PASSENGERS ASPIRATION TOWARDS SUSTAINABLE PUBLIC TRANSPORTATION SYSTEM IN KERIAN DISTRICT, STATE OF PERAK, MALAYSIA

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Transportation implies the mobility of activities and goods from all sustainable development key dimensions. Over the past years, more trips of public transportation moves people towards a more sustainable future, by reduce congestion on the roads and increase the efficiency of the road system. The research aims at analysing the passengers aspiration and perspective of sustainable public transport measure and focuses on the evaluation Malaysia rural bus services. Methods of On-board passenger survey and adoption of Geographical Information System (GIS) / Global Positioning System (GPS) used to collect the primary data.

POST-ISO 9000 CERTIFICATION: PERFORMANCE OF SMALL AND MEDIUM ENTERPRISE IN MALAYSIA

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The study investigated performance for small and medium enterprises adopting ISO 9000 standard. A survey using structured questionnaire was employed. A total of 255 respondents from 1550 small and medium enterprises participated in this study.. The study was found statistically significant that ISO 9000 companies perform better for both financial performance and non financial performance outcome.

PRACTICES AND CONCEPTS OF INTEGRATED EDUCATION SYSTEM IN SELECTED ISLAMIC RELIGIOUS SCHOOLS IN THE MALAY ARCHIPELAGO

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This study explored the practices and concepts of integrated education system in selected Islamic integrated schools in the Malay Archipelago, the underlying factors and issues regarding the schools leadership and management. Semi-structured interviews were conducted with the participants, namely school leaders and teachers. Preliminary findings suggest that the teachers and the schools leaders have positive perceptions on the concept, practices and implementation of Islamic Integrated schools. Furthermore, it was observed that these schools were committed to deliver the best level of quality Islamic education by improving their teachers teaching skills and through a leadership style that engenders commitment from the teachers. The findings revealed a number of important implications for the future development of the Islamic integrated schools in order to continuously serve the needs of the students, the parents, and the Muslim ummah.

PRESERVATION OF TRADITIONAL MALAY HOUSES

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Traditional Malay houses in Malaysia are examples of the Malay (the largest community in Malaysia) cultural heritages. However, developments that are growing rapidly in many areas in Malaysia had replaced traditional village areas with new developments. These actions diminished with them many traditional Malay houses. Nowadays, preservation of these houses becomes crucial to protect the cultural heritage of Malaysia and the culture of the Malays that lie within the architecture of these houses. The Malay cultures are manifested in the form, spatial layout and the details of these houses. The research aims to establish the categories of preservation practice in traditional Malay house and the factor which influence it. Qualitative method was employed with in-depth interview technique through case study. Kuala Kangsar was chosen as the case study area. It was named as the heritage zone for the state of Perak. This is due to the rich cultural heritage contents in the area that includes traditional Malay houses. The research discussed the findings of the initial study towards preservation practices on traditional Malay houses in Kuala Kangsar. The findings revealed that lack of awareness among the users on the cultural value of the traditional houses, changes of building owners and changes on the daily needs of the users are among the reasons why the traditional houses were not well preserved.

PROBLEM BASED LEARNING: CULTURAL DIVERSE STUDENTS ENGAGEMENT, LEARNING AND CONTEXUALIZED PROBLEM SOLVING IN A MATHEMATICS CLASS

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In todays fast changing world students has to be equipped with knowledge and also skills. The current teacher-student centered settings are unable to produce students who will be adaptive in the workplace. Obtaining a good grade in Mathematics for foundation students who will be undertaking Engineering, Medicine, Pharmacy, Information Technology and Architecture is crucial as this will ensure a place in degree level. Therefore the extent in which teachers deliver their materials is important to make sure that students understand and be able to apply the knowledge learned in their daily lives. These students come from various countries mainly from Bangladesh, China, Yemen, Thailand, Saudi Arabia, Jordan and Syria. This paper presents the findings where Problem Based Learning approach was adopted to teach mathematics to students who come from diverse cultures. PBL is a collaborative method where it was found from the study conducted that it is a good approach to bring students from diverse cultures together toward a common goal. Students were observed and interviewed in the second semester of their foundation course. PBL activities were conducted in stages and since in PBL, students direct their own learning and work in a group, hence they become motivated, self-confident, and proactive. At the initial stage, there were segregation, meaning that students from the same countries preferred to be grouped together, but as they became familiar with the PBL approach they became more comfortable working with students from different countries. The findings showed that some students have influence on other students in terms of how much and what they learned. It was evident that PBL has positive implications on how student learned, generating ideas to arranging these ideas in a meaningful manner. By doing that, students managed to cultivate skills like problem solving, critical thinking and communication skills. It also helped students to see connections between mathematics and its application in the real world. This encourages lifelong learning and unity amongst students.

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PROFICIENCY IN ENTERPRISE COMMUNICATION (PEC)

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English language competency is an essential element for success in business and industry. Employers, education institutions and training providers are seeking for a fast, flexible, and affordable way to obtain a valid and reliable measure of workplace English language competency. The Proficiency in Enterprise Communication (PEC) test is an internet-based test (iBT) designed to assess candidates English language competency for occupational purposes in order to meet the needs of employers and employees. PEC is a good indicator of employees English language competency because it assesses their ability in the language in four language skills; reading, writing, listening and speaking. As a valid and reliable language assessment tool, PEC also assists employers in making critical decisions with regard to recruitment of new staff, training, and promotion. The PEC test is a public-private-partnership (PPP) project developed with Prestariang Systems Sdn. Bhd. and Prometric.

PROTOTYPING AN ANDROID APPLICATION OF END USER FOR HALAL BRAND PERSONALITY SCREENING PROCESS

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The purpose of this study is to develop a prototype of Android application for end users in Halal Brand Personality screening process that offers an option to facilitate consumers in justifying how the Halal certified brand respond to and satisfy their needs based on five Halal personality dimensions; Purity, Excitement, Safety, Sophistication, and Righteousness. The evolution of the end user application follows the waterfall development methodology. It mainly focuses on presenting the process of developing an Android application prototype using the user terminal in the electronic Halal screening system which makes it possible for users to check through Smartphone barcode capture straightaway on time with the applied Halal product alert database system and identify them, as well as rate the product brand using mobile devices. As for the project implementation, the functions of the end user application are introduced, and how these functions are realized is also displayed in detail. After the implementation process, the application is tested on an Android device emulator and real mobile Android devices to evaluate their performances. The version of Android 2.1 and above is chosen since most Android Smart phones operate with minimum Android 2.1. Moreover, it is tested with specialized mobile with respect to the collection of feedback. Finally, a reasonable conclusion to this project is made, including the contents reliability and security protection issues.

QURANIC COMMENTARY AND SOCIAL CHANGE: AN ANALYSIS OF MODERN TAFSIR OF TAFHIM AL-QUR'AN AND FI ZILAL AL-QUR'AN IN COMPARATIVE PERSPECTIVE

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Social change has become a slogan and motto in contemporary society, particularly in the Muslim society. While it has been used by some people as a means in bringing socio-cultural and econ-political changes positively, it has been leveled as extremism/terrorism by some politicians and civil society for their political interest or power struggle. In contemporary society, the formative ideas and works of both Sayyid Maududi and Qutb for instance, have played an important role in changing peoples mind and their social life. Given the context, there is a need to examine the perception and methods of social change used and applied by the two potential Muslim scholars. Therefore, the study aims to examine the roles of the two Quranic commentaries i.e. Fi Zilal al- Qur'an and Tafhim al-Qur'an and their contributions toward understanding the meaning, perception and necessity of social changes and to analyse the Quranic methods applied by two influential personalities for social changes. Some similarities and differences have been shown in the comparison of their works in socio-political contexts for social reformation. It is hoped that this study will help the Muslims in understanding the processes of social changes in contemporary context for the betterment of the entire humanity.

RAIL DEMAND MANAGEMENT: A RAPID SYSTEMATIC REVIEW

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Train overcrowding has been associated with a number of negative outcomes, including psychological and physiological stress, negative health effects and behavioural reactions, as well as spillover effects. Despite the widely admitted seriousness of this issue, there is little agreement on the appropriate measures to deal with the increasing passenger numbers, particularly on rail services in Malaysia. This disagreement necessitates a closer scrutiny of evidence in relation to demand management strategies in the rail industry. A rapid systematic review was thus undertaken to appraise the evidence on previous and existing measures demand management strategies in rail passenger services. A total of 16 relevant studies that met the inclusion criteria were identified by a structured search of nine electronic databases. From the review, eight categories of strategies or approaches are possible in managing peak demand. These include approaches that focus on pricing, quality of service, management, policy, education, communication, engineering / design, and infrastructure. Identified key issues that presented barriers to successful implementation of these strategies are continued passenger growth, inflexibility ofoffice hours, challenges in determining appropriate fare structures, and changing passengers ingrained travel behaviours. The review provides a solid basis for the more detailed discussion on the development of a structured and comprehensive demand management strategies and approaches.

REGIONAL INTEGRATION BEYOND POLITICAL AND ECONOMIC CONSIDERATION IN EAST ASIA

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The current study attempts to dwell on the issue whether the East Asian countries should adopt a more structured or institutionalized approach in their efforts toward greater regional economic integration. The reasons for a more structured approach to regional economic integration and regional cooperation can be extended beyond the political and economic considerations, that is, through human development which covers economic, social, health and environmental conditions. The disparity, particularly between the middle-to-low income countries of East Asia and the other countries, echoes the concern expressed in the 1999 UNDP Human Development Report. Inequality had been rising within and between countries and as a result the income gap widened. It can be argued that the gap could be narrowed by assuring convergence in human development at regional level. The current study aims to analyze the possibility of more structured or institutionalized regional cooperation in the East Asia be formed by looking seriously on human development within the region. The analysis is done by testing the level of convergence or divergence of human development components (economic, social, health and environmental conditions) within members of ASEAN(6+CMLV), Japan, Korea and China. The tests of convergence or divergence determine suitable countries to form the proposed integration base on the human development indicators. A common method used is augmented Dickey-Fuller (ADF) linear test of stationarity. The second method adopted in testing the convergence or divergence of the indicators is the KSS non-linear stationary test which enables to detect the presence of non-stationarity against non-linear. The study does find possible integration among the countries in studies, not only focusing on single economic integration but also in other aspects of cooperation and integration, namely, social, health and environment which seem very important for the countries sustainable development.

RESIDENTIAL LANDSCAPE DESIGN

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The purpose of this study is to investigate the importance of landscape design in planning and designing housing areas. The awareness regarding importance of landscape design in creating a sustainable living environment become an issue in housing development and have supported by Local Agenda 21. The element and character of landscape design need to be enhanced in most of housing developments in order to support the needs of neighbourhood communities. The basic need of landscape design in residential areas need to study and it can become a benchmark in creating a sustainable residential environment in the future. The research employ case studies areas where focused in the Klang Valley as the demand for proper landscape design is increasing. The scopes were limited to landed types of housing areas, such as terrace houses, semi-detached (semi-D) houses, and bungalows houses. The results of this study will provide useful preliminary conclusions and guidance on the optimum landscape designs for residential development in order to meet users requirements and desires.

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SAFEGUARDING INTANGIBLE CULTURAL HERITAGE OF MALACCA CULTURAL COMMUNITY

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This study is intended to assess the influence of universal culture on local culture which is reflected in community manifestation of Intangible Cultural Heritage (ICH) in a World Heritage Site (WHS). The concerned community of the study is the cultural community of Malacca who are residing within the core zone and buffer zone of WHS location of Malacca. Since the physical setting of the WHS location is a rapidly urbanizing tourism area, it is unsurprising that the locals of the area are experiencing the impact of urbanization which is often associated to modernization and globalization. It is believed that as the community assimilates into the global mainstream of society, the distinctiveness of their local culture slowly disappears as universal culture gradually disseminates into the lives of the community. The unfavorable influence of universal culture results in common yet alarming universal community issues facing community manifestation of ICH. The community issues weaken social coherence of the community members to cooperatively safeguard their endangered and declining ICH. As a result, cultural identity of the community deteriorates and cultural diversity of the WHS will potentially be at loss. The study recognizes the community issues through the interaction between universal traits of the community with their manifestation of ICH. Universal traits are the commonly analyzed demographic and socioeconomic factors which represent the concept of diversity of the members in the cultural community. The analysis determines the statistical interactions between universal traits and community manifestation of ICH in relation to the recognized community issues from literature reviews. The data for statistical analysis are obtained from 640 samples gathered through questionnaire survey with the cultural community. Semi-structured interviews are conducted to evaluate the community issues from the authorities perspectives and to acknowledge the current approaches to overcome the issues and safeguard ICH. These community issues are nurturing and transmitting local culture, acculturation and deculturation, sense of place attachment, contemporary over traditional cultures, weak family institution, strong ethnic enclaves, guidance of metaphysical force, conventional over indigenous knowledge input, socioeconomic inequality and lack of interest and convenience. The issues are resolved through community involvement guidelines which are generated on the basis of three objectives of community involvement. The objectives are to allow community opinions in decision making, to allow community responsibility over changes occurring in the community and finally to allow the community to exercise control over available resources and institution. The solutions and guidelines are also produced in response to the recognized community issues. The significance of the study is realized in emphasizing the community as the most important component to safeguard their ICH in the rapidly urbanizing City of Living Culture, such as Malacca.

SCHOOL CRITERIA AND TRANSPORTATION MODES TO SCHOOL: A CASE STUDY OF SELECTED SCHOOLS IN GOMBAK DISTRICT

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School is a nucleus of the society. School development should be planned based on the sustainable concept. The purpose of this paper is to determining parents criteria in selecting the suitable public school for their children. There are various factors underlying in determining the school selection which are location, distance, school facilities, academic schools performance, extra-curricular and school environment. The findings showed that academic schools performance is the most important criteria of parents in selecting school for enrolling children. Hopefully, the paper will benefit the local authority, parents as well as children in term of public school development in the community.

SMART MONEY KIT: BRIGHT KIDS SMART MONEY

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Few financial literacy programs are explicit in Malaysia about how the concepts taught and the lessons developed are expected to improve financial knowledge and rarely discuss the expected relationship between early financial educational and later financial behavior. Consumer socialization research suggests that much of the consumer knowledge and behavior in adults was learned during pre adults years through the influence of socialization agents. Comprehensive strategies for educating children and youth are needed so they can become effective managers of money and successful navigators of a complex financial marketplace. A correct understanding of finance is necessary for the young generation to be able to make independent and wise financial decisions. Since young children are financially dependent on parents and have few resources (monetary or property) that they independently control, financial education targeted to this age group, in contrast to older individuals, generally does not aim to teach financial facts that would immediately change financial behavior. Financial education is a very important lifelong learning in this challenging life. Many scholars asserted that financial education is one of the best methods to help someone from financial difficulties. As responsible parents, teachers and adults, children should always be exposed to the knowledge when they are very young. Home and school is the most appropriate institution for children to start their financial education because it is the most convenience and familiar environment for them. However, literature review shows that most parents and teachers do not know how to deliver the message with regard to personal finance and money management. The researchers have developed a financial education kit called Smart Money Kit: Bright Kids Smart Money as a teaching module related with the basic concepts of personal finance and money management. The smart money kit comes out with a complete manual to help parents, teachers and adults in educating children and students about money management. The manual consists of 6 units on several topics such as introduction to money, financial goals, needs versus wants, saving, spending & budget and Islamic banking concept. Almost in every unit and activities (11 interactive tasks and games), the researchers try to introduce concepts related to Islamic money management. Leisure activities and interactive compiled is suitable for all ages ranging from 6 to 12 years. Activities can be done alone, with friends and family at any time as a family or school activity. The use and operation of this kit is very simple and requires only little assistance from parents or teachers.

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STUDENTS' ATTITUDES TOWARD ARABIC PLACEMENT TEST (APT) AT CELPAD-IIUM

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كل طالب يود الالتحاق بالجامعة الإسلامية عليه أن يجلس لامتحان تحديد المستوى في اللغة العربية. ومنذ ١٩٨٣م تبنت شعبة لغة القرآن بمركز اللغات امتحان تحديد المستوى. وفي الفصل الدراسي الأول لعام ٢٠١٢م ٢٠١٣م أصبح لزاماً على كل طالب بدأ بامتحان تحديد المستوى في ذلك الفصل؛ عليه أن يمتحن في نهاية الفصل امتحان تحديد المستوى مرة ثانية؛ ومن ثمَ نتيجة امتحانه تحدد مستواه، فيمكن أن يقفز من المستوى الأول إلى الثالث؛ أو الرابع، ومن المستوى الثاني إلى الرابع، أو الخامس أو السادس؛ أو يمكنه تجاوز اللغة العربية بمركز اللغات، والالتحاق بكليته. من الملاحظ إنَ بعض الطلاب يتهيب الاختبار؛ وبعضهم يشكو من الاختبار؛ والبعض الآخر لم يستطع أن يجتاز المستوى الذي يدرسه إلى مستو آخر. لكل هذه الأسباب فكر الباحثان في إجراء هذه الدراسة ذلك لمعرفة مدى مناسبة اختبار الكفاءة لطلاب المستويات المختلفة؟. ومجتمع البحث هو طلاب مركز اللغات بالجامعة الإسلامية العالمية بماليزيا (الفصل الدِرَاسِي الثاني لعام ٢٠١٣ وتم اختيار عينة عشوائية من مائة وثلاثة وسبعين طالباً ممثلة لمجتمعِ البحث. واستخدم الباحثون الاستبيان أداة رئيسة للبحث، وتمَ إجراء مقابلات مع بعض الطلاب، كما اِستعانَ الباحثان بملاحظات الأساتذة. وتنبع أهمية البحث من أنَهْ حسب علم الباحثين لم تقم دراسة عن معرفة اتجاهات طلاب مركز اللغات نحو تحديد المستوى؛ أو اختبار التصنيف. من هنا جاء التفكير في هذا البحث. وقد تساعد نتائج الدراسة الحالية في اختيار فقرات الامتحان حسب المستويات المختلفة، كما يمكن أن تساعد في تعديل الامتحان؛ أو العدول عنه وخاصة مع الطلاب الذين بدأوا الدراسة بمركز اللغات. وقد تساعد نتائج الدراسة هذه في تبني آليات جديدة قد يتبعها مركز اللغات تجاه اختبار تحديد المستوى؛ وتصنيف الطلاب كل حسب مستواه؛ وقد تستفيد مراكز اللغات و المعاهد والجامعات الأخرى من نتائج هذه الدراسة. وقد تساعد هذه الدراسة في تصميم اختبار معياريِ لتحديد المستوى أو الكفاءة اللغوية.

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STUDENTS' ATTITUDES TOWARDS ARABIC LANGUAGE AT CELPAD-IIUM

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الملخص: تهدف هذه الدراسة إلى معرفة
اتجاه الطلاب نحو تعليم اللغة العربية بمركز اللغات بالجامعة الإسلامية العالمية بماليزيا، ومعرفة العوامل التي قد تساعد في تعليم اللغة العربية، والعوامل التي تقف في طريق تعليم اللغة العربية والاستفادة من تعليمها وتعلمها ونجاح الطلاب فيها. وتدرس الدراسة مدى مناسبة كتب اللغة العربية للطلاب.لجمع المعلومات اتخذت الدراسة من الاستبانة أداة رئيسة. ووزعت ا ستبانة مكونة من من خمس محاور وهي المعلومات الشخصية، والدافعية، والكتاب، وطريقة التدريس ومدة التدريس وهذه المحاور تتكون من ٢٥ بنداً وزعت على أربعة وتسعين طالباً من مختلف الكليات بالمجمع الرئيس بقمباك، أهمية الدراسة تنبع من أنه لم تكن هناك دراسة حسب علم الباحثين تناولت اتجاهات طلاب المركز نحو تعليم اللغة العربية. وتوصلت الدراسة إلى أن للطلاب اتجاه إيجابي نحو اللغة العربية، وللطلاب رغبة في الاتصال بالأصدقاء باللغة العربية، ودراسة اللغة العربية ليس فقط لأنها متطلب جامعيٍ، ثمَ مواصلة دراستهاكذلك أظهرت الدراسة دور المعلم في ترغيب الطلاب في تعليم اللغة العربية. ويرى الطلاب الاستفادة من اللغة العربية في السياحة والعمل.
لعل نتائج الدراسة قد تساعد في تحسين وضع الطلاب من حيث دراسة اللغة العربية، وقد تُعين المسئولين في إعادة التخطيط لتعليم اللغة العربية للناطقين بغيرها، كما تعين الطلاب في الاستفادة مِن ي اللغة العربية في ميادين العمل.

STUDENTS PERCEPTION TOWARDS TASK-BASED LANGUAGE TEACHING (TBLT) APPROACH IN LEARNING ARABIC LANGUAGE: CFS, IIUM EXPERIENCE

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Task-Based Language Teaching (TBLT) is a new approach in teaching second language particularly in Arabic language. The approach, which employs student-centred approach, is viewed as more effective than the traditional way. This approach is slowly gaining its popularity among Arabic language educators and learners all around the world. In Malaysia, the Centre for Foundation Studies, International Islamic University Malaysia (CFSIIUM) is one of the first institutions of education to implement this new way in teaching Arabic language. As such, this study was conducted in order to find out the students perception towards the implementation of task-based language teaching (TBLT) in this learning institution. 313 respondents were randomly selected from the students in Arabic elementary level studying at CFSIIUM. The instrument used in the survey was survey questionnaires. The quantitative results were used to examine students perception towards the implementation of task-based language teaching (TBLT) in Arabic language. The findings indicated that the respondents were positive in learning Arabic language using this approach and they were motivated to learn this language.

TASK BASED LANGUAGE TEACHING (TBLT) IN ARABIC AS A SECOND LANGUAGE

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This research adopted the descriptive inductive approach in investigating teachers perceptions and understanding of the concept of Task-Based Language (TBL). The sample consisted of 99 teachers teaching Arabic as a second language at IIUM (CELPAD-QLD). A three part questionnaire consisting of demographic details, 15 short questions and one open-ended question was constructed and administered. Analysis was done using the SPSS software. Findings showed that majority of the respondents were aware of the concept and willing to apply TBL in the classrooms. However, there were also views indicating the unsuitability of TBL for beginners as well as lack of basic and effective books and materials. Recommendations based on the research included putting more efforts in clarifying the concept to avoid negative views, and working towards

TEN BENEFITS OF USING INSTRUCTOR-DEVELOPED SCREENCASTS TO HELP STUDENTS LEARN MATHS: AN AIT CASE STUDY

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This qualitative case study explored how students learning Maths at an Irish institute of higher education benefited from their instructors use of self-developed screencasts. The screencasts (47 in total) were posted on the institutes Maths Moodle site for students to access. One hundred and thirty-eight (n = 138) students participated in an online open-response survey. Students commentary was analyzed using thematic content analysis (TCA). Themes that represented different types of screencast benefit to students were generated from the data. Consistent with previous studies, the findings show that a vast majority of students (88.4%) used the screencasts for many different purposes and viewed the videos as an extremely useful tool that enhanced their Maths learning experience. Ten primary benefits of screencasts emerged, namely allowing flexible and personalized learning, supplementing lectures and enhancing understanding of Maths keyskills, facilitating exam revision and material review, providing multimodal support for Maths learning, helping students to keep track with the Maths modules, providing a tighter match with course content, delivering a vicarious learning experience, serving as a memory aid, filling in gaps in class notes, and making Maths more enjoyable. The findings support the use of screencasts in facilitating and enhancing students learning of Maths in higher education.

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THE DEVELOPMENT OF COMMUNITY MEDIATION IN MALAYSIA: LESSONS FROM IRELAND

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Malaysia is a multiethnic country, whose population is made up of Malays, Chinese, Indians and various indigenous ethnicities. She has fared relatively well peacewise, despite simmering interethnic tensions and disputes. The Malaysian government, through the Department of National Unity and Integration has decided in 2007 to introduce community mediation as a means of resolving community disputes, as this is well established in countries like Singapore, Australia, the UK, United States, amongst others. Ho Khek Hua (2009) addressed the challenges faced i.e., the limited number of trained mediators, the issues of providing mediation training to community leaders, the need for case studies and financial constraints. In Malaysia, there is no legal framework as yet developed for community mediation. Thus, this research intends to explore the need for establishing such a framework. Interviews have been carried out in Malaysia with the aim of gathering the descriptions and opinions of the practitioners of mediation such as, community leaders, mediators, trainers, members of resident associations and individuals with knowledge and experience in community disputes. The research in Ireland involves studying the structure, practice and development of the community mediation centres. Besides library research, interviews and discussions have been conducted with project managers, mediators and trainers with respect to current status, planning and development of community mediation. The findings should assist us in our effort to improve the current structure, practice, training and development of community mediation in Malaysia.

THE ENVIRONMENTAL BENEFITS OF AGROFORESTRY SYSTEMS IN RELATION TO SOCIAL SUSTAINABILITY

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Agriculture sector has become a major contributor to the national gross domestic product. High demand for agro-based products has increased the expansion of agricultural land through monoculture systems. However, as the land for agriculture are decreasing, more natural forests being converted into agricultural land. The conversion is globally giving negative impacts towards environment including forest degradation, habitat fragmentation, and climate change. Being in environmental concern, the practices are considered as unsustainable since the systems decrease the value of the natural environment in long term period. Understanding this phenomenon, numerous literatures on agroforestry systems are studied as part of environmental design. Agroforestry systems is a collective name of land use systems through maximum utilization of agricultural land in order to provide multiple outputs as well as protect the natural resources. The systems are seen as the sustainable agriculture practices since they contribute to the positive development in agriculture industry in terms of environmental, social, and economic aspects. This paper aims to study the environmental benefits of agroforestry systems in relation to social sustainability aspects. The objective of this study covers the identification of agroforestry benefits which contribute to the development of human population from components integration perspectives which consist of agricultural crops, plant materials, and animal species. Using content based analysis, this paper interfaces the benefits acquired from the mutual interaction of these three components. Significantly, the study proves that agroforestry systems give positive environmental impacts on air and water quality, soil improvement, biodiversity conservation, carbon sequestration, and climate change mitigation, as well as solve the issues of food security and safety. It shows that agroforestry systems are performing better than monoculture systems as they are environmentally friendly, socially reasonable and economically feasible through diversification of input and output.

THE FACTORS INFLUENCING PARENTS' DECISION IN CHOOSING PRIVATE SCHOOLS

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This research examines the factors considered by parents when deciding to enrol their children in private schools. Based on literature review, some eight factors have been identified, but this research only deals with four. According to the data analysis, parents part emphasizing on the importance of private schools syllabus, schools environment and facilities when selecting to enrol their children in private schools. The academic performance of the school was placed third in preference, with fourth factor considered being the quality teachers that the school possessed. The research was conducted by using quantitative approaches and carried out via structural selfadministrated closed-ended questionnaires through questionnaire survey method.

THE IMPACT OF INTERACTIVE ARABIC LANGUAGE PROGRAME IN DEVELOPING ARABIC LANGUAGE SKILLS

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أثر برنامج اللغة العربيَةْ التفاعليَةْ في تطوير مهارات اللغة العربية لدى طلاب المستوى الأوَلْ بمركز اللغات بالجامعة الإسلامية العالمية بماليزيا. د. إبراهيم سليمان أحمد ـ مركز اللغات بالجامعة الإسلامية العالمية بماليزيا. د. زكريا عمر ـ رئيس شعبة لغة القرآن بمركز اللغات بالجامعة الإسلامية العالمية بماليزيا. ـ١ الملخص: المتتبع لمسيرة التَعْليم يراها قفزت قفزات ملموسة من خلال استخدام التقنيَةْ في التعليم ؛ حيث يستطيع المتعلم أن يسمع ويتحدث ويقرأ ويكتب؛ واللغة العربية ليست بعيدة عَن هذا المجال. ففي كثير من البلاد الإسلامية والعربيَةْ وحتى البلاد غير الإسلاميَةْ صُممت برامج عبر الشبكة العالمية، وهذه الورقة تتناول برنامجاً مهماً في تعليم اللغة العربية وهو برنامجُ اللغة العربيَةْ التفاعليَة، فالبرنامج يتكون من اثنتي عشرة وحدة، وثلاثة دروس للمراجعة. وكل وحدة تكاملت فيها المهارات؛ وكل وحدة تكونت من سبعة دروس وهي: استَمع، والمفردات، والتراكيب، وفهم المسموع، وتحدَثْ، واقرأَ، واكتب. وتتراوح التدريبات لكل مهارة ما بين ثلاثة إلى ستة تدريبات، فقد قام الباحثان بتدريس هذه الوحدات ثمَ صمما استبياناً مكوناً من ستة محاور. أُخْتيرت عينة عشوائية من ثلاثين طالباً لتكون صادقة التمثيل. وكانت معظم الإجابات إيجابية حيث أشار الطلاب إلى الاستفادة من البرنامج في الاستماع، والمفردات والتراكيب لما له من سهولة الاستعمال وتكامل المهارات. وتوصي الدراسة بالاهتمام بعملية تكامل التقنية مع مناهج اللغة العربية وزيادة الساعات التدريسية في المعمل؛ وكذلك أهمية التدريب للأساتذة والطلاب في مجال استخدام التقنية في تعليم اللغة العربية.

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THE IMPACT OF LANDSCAPE DESIGN ON HOUSE PRICES AND VALUES IN URBAN AREAS

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This research is intent to study the impact of landscape design on housing prices and values in urban values. The contexts of landscape design in housing areas become a trend and significant to the development of housing since the sustainable living environment highlighted as important issues in urban settlement. The study employ a triangulation method of study consist of the survey, interview and visualization technique in order to get a significant results on the impact of landscape design on housing areas in relation toward its prices and values. The results will generate a meaningful finding on people preferences and observations on the actual condition of landscape design use by residents that give an impact towards prices and values of housing areas. This research is important to the determination of what type of landscape design suitable for housing areas and thus will attract prospect buyers.

THE IMPACT OF SOCIAL NETWORK ON STUDENTS' LEARNING AND CULTURE

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أثر وسائل التواصل الاجتماعي في الطلاب اِجتماعياً طلاب الجامعة الإسلامية العالمية بماليزيا نموذجاً إبراهيم سليمان أحمد، زكريا عمر ابسترئحت جُبِلَ الإنسان على التواصل منذ أن خلقه الله سبحانه وتعالى، فاللغة هي أداة التواصل بين البشر. ونحن نعيش في عالم التقنية وانفجار المعلومات فبدهي تطور الاتصال، ذلكم لأغراض متعددة منها الأغراض الدينية، والاجتماعية، والثقافية، والتعليمية وغيرها. ولوسائل التواصل الاجتماعي أثرها الفاعل في التواصل بين الناس وتقوية العلاقات والوشائج بينهم، من هنا نبع الإحساس والاهتمام بتقصي مشكلة البحث ألا وهي؛ هل لأدوات التواصل الاجتماعي أثر فاعل في الطلاب اِجتماعياً؟؛ لمعرفة ذلك الأثر صُمِم استبيانٌ مكون مِن أربعة محاور، واثني عشر بنداً منها ترتيب استخدامات وسائل التواصل الاجتماعي حسب أهميتها للطالب، ومدة الاستخدام، وأسبابه، ثم رأي الطلاب حول مميزات و مساوئ وسائل التواصل الاجتماعي. وأُختيرت عينةٌ عشوائية من أربعة ومائة طالبٍ. وتوصلت الدراسة إلى أنّ معظم الطلاب يستخدمون وسائل التواصل الاجتماعي للاتصال بالأصدقاء، ثم بالأسرة، ومن النتائج أيضًا معرفة ثقافات جديدة على الطالب. ومن المفارقات إنَ معظم الطلاب لم يستخدم وسائل التواصل الاجتماعي في التعليم. وتوصي الدراسة بتدريب الأساتذة على استخدام وسائل التواصل الاجتماعي في التعليم، ومن ثمَ تدريب الطلاب على الاستخدام الأمثل والواعي لوسائل التواصل الاجتماعي في التعليم. ويرى البحث إنَ عملية تكامل التقنية مع المناهج تحقق فوائد كثيرة للمهتمين بهذا الشأن.

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Purpose The primary objective of this paper is to identify and test technology related critical success factors (CSFs) and its impact on trust and customer satisfaction. Design/methodology/approach This paper analyses the causal relationship that exist between technology CSFs and customer satisfaction. It also investigates the mediating role of trust between technology CSFs and customer satisfaction. For this purpose data was collected quantitatively from 349 employees working in different banks, through self-administered questionnaire. The data analysis was conducted using SPSS and AMOS software programme packages for windows. Factor analysis was performed to extract and decide on the number of factors underlying the measured variables of interest. Structural equation modelling (SEM) was then used to examine the variables and the fitness of proposed model. Findings The result revealed that technology CSFs positively affect customer satisfaction. It is also revealed that trust partially mediates the relationship between technology CSFs and customer satisfaction. Interestingly, a significant positive impact of technology CSFs on trust, and trust on customer satisfaction have also been obtained. Practical implications The significant influence that technology CSFs have on customer satisfaction and trust shows that technology related CSFs are inevitable for the success of CRM in financial services industry. Policy makers of services industry in general and financial service industry in particular may benefit from the findings of this study. Originality/value Despite the plethora of research on CSFs for CRM, very limited attention has been given to testing and validating the identified CSFs. Further, negligible research has been conducted to investigate trust as a mediating variable in the relationship between technology CSFs and customer satisfaction. This paper, therefore, offers valuable insight into technology related CSFs and trust with their impact on customer satisfaction.

THE IMPORTANCE ASPECTS OF LANDSCAPE DESIGN ON HOUSING DEVELOPMENT

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This poster is intent to present a brief of conceptual view on the importance aspects of landscape design on housing development. People nowadays look towards the better environment as a package for their responsive living environment. It has been proven that proper landscape planning and designs with the sustainability concept and approach help to create a conducive and responsive environment of housing development. The review is based on the aspects between landscape design in planning and designing the house development in urban areas. Thus, this study can become indicators towards enhancing the sustainability of living environment. With the understanding of landscape design, it hoped that will give beneficial impacts toward a sustainability environment of the landscape industry for housing development.

THE INFLUENCE OF SOCIAL NORMS, ETHICAL BEHAVIOR AND PERCEIVED USEFULNESS ON THE ACTUAL USE IN LEARNING: COMPARATIVE STUDY OF CULTURE IN MOBILE WIRELESS TECHNOLOGY AMONG HIGHER LEARNING INSTITUTIONS

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This study has explored on the use of Mobile Wireless Technology (MWT) among students of Higher Institutions from three countries (Malaysia, Iran and United Arab Emirates). The study focused on three aspects namely to investigate the responses of students about the social norms that mold their behaviors when using the MWT. Secondly to identify the differences among the three cultures in the use of MWT in learning. Finally, to predict the relationships between social norms, usefulness, ethics and the use of MWT in learning. Ajzen theory becomes the framework of the study where social norms and attitude are the main factors that drive the intention of the behavior. However, this study further extends the theory by integrating the factors of actual use of mobile in learning. Further , social norms have been further expanded to religion and parental involvement. A set of data collected from 3 Universities in Malaysia, 1 University in Iran and 1 University in U.A.E. comprising 779 students were involved in this study. The analysis of descriptive was used to address the first objective of study, followed by Analysis of Variance (ANOVA) for the second objective. The third analysis involved Structural Equation Modelling (SEM) in predicting the factors of social norms, usefulness on ethic and actual use in learning. The findings show significant contributions from all the predictors on the actual use of MWT in learning with specific items were selected.

THE ISLAMIC PERSPECTIVE OF APPLICABILITY OF THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL TRADE IN GMOS/LMOS

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In order to ensure continued supply to ever-growing population, especially in developing and least developed countries, enough production of genetically modified agricultural crops are sine qua non. It is for this reason that agricultural biotechnology has been supplied priority and is getting all kinds of support form governments. But almost all GM foods have their origin in western countries, especially from a multinational company by the name of Monsanto of the United States. These countries are marking their GM products both at national and international levels. Although Islam requires for all edibles to be permissible (halal) and good for human consumption (tayyib), which has been accentuated in form of the precautionary principle which has been enshrined in several international and national legal instruments, which has to be observed by producing and importing countries and which has to be environmentally friendly but producing countries do not ensure the safety of biotech food. The precautionary principle has further been strengthened by various Shariah, principles. This paper demonstrates the Islamic perspective of the precautionary principle and argues for its internalization and practice in international trades in GMOs and GM food.

THE ISLAMIZATION OF ENGLISH LITERARY STUDIES: A POSTCOLONIAL APPROACH

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In today's world where the former colonized are reshaping their relation with the colonizer, the concept of decolonizing or indigenizing education is widely discussed in postcolonial studies. Decolonizing/indigenizing education counters the western systems of knowledge's hegemony over those of non-western systems of thought and requires the development of a new approach to education that keeps in view the indigenous societies' socio-cultural and religious values and traditions. The Islamization of Knowledge undertaking maintains a similar approach, but additionally requires an Islamic perspective on knowledge. Among all western disciplines, English literature is arguably the most culturally charged and carries western value-laden ideas. This reality points to the need to look at it from Islamic perspectives. Based on this theoretical concept, this study seeks to establish the urgency and feasibility of Islamizing English (British) literary studies.

THE LEVEL OF KNOWLEDGE, UNDERSTANDING & ACCEPTENCE OF FEDERALISM AND ITS APPLICATION IN MALAYSIA

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This study aims to assess the level of knowledge, understanding, acceptance and perception of Malaysian towards the concept and implementation of federal government. The data gathered are responses from the survey and analyzed through the SPSS program. Descriptive statistics like frequency, percentage, min, cross tabulation and correlation coefficient are employed to describe the respondents background and their perceptions towards the concept and implementation of federal government.

THE MEMORY OF MEMORIZERS: A STUDY OF THE MEMORIZATION OF QURAN

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The most influential research on people with superior memory performance in the Western literature focused mainly on chess players (Chase & Simon, 1973). In addition to greater body of knowledge, experts in a given domain have been found to possess accurate memory and superior ability to store information in memory. We have chosen to study the memory of Al Huffaz, i.e. those who memorize the Quran because of their exceptional memory performance to commit such a large volume of information in their memory. Although it has been agreed that storing and retrieving information from memory involves bidirectional transfer of information across multiple memory domains (Atkinson & Shiffrin, 1968, Cowan, 2000, Goldstein, 2011), there is less agreement on the nature of control processes that may become the basis for the information transfer. It is therefore the aim of the current study to investigate the memory control processes used by Al Huffaz. The findings from the interviews strengthened the involvement of several control processes such as rehearsal, motivation or interest and self-discipline. More importantly, it has been found that it is maintenance and not elaborative rehearsal that plays the most important role in memorization of the Quran. These findings will definitely help to form a better understanding on the cognitive basis underlying human memory, which will contribute to the planning and effort of the government to optimize the cognitive potential of its citizen to be productive in the nations development.

THE ROLES OF ADMINISTRATORS IN DISTANCE EDUCATION PROGRAMME: A CASE AT HIGHER LEARNING INSTITUTIONS

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This study examined the role of administrators in facilitating instructors and students of distanceeducation programme (DEP) to the use of effective communication tools of the present digitized environment. Administrators/coordinators of DEP were purposively selected from three different universities in Malaysia. Their responses from interviews had been transcribed and coded. Students' feedback and monitoring activities on Learning Management System (LMS) were also collected and analyzed. Findings suggest that administrators did not consider certificate or experience in distance learning while recruiting instructors to teach in DEP. Instead, they perceived that university lecturers from the conventional programme should be able to fulfil course learning outcomes designed for the DEP. Evidence had shown that administrators bureaucratic decision in mandating LMS with grade attached, seemed to deter lecturers from using effective communication tools such as emails and facebook. When asked on plans to improve the administration of DEP, the administrators mentioned that training has really helped lecturers to improve their content delivery skills. It is concluded that the circumstantial or semester training through LMS which involved training among lecturers who are new in the e-learning environment is inadequate. The monitoring of DEP through the LMS is recommended to be focused on upgrading communication practices as well as attitudes among lecturers for effective online instructions which are critical to the eventual achievement of the DEP learners.

THE THEORETICAL AND PRACTICAL FRAMEWORK OF ARABIC COMMUNICATION CURRICULUM-KEYNOTE SPEAKER AT SELANGOR CENTER FOR ARABIC LANGUAGE ON 18 OCTOBER 2013

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بسم الله الرحمن الرحيم ورقة عَمل مقدمة إلى المؤتمر المحلي لمركز اللغة العربية
بولاية بسلانجور بماليزيا الأطر النظرية للغة العربية الاتصالية الوظيفية
(اللغة العربية للسياحة والطب نموذجًا) الدكتور / إبراهيم سليمان أحمدا مركز اللغات
والتنمية العلمية ـ الجامعة الإسلامية العالمية بماليزيا مفهوم المنهج: مفهوم المنهج
التقليدي: هو مرتبط بمفهوم التربية القديمة التي كانت في ضوئها تسود المعرفة الذهنيَةْ؛
وحشو دماغ المتعلم بالمعارف؛ وعلى المتعلم أن يتلقي المعارف مِن المعلم والكتاب
ويشرحها متى ما طلب منه ذلك١. تعريف المنهج التقليدي: هو عبارة عن المفردات الدراسية
الموضوعة في صورة مواد دراسية يراد من الطلبة دراستها؛ في مرحلة معينة من المراحل الدراسية.
المنهج هو مجموعة من المواد الدراسية الموضوعة التي يعدها المتخصصون ويقوم الطلبة بدراستها؛
وهو بهذا المفهوم مرادف للمقرر الدراسيِفْهذا ما أشار به (الهاشمي وعطية (٢٠٠٩م، ص ٢٩)٢،
وأكَدْه اللقاني (١٩٨٩، ص ٣٥)٣. عيوب المنهج التقليدي٤،٥: ـ١ اهتمامه بالجانب العقلي
والتنمية الذهنيَةْ؛ وإهماله الجوانب الأخر(النفسيَةْ، والجسميَةْ، والاجتماعيَةْ)؛ ويترتب
على ذلك (قصور في توازن نمو شخصية المتعلم). ـ٢ اقتصار دور المعلم على التلقين والإلقاء والمحاضرة،
والتسميع. ـ٣ يهمل الأنشطة اللا منهجية، ولا يهتم بالجانب العملي. ـ٤ لا يلبي الحاجات النفسية للطلاب.
ـ٥ لا يراعي الفروق الفردية بين الطلاب. ـ٦ لا يهتم بتوجيه سلوك الطالب لأنه مبني على الاعتقاد
بأن المعرفة وحدها كافيه لتوجيه السلوك. ١،٢ الهاشمي، عبد الرحمن وعطية، محسن علي (٢٠٠٩م).
تحليل محتوى منهج اللغة العربية رؤية نظرية تطبيقية. ص ٢٩،عمان، الأردن، دار المسيرة .
٣. اللقاني، أحمد حسين(١٩٨٩م). المناهج بين النظرية والتطبيق،القاهرة: عالم الكتب، ا
لطبعة الثالثة، ص، ١٣٥ ٤. الهاشمي، وعطية، مرجع سابق ص ٢٩. ٥. اللقاني، أحمد حسين، مرجع سابق ص ٥٥

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THE TSUNAMI PREPAREDNESS VIA MEDIA SYSTEM: EXPERIENCE IN KOTA KUALA MUDA, KEDAH

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The tsunami of december 2004 was one of the most devastating tragedy ever occur to men in the history of human civilization. Severe damage was caused to houses, tourist resorts, boats and other fishing equipment, schools, health facilities, transport and communication equipment, water and sanitation, and electricity infrastructure. There has also been substantial damage to agricultural crops and perennial trees. Farms, homestead plots, and aquifers have been salinized. The physical damage has led to severe human suffering in as much as large segments of the population have lost their dwellings, lifetime assets, savings, and sources of livelihood. By educating the public about the tsunami hazard, communities become informed and empowered to take actions that prepare them for tsunamis. People are taught to recognize the warning signs of an impending tsunami (Amin, 2009). They can also plan and maintain escape routes to higher ground, and discuss ways to assist children and persons with limited mobility. In remote areas there may be no mechanism to receive advance warning of a tsunami. In situations like these, public awareness of hazard warning signs and preparedness can save lives

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THE USE OF SOCIAL NETWORKS SITES (SNSS) AMONG UNIVERSITY STUDENTS: HOW FAR DO THEY LEARN?

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The study investigated the pedagogical affordances of SNS and its relationship on student engagement. A sample of 300 students responded to this quantitative research using a self constructed questionnaire. The hypothesized model has been tested to determine the relationships between pedagogical affordances and student engagement. This model underpins the theory of constructivist of interactions that promote learning; connectivity and collaboration through Web 2.0 technology. Using Multiple Regression Analysis, the model is able to explain the significant relationships of connectivity, assessment and feedback and collaboration in predicting student engagement when learning via SNS. The implications of the study are discussed based on theory, practical importance and methodology of research.

THEORY IN PRACTICE: MAKING SOCIOLOGY AND ANTHROPOLOGY KNOWLEDGE RELEVANT IN THE WORKPLACE

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High requirements of job market inclined universities of today to make internship training as part of their graduation pre-requisite. Internship is an opportunity for the undergraduates to practice and undergo working experience in a real-world environment that will give them a chance to apply theoretical knowledge learned previously in the classroom setting. To do this, they need to take part in a supervised and planned work in the real-world specialized settings. This study attempts to describe the experience of interns at the Department of Sociology and Anthropology, IIUM. The findings revealed that internship has significantly bridge the gap between the theoretical and practical aspects of learning. As well as essentially improved their soft skills and increased their workplace literacy. This study employs survey methods to obtain relevant data from students who have completed their internship either in the public or private sector. In general, internship is crucial, particularly among social science students as it enriches their experiences, knowledge and skills both in the personal and social life.

TOTAL PRODUCTIVE PROJECT MANAGEMENT (TPPM)

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Traditionally, management education has not been concerned with the management of projects; and unfortunately it breaks down where projects are concerned! Lack of knowledge and gap of research, which is alarmed and published by our team, lead us to work on development of Total Productive project Management (TPPM) concept and methods. Proudly, this research is the first which introduces TPPM. After reviewing advances in total quality management; which its summary have been published by our team; and based on the fundamental principles of Project Management (PM), TPPM is defined; which is a productive management for all the elements of a project using the theories and advanced methods. Authors, in the first phase of their research, introduced major categories of elements of TPPM, which categories reviewed, accepted and internationally published with a high ranked journal. Based on the three categorized elements, namely technical elements, behavioral elements, and contextual elements; second phase of this research designed to review and generate productive methods for PM in each category. Results of the second phase significantly contribute to the current knowledge of PM. As from the second phase results, in studies related to technical element eleven journal review article published by our research team. In the articles, theories of Just-In-Time system, Supply Chains, Designs and Layouts, Service Quality, Commuting, lean projects and six sigma, and Ergonomics reviewed. In studies related to behavioral elements, both project manager and project personnel studied. Result of personnel studies was published in journal of Management and Science, and results of project managerial consideration lead us to a novel model for project manager selection. Model of project manager selection is based on multi-criteria with application of mathematical linguistic extensions. This model, because of its novelty in advanced mathematical applications, is accepted to publish in high ranked journal of applied mathematics . Furthermore, from studies related to contextual elements, three major elements covered; Risk management, Reliability management and time management. Modification of available risk management methods, results an article which accepted to present at an international conference, and publish in a journal. Also, available methods of reliability management needed some modifications. Modified reliability assessment model developed by our team and accepted to present at conferences and publish in a journal. This model was verifies in a case study for project based industries, and result of the case study is accepted to publish in high ranked journal. Finally, for time management, our team developed a new risk-based schedule estimation model which is submitted to publish in a high ranked journal. The team has planned their third phase of research to insure the sustainability of TPPM. Our literature review for phase three resulted one journal article published by our team to review sustainability challenges. Basically, by this research, foundation of TPPM is built and developed. This research team is concerned about needs for further studies, not only in the development of concepts and methods but also in managing sustainability challenges.

TOWARDS A COMPOSITE THEORY OF KNOWLEDGE

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The production of knowledge about the social world is observed to be context-dependent. This paper discusses the two contexts: mind-set context and social context, and develops a theoretical framework to produce knowledge by integrating these two premises of knowledge in identifying transcendental reality that helps humans to construct day to day or other trivial realities. It explains that the production of knowledge depends upon the construction of reality; if it is done through transcendental reality, the knowledge of the social world will be comprehensive, closer to reality and altruistic. In case it is done in the absence of transcendental reality relying on egoistic attributes and based on facticity alone neglecting the purpose for which social world comes into existence and the force that it operates, the knowledge will be misleading.

TOWARDS ISLAMIC ENGLISH: A CASE STUDY ON LEXICAL BORROWING IN AN ISLAMIC COURSE BY A GLOBAL ISLAMIC EDUCATIONAL INSTITUTE

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The incorporation of Arabic Islamic words into the English language in Islamic discourse is one of the most visible and salient features of Islamic English. The needs, motivations and importance of this linguistic change have been propounded by a number of research conducted by Muslim scholars and academicians (e.g. Al Faruqi, 1986; Dahiru, 1996). This paper intends to contribute further to the accumulated knowledge on Islamic English by providing a description on the linguistic processes behind such incorporation or borrowing of Islamic Arabic words. Through a case study on an Islamic course by one of the most prominent Islamic educational institutes in the West, the study analyzed authentic discourse and observed the patterns of lexical borrowing using the groundbreaking model on this linguistic process put forth by Haugen (1950).In addition to understanding the process of lexical change in Islamic English, the study also analyzed the patterns of borrowed words extracted from the authentic data, based on the recommendations drawn by Al Faruqi in his book Towards Islamic English (1986). This is in order to explore the extent of preservation of Islamic terminologies and understanding in real discourse today, which is the main concern that has resulted in the strong argument for the Islamically-modified English language known as Islamic English (Al Faruqi, 1986).The English utilized at an Islamic course is selected as the unit of analysis for this study as the language is predicted to be prototypical of Islamic English. It is also of current interest to explore a linguistic domain (education in Islamic Sciences) that was once reserved to the Arabic language or other languages of the Muslim nations.

TOWARDS RESTRUCTURING THE LEGAL FRAMEWORK FOR PAYMENT SYSTEM IN INTERNATIONAL ISLAMIC TRADE FINANCE

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This study examines the dynamics of international payment system in international Islamic trade finance through the documentary credit system. The latest rules for the documentary credit system introduced by the International Chamber of Commerce (ICC) is the Uniform Customs and Practice for Documentary Credits (UCP 600) rules which is accepted and recognized worldwide for international trade finance there has been an increasing interest among few scholars to establish the applicability of the documentary credit system of UCP 600 to the Islamic financial intermediation among Islamic banks across the world. While the UCP 600 is widely used by banks and financial institutions across the world, including Islamic financial institutions, the Accounting and Auditing Organization for Islamic Financial Institutions issued its Shariah standard on documentary credits in 2003. This study examines the need to calibrate the existing legal framework introduced by UCP 600 to allow for Shariah-compliant documentary credit system for international Islamic trade finance.

UNDERSTANDING CASH WAQF: ITS ROLE TOWARD ALLEVIATING POVERTY IN CONTEMPORARY CONTEXT

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Cash Waqf is one of the effective means in contemporary society in alleviating poverty. The establishment of the institution of waqf in Islam is permissible and the endowed cash can be utilized for the investment and income-generation in various sectors for socio-economic development. Instances can be found in the context of many Muslim individuals, non-government and government organizations who initiated to establish the institution of waqf for generating incomes, eradicating the poverty, creating new job market and helping poor and needy people. Given the context, there is a need to examine the legitimacy of cash waqf, its role and application. The paper will survey the meaning, necessity, and brief history of cash waqf and examine the roles of cash waqf in providing various services to the deferent sectors and finally, present the Islamic perspective on the issue. The paper also briefly reviews the responses of Muslim scholars with a textual analysis and inductive approach to analyze the prospects of formulating an Islamic stance on cash waqf in current context. It is also hoped that the ideas raised will ultimately contribute to understanding and clarifying the Islamic stance on the issue for both Muslim and non-Muslim communities in contemporary society.

UNEMPLOYMENT ISSUES AND PROBLEMS IN KINTA, MANJUNG AND KUALA KANGSAR, PERAK, MALAYSIA

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Unemployment is one of the macroeconomic problems that signal the inefficient use of capital resource in the market. The research on unemployment in the Districts of Kinta, Manjung and Kuala Kangsar in Perak aims to identify the issues and problems related to the unemployment. A survey on 203 of respondents conducted randomly was to assess the current socio-economic condition of unemployment. Issues identified such as mismatched in location of work and availability of workers and increase of foreign worker in the local labor market. Hence, several recommendations proposed to overcome the issues of unemployment in the study.

URBAN PUBLIC TRANSPORTATION CYCLE AND SUSTAINABILITY CHALLENGES IN MALAYSIA

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The goal of this research is to study the current practice of sustainable public transport system in Peninsular Malaysia. It is to develop public transport indicators for the system. Thus, the study will be beneficial to the sustainable public transport for Malaysia and can be used for future research. It also can be applied by government or local authority in assessing their sustainable strategies formulation for transport planning. The data for this research was collected through survey, interview and Focus Group Discussion that involve with expert in various field i.e planning, transport, social and etc. This study is aiming in assessing the current practices and strategies of public transport system in Klang Valley, Malaysia and developing the indicators for sustainable public transport. In order to achieve the goal, three objectives have been addressed. The objectives are to identify sustainable public transport indicators And to confirm and verify such indicators from best practice countries can be adaptation and adapted to Malaysias public transport sustainable indicator.

WASTE MINIMIZATION AWARENESS CONCEPT MODEL

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Waste minimization awareness is aim to make part of sustainability happened successfully. Awareness has been identified as a key success factor in any movement of changing humans behavior, and it should started at the level of education sector, i.e. schools or universities. This research was intended to develop a Waste Minimization Awareness Concept Model (WMACM) as a guide and working flowchart for university administration, lecturers and Facilities Managers to raise waste minimization awareness and improve the waste management behaviour (i.e. Reduce, Reuse, Recycle and Composting) among the universities students. Three objectives of this research were identified, (1) to identify the components of awareness, (2) to identify channels of communication in the creation of waste minimization awareness model and (3) to develop a Waste Minimization Awareness Concept Model (WMACM) in university campuses. For this research purposes, universities students were chosen as a primary respondents due to the characteristic of this group as a nations leader. Therefore, the scope of this research is in the public universities. Soft System Methodology was used as a primary methodology which consists of six stages; (1) literature review, (2) elements identification, (3) conceptual model development, (4) verification, (5) validation and (6) experimental study. But due to time constraint, the experimental study was not conducted and it is part of the suggestion of future study. The research was successfully developed the Waste Minimization Awareness Concept Model which is developed accordingly to the Message Learning Approach, which comprises of five elements; i.e. (1) Source, (2) Message, (3) Channels of Communication, (4) Receiver and (5) Output. The Standard Operation Procedures (SOP) was developed according to the literature review and questionnaires. The WMACM was validated by using expert opinions and thus enhancing the final version of WMACM.

WINNING THE WAR AGAINST HUMAN TRAFFICKING: THE NEED FOR LEGAL REFORM

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This research intends to determine the reason of failure to combat human trafficking effectively in Malaysia and to seek comprehensive and permanent solution in that regards. Focus of the research is on the legal regime relating to human trafficking in Malaysia.

COMMON GRAMMATICAL ERRORS IN WRITTEN EXPRESSION WITH THE STUDENTS WHO SPECIALIZE IN ARABIC LANGUAGE IN THE INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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الأخطاء اللّغوية الشائعة في التّعبير الكتابي الوظيفي لدى الطّلبة المتخصّصين في اللّغة العربية في الجامعة الإسلامية العالمية بماليزيا

بدأ تعليم مادة اللّغة العربية في ماليزيا منذ زمن بعيد، ومع ذلك فإنّ مستوى المهارات اللُّغوية لدى المتعلّمين لا يزال غير مقنع، وخاصة في كتابة التعبير. وتكثر فيه الأخطاء الصرفيّة، والنحويّة، والإملائيّة، والمعجميّة. ولذا يهدف هذا البحث إلى معرفة الأخطاء اللُّغوية الشائعة في التعبير الكتابيّ الوظيفيّ، لدى طلبة اللُّغة العربية في الجامعة الإسلامية العالمية بماليزيا، بالكشف عن نسبة تكرارها، ونسبتها المئويّة، والمتوسّط الحسابيّ، ومعرفة أسبابها الرئيسة، والآثار المترتّبة عليها. اعتمد الباحث على المنهجَينِ الكمّي والنّوعي؛ حيث وزّع أسئلة التعبير على ٣٣ طالبًا، كما أنّه وزّع الاستبانة عليهم. أظهرت النتيجة أنّ مجموع نسبة التكرار ٣٩ خطأً، ونسبته للمتوسّط الحسابيّ ١٨٠١ للجامعة، وغلبت الأخطاء النحويّة (١٦ تكرارا) على الأخرى. وذلك بسبب عدم الاهتمام بالقواعد النحويّة، وقلّة تطبيقها. أوضحت النتيجة أنّ الجنس يؤثّر على الأخطاء النحويّة والإملائيّة. وبالعكس لا تؤثّر خلفية الدراسة عليها. وبيّنت أيضًا أنّ أهمّ أسبابها: الترجمة الخاطئة من اللُّغة الأم، وقلة الاطّلاع على المواد العربيّة للقراءة. ومن أهمّ الآثار الّتي تترتب عليها: عدم القدرة على توظيف العربيّة في البحث العلميّ.

COMMON WORDS WITH STUDENTS APPLYING FROM NON-NATIVE SPEAKERS OF ARABIC - DESCRIPTIVE ANALYTICAL STUDY

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الكلمات الشائعة لدى الدارسين المتقدمين من الناطقين بغير اللغة العربيه دراسة وصفية تحليلية

تهدف هذه الدراسة تحليل الكلمات الشائعة لدى الدارسين المتقدمين من الناطقين بغير اللغة العربية؛ سعيًا وراء الكشف عن مستواهم اللغوي عامة، وثروتهم اللغوية خاصة، ويتم ذلك بجمع الأنشطة الكتابية للدارسين في إحدى الجامعات الحكومية الماليزية؛ لتكوين مدونات نصية إلكترونية(ئرپس) ، يتم تحليلها بواسطة برنامج آسكيتش إنجينْ المتوفر عبر الإنترنيت؛ وهو من أهم البرامج المختصة بتحليل النصوص المكتوبة، وإحصاء توافق الكلمات حسب سياقها. وتعتمد الدراسة على المنهج الاستقرائي التحليلي.

وترصد الدراسة قوائم الأفعال والأسماء والحروف الشائعة، التي يمكن أن يفيد منها المدرسون ومن لهم اهتمام بتطوير الكفاءة اللغوية لدى الدارسين. فالمدرسون بحاجة ماسة إلى معرفة المستوى اللغوي للدارسين ليتسنى لهم تخطيط برامج خاصة تساعدهم على اكتساب اللغة الأجنبية بشكل فعال، وإلى أن يصلوا إلى مستويات عليا من الإتقان. ومما خلصت إليه الدراسة أن الكلمات الشائعة لدى الدارسين هي من صنف المستوى المبتدئ مع أنهم في المستوى المتقدم؛ حيث تبين من خلال تحليل المدونات النصية أن الأسماء الشائعة لديهم هي: الكتب، والناس، والطالب، والمدرسة؛ أما الأفعال الشائعة فهي: يمكن، ويجب، ويوجد، وقال.

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LINGUISTIC SOURCES IN VOCABULARY'S MEANINGS GUESSING IN READING ARABIC TEXT

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المصادر اللغوية في تخمين معاني المفردات في قراءة النص العربي
يؤدي تخمين معاني المفردات دورا فعالا في ترقية مستوى الاستيعاب القرائي لدى دارسي اللغة الثانية أو الأجنبية، فعلى الرغم من ظهور التقسيمات المتعددة لعناصر تخمين معاني المفردات، إلا أن معظمها يتكون بشكل عام من المصادر اللغوية، والمصادر غير اللغوية، ويكشف البحث الحالي عن استخدام دارسي اللغة العربية للمصادر اللغوية باللغة الثانية في تخمين معاني المفردات عند قراءة النصوص العربية، ويشارك في هذه الدراسة النوعية عشرة من الطلبة الجامعيين، إذ تجمع البيانات عن القراءة عبر التفكير بصوت عالٍ، وعن طريق المقابلة. وأفادت النتائج بأن الطلبة استخدموا المصادر اللغوية في جميع المستويات: المفردة، والجملة، والخطاب، وأن المصادر الصرفية أكثرها استخداما مقارنة بالمصادر اللغوية الأخرى. وهذا إشارة إلى ضرورة تعزيز دور تخمين معاني المفردات في استيعاب القراءة باللغة العربية.

EDUCATIONAL STANDARDS FOR THE SELECTION OF LITERARY TEXTS IN THE MALAYSIAN SECONDARY HIGH-LEVEL

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المعايير التربوية لاختيار النصوص الأدبية في المرحلة الثانوية العالية الماليزية

الملخَّص كـ تكمن مشكلة تعليم الأدب العربي للناطقين بغير العربية خاصة في عدم التوفيق في اختيار المحتوى، ولا سيما النصوص الأدبية، حيث لا ينبني على أسس علمية موضوعية دقيقة بل كثيراً ما يتوقف على اجتهادات فردية وعشوائية. لذلك تهدف هذه الدراسة إلى التعرّف والتحديد على المعايير التربوية التي ينبغي على ضوئها اختيار النصوص الأدبية الملائمة لدارسي المرحلة الثانوية العالية الماليزية، وذلك باستطلاع وجهات نظر من له مشاركة مباشرة في هذا الميدان. ولتحقيق هذا الهدف، يعتمد هذا البحث على منهج البحث الكيفيِّ باستخدام المقابلة شبه المقننة بوصفها أداة لجمع البيانات في هذا البحث، وأما عينة هذا البحث فتتضمن اثنين من مصمّمي المنهج الدراسي للغة العربية، وموظفاً بإدارة الامتحانات الماليزية، واثنين من مدرِّسي اللغة العربية، فضلاً عن دارسيَن اثنين بالمرحلة الثانوية العالية الماليزية. وقد تمَّ اختيار أفراد العيِّنة عن طريق العينة المقصودة. وجاءت عينة هذا البحث من مصادر متعددة تحقّق مبدأ التثليث في هذا البحث. وتمَّ تحليل بيانات هذا البحث تحليلاً وصفيّاً في مجموعات وموضوعات رئيسة وفرعية مستنداً إلى نصوص المقابلة المطبوعة من المستجوبين. وقد توصّلت هذه الدراسة إلى ١٨ معيارًا ينبغي مراعاتها في اختيار النصوص الأدبية المناسبة في المرحلة الثانوية العالية الماليزيَّة. وتفيد نتائج البحث إدارة الامتحانات الماليزية ولا سيما مصمّمو المنهج الدراسي للغة العربية في اختيار النصوص الأدبية المناسبة للمرحلة الثانوية العالية الماليزية.

ISLAMIC REALISM IN MALAY STORIES

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الواقعية الإسلامية في القصص الملايوية

الواقعيّة الإسلاميّة في القصص الملايويّة ملخص البحث يهدف هذا البحث إلى دراسة المذهب الأدبيّ الواقعيّ من المنظور الإسلاميّ. ظهر المذهب الواقعيّ في فرنسا في القرن التاسع عشر، وانتشر انتشارًا واسعًا في أنحاء العالم ، وكثر أتباعه كما تعددت اتجاهاته. انبثق المذهب الواقعي عن النظرية الفلسفية التي تؤمن بأن الحياة مبنيّة على الشرّ، فالحياة في نظرها شرٌّ، ومحنة. فهذه النظرة مخالفة للنظرة الإسلاميّة للحياة. لذا يأتي هذا البحث ليدرس اتجاه الأدب الواقعي الذي يتمشى مع الإسلام وتعاليمه، ومبادئه. وينطلق البحث من الأسس النظريّة للمذهب الواقعيّ الإسلاميّ التي وضعها الأديب الداعية سيد قطب، وطوّرها من بَعْده شقيقه ا لمفكّر الإسلاميّ الداعية محمد قطب. وفي سبيل إبراز هذا المذهب الأدبيّ الإسلاميّ قام البحث بتطبيق هذه الأسس النظرية على قصص مختارة من الأدب الملايويّ الحديث لكبار الأدباء الملايويّين. وقد قام البحث بتحليل نصوص هذه القصص من خلال منهج الواقعيّة الإسلاميّة. وتتجلى أهمية هذا البحث في إبراز مذهب أدبيّ إسلاميّ يتفق مع النظرة الإسلامية، ومن ثم استغلاله في دراسة النتاج الأدبيّ الإسلاميّ، ولعله بذلك سبيل الخروج من الاعتماد على العقلية الغرْبيّة المنحرفة. كما تكمن أهميته في المساهمة في مجال أسلمة الأدب. وقد توصّل البحث إلى نتائج من أهمها: ـ١ إن واقعية هذه ا لقصص الملايويّة واقعيّة إسلاميّة تنبثق عن التصور الإسلاميّ للكون والحياة والإنسان. ـ٢ إن و اقعية هذه القصص الملايوية أعم وأشمل، تشمل الواقع البشريّ في جميع حالاته وجميع آفاقه، ا لخير والشر، والقوّة والضعْف، والرفعة والهبوط، والأبيض والأسود. ـ٣ إن واقعية هذه القصص الملايوية لا تسلّط الضوء على الشرّ والضعف، وهي في تصويرها لجوانب النقص والعيب والهبوط تقوم على أساس أنها شرّ وضعف، وجانِبٌ من واقع الإنسان، وهو الجانب الوضيع في الإنسان، ولذلك لا يستحقّ التقدير والإعجاب. ـ٤ إن واقعية هذه القصص الملايوية تبيح التعبير عن مجالات الجنس الهابطة المنحرفة عن السبيل السوي، ولكن بقيْد خُلقيّ ودينيّ، على أساس أنها جانب الضعف الإيمانيّ والهبوط الخُلقيّ، بعيدا عن إثارة الشهوة، وتهييج الغريزة.

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VOICES IN MAPS AND GRAPHICS

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أصوات في خرائط ورسومات

انتشر نمط من أنماط التعلم في الآونة الأخيرة وهو التعلم البصري حيث يعين الطلاب على تحقيق فهم أفضل واحتفاظ أطول للمعلومات عندما تكون مرتبطة بصور ورسومات توضيحية. وطريقة الخرائط الذهنية من الطرق التي تساعد كثيرًا على هذا النوع من التعلم فهي ترفع مستوى التحصيل العلمي (عصام، وفؤاد ٢٠٠٨م)، (المولد (٢٠٠٩م)، وجمال (٢٠٠٩م)، وطوبار (٢٠٠٩م)، وتعمل على تحسين مستوى التفكير الاستدلالي عند الطلاب (مقلد ٢٠١١م)، وهي من الأدوات الفاعلة في تقوية الذاكرة واسترجاع المعلومات وتوليد أفكار إبداعية جديدة غير مألوفة (عبد الرازق ٢٠١٢م)، وتساعد الطلاب على توضيح الأفكار وفهمها وتنظيم المعلومات وتحليلها (عبد الباسط ٢٠١٤م)، (عبد الجليل ٢٠٠٩م)، كما تساعد على إتقان المهارات اللغوية (عرابي ٢٠٠٨م). من نتائج الدراسات السابقة وغيرها كثير؛ جاء تصوُّر مقترَحٍ مبدئي لصياغة محتوى كتاب كامل وتحويله إلى خرائط ورسومات توضيحية؛ وهو كتاب (علم الأصوات اللغوية الفوناتيكا) ـ للأستاذ الدكتور عصام نور الدين ـ نموذجًا لتسهيل عملية تعليم محتوى الكتاب من قبل المعلم وتسهيل عملية التعلم من قبل الطالب واستيعابه لكل الدروس والمفاهيم الأساسية بالكتاب. وسيكون رسم الخرائط لمحتوى الكتاب على أساس خطوات رسم الخريطة الذهنية التي عرّفها توني بوزان ةني ـزن (٢٠٠٥م) بأنها آ تقنية رسومية قوية، تساعدك على استخدام طاقة عقلك بتسخير أغلب مهارات العقل من خلال: كلمة، صورة، عدد، منطق، ألوان، إيقاع، في كل مرة. وهي أسلوب قوي يعطيك الحرية المطلقة في استخدام طاقات عقلك آ ويتوقع أن يكون لهذا الكتاب أثر كبير على الطلاب في دراسة مادة علم الأصوات، وأن يترتب عليه بحوث علمية مستقبلية لمعرفة فعالية هذا الكتاب المقترح على أساس خرائط ذهنية ورسومات توضيحية في التحصيل الأكاديمي وفي قدرة الطلاب على الفهم والاستيعاب السريعين لمادة علم الأصوات.

AN INTERACTIVE COMPUTER PROGRAM TO TEACH ARABIC VOICES FOR NON-NATIVE SPEAKERS

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يقوم البرنامج بعرض مرئي لجهاز النطق لدى الإنسان موزعا عليه الأصوات والحروف العربية، وعند الضغط على أي حرف فإن البرنامج يعرض جميع الصفات الصوتية للحرف مثل الجهو أو الهمس والشدة أو الرخاوة والاستعلاء أو الاستفال، وعند الضغط على أية صفة فإنه يظهر مربع نصي يحتوي على جميع المعلومات التعليمية حول هذه الصفة وطريقة نطقها بشكل سليم، مع عرض رسوم للصورة الطيفية لهذه الأصوات، إضافة إلى إمكانية الاستماع إلى هذه المعلومات بصوت الكمبيوتر أو بصوت الأستاذ، ويتيح البرنامج للمستخدم مجموعة توليدية غير متناهية من التدريبات التفاعلية التي تساعد على زيادة الحصيلة العلمية والمهارة الأدائية في آن واحد.

The program displays the speaking device of human being with the Arabic letters and phonemes distributed on it. By clicking on any letter, the program shows all the phonetic characteristics of the letter whether the characteristics are corollary temporary or original, and by clicking on any of them, a text appears in a square window containing all the information of that characteristic and the correct pronunciation in addition to showing the spectrum analysis of these phonemes with the ability to audio present this information using a reformed robotic voice or a recorded human voice. The program provides the user with countless sets of interactive exercises that help to improve the information outcome and the performance skills at the same time.

HOW TO ACQUIRE THE LANGUAGE COMMUNICATION SKILLS FOR ARABIC LANGUAGE BEGINNERS

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كيفية اكتساب مهارات التواصل اللغوي لدى طلاب مبتدئي اللغة العربية
مستخلص البحث هذا بحث وصفي تحليليّ، يهدف إلى تبيين كيفية اكتساب مهارات التّواصل اللّغوي الأساسيّة بالنسبة لطلاب مبتدئي اللّغة العربيّة. يلاحظ أنّ التّواصل اللّغويّ عادة يتمّ عن طريق التّفاعل المتبادل بين طرفين: مرسل ومستقبل وبينهما رسالة لغويّة مكتوبة أو منطوقة تسير في قناة تواصل لتؤدّي إلى إشباع حاجات هذا التّواصل اللّغويّ. والجدير بالذكر يمكن أن يلعب التّواصل اللّغويّ دورًا فعّالاً وسط مبتدئ تعلّم اللّغة العربيّة من الطّلاب إذا استخدم في عملية التّعليم والتّعلّم مهارات التّعلّم الأساسيّة الأربعة ألا وهي الاستماع والقراءة والكلام والكتابة. واهتمامنا بمهارات التّعلّم هنا جاء من منطلق تعقّد الحياة الحديثة، وكثرة وسائل الاتّصال وتنوّعها، وهذا يجعل الإنسان في أمسّ الحاجة إلى امتلاك مهارات التّواصل اللّغويّ من فنون سمعية شفويّة ، وفنون قرائية وكتابيّة حتّى يكون قادرًا على الإقناع والاقتناع.

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ARABIC TERMINOLOGY IN BAHASA MALAY: A DESCRIPTIVE AND SEMANTIC STUDY

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مصطلحات عربية في لغة الملايو: دراسة وصفية ودلالية

يعد الاقتراض من اللغات الأخرى من المكونات المباشرة لنظرية المعجم، وقد تأثرت اللغة الملايوية بماليزيا باللغة العربية واقترضت منها ألفاظا كثيرة، من منطلقات دينية لكون اللغة العربية لغة القرآن الكريم ولغة العبادات، وللصلات التجارية التي قامت عند دخول العرب إلى ماليزيا عبر ولاية (مَلَقا). وفي ضوء إحصاءات قام بها بعض الباحثين وجد هناك مصطلحات عربية اختلفت فيها الدلالة، وتحولت عن المقصود به في العربية، سواء أكان على مستوى الاصوات أم الصرف أم النحوأم الدلالة، أم على مستوى الإملاء والكتابة التي كتبت بها الملايوية بالجاوي؛ أي الحرف العربي. ستقوم الدراسة بإبراز بعض التحولات في الكلمات العربية على المستويات المذكورة آنفا.

SIGNES OF INFLUENCE BY ARABIC LITERATURE IN MALAYU FROM AL-'INAB'S POETRY

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من ظواهر التأثر بالعربية في الأدب الملايوي في شعر العنب

تمّ تدوين الأشعار الملايوية بصورة كتابية بين يدي الشاعر الصوفي حمزة الفنصوري. وقد أبرزت أشعاره بعض الجوانب المتأثرة بالعربية وخاصة في الصور البلاغية العربية والرموز الشعرية. فيهدف البحث إلى الكشف عن هذه الظاهرة، وتمت الدراسة في شعر العنب أنموذجاً من الأشعار الملايوية بالعربية في أشعاره من حيث الرموز الشعرية. وجد الباحثان بعض ظواهر اللغة العربية وثقافتها في أشعار الفنصوري مما يؤكد هذا الأمر على تأثر الشعر الملايوي بالعربية وخاصة من حيث الصور البيانية نتيجة استخدام الرموز الشعرية العربية .