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3%, 6%, 10%, 13 %, and 16% w/w of cotton fibre were considered. An improvement in strength and toughness was observed with increasing fiber content, with the optimum performance was obtained for the fiber content of 10 %w/w. The results have shown that addition of the cotton fibre increased the tensile strength and impact resistance in the range of 0.7 to 10.773 MPa and 1.3 to 19.0 kJ/m² respectively, than that of the pristine albumen. The thermal stability of the composites was characterized by thermogravimetry analysis. The morphological study by SEM has revealed that the wettability of cotton fibre and albumen matrix was good for the fibre loading of 10 % w/w.

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Lightweight Concrete for Greener Environment

*Norshahida Sharifuddin, Zuraida Ahmad, Iis Sopyan
Manufacturing and Materials Engineering, Kulliyah of Engineering
International Islamic University Malaysia*

It is generally known that ordinary concrete have been occupied in construction industry because it is relatively low price and uncomplicated processing product. However, the concern is therefore lies in creation of environmental friendly with higher performance type concrete. Evidently, this is an appropriate point to consider a more efficient use of cement involving the use of natural materials as reinforcement. The efforts currently under way in producing a lightweight concrete with use of agriculture waste, coir fiber, and biopolymer, egg albumen in turn to reduce the use of Portland cement which at the same time provide concrete with better properties. The idea of this study is to investigate the physical and mechanical properties of the randomly distributed short coir fiber reinforced cement-albumen composite. Composite samples were prepared by varying the fiber content of 1-11% by weight added to the slurry of egg albumen and cement, so that the ratio of albumen and fiber-cement was 65:35 (volume percent). They were mixed homogeneously using mechanical mixer. The mixture then placed in the molds and compacted by vibration. The consolidated mass was demould after 24 hr cured. The samples finally air-dried for 7, 14, 21, 28 and 35 days. The strength (bending and compression), density (lightweight), water absorption and moisture content were determined in accordance to relevance ASTM standards. The results indicate that the addition of fiber significantly improves the post-cracking flexural stress of composite. Optimum bending strength of ≈ 8.00 MPa was achieved at 5 wt. % fiber content after cured for 35 days. Increasing in fiber content demonstrate the decreased in density with slightly increase the percentage of moisture content and water absorption. Owing to different in bonding strength, the fracture surfaces observed different hydration bond formed between fiber and matrix. These behavior correlates with the interfacial characteristics of fiber-matrix confirmed by SEM. On the basis of the results, this is a good illustration of a holistic approach towards competent exploitation of natural resources, safe disposal of waste, and new making of high quality with comparable cost concrete.

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Wall Climbing Robot

*Md Mozasser Rahman
Mechatronics Engineering, Kulliyah of Engineering
International Islamic University Malaysia*

The Robot, named as TRAIN WALL BOT, is designed which has the ability to navigate on smooth vertical surfaces with the capability to avoid obstacles and overcome it if the height of the obstacles is about 1cm. The design is inspired from train steel wheel movement which uses two actuated legs with rotary motion supplied from the motor. The Robot uses pneumatic system and the suction force is supplied by an air compressor that will turn on intermittently. The sucking system force controls the attachment of the robot to the wall by using 3 vacuum valves and 6 vacuum pads (2 vacuum pads on each leg, and 2 vacuum pads below the body). The robot is controlled using PIC16F877A. The main body of the robot carries the motor and important electronic components. Two limit switches are used to acknowledge the contact with its navigating surface, one is attached with one leg and other is attested with the body part. Vacuum suction is controlled based on the ON OFF priority of the limit switch. IR distance sensor detects obstacles which are higher than 1cm. The simple design of the Robot ensures the capability to walk, climb vertically up to 85° and 90° slope smooth surfaces and avoid obstacles. It has the advantages of faster forward and backward movements which is smooth and more stable (because of the

coupling design) than other existing wall climbing Robots.

**P-150 Classifying Users Emotions towards the Quranic Recitation Using EEG:
 A Preliminary Study**

*Ahmed M. Zeki, Daeng Ahmad Zuhri bin Zuhid, Rosyuhada binti Tahir
Computer Science, Kulliyah of Information & Communication Technology
International Islamic University Malaysia*

A preliminary study is done that proposes a method to detect and recognize emotional effects of Quranic recitation towards both Muslims and non-Muslims is proposed. The method uses four basic emotions which are Happy, Calm, Fear, and Sad to classify which of these four emotions the user will invoke when the Quranic recitation is presented to the participants. EEG signals are collected from the brain signals from the scalp. KSDE feature extraction is used to extract the prominent features of the participant and MLP is used to classify which of the four basic emotions was invoked when listening to the Quran. Results show that the most prominent emotion that has been detected by the MLP is Calm.

**P-151 Step-Stress Model Using Logistic Regression Model and It's
 Application in Medicine**

*Jamal Daoud, Imad H. Khamis
Science in Engineering, Kulliyah of Engineering
International Islamic University Malaysia*

A linear logistic model is proposed for estimating the probability of survival to a specified stage using a step-stress model. Parameter estimates may be obtained numerically for the general case of the k-step model, and explicit solutions are given in the case of the two-step stress model. Of special interest to us is the application of this model to the prediction of mortality in HIV-1 infected individuals that based on clinical of Centers for Disease Control and Prevention clinical stage of disease (A, B and C stages).

**P-152 Isolation and screening of lactic acid bacteria (LAB) from non-broiler
 chicken (Gallus gallus) for potential probiotic**

*Tengku Haziyaamin Tengku Abdul hamid, Ezureen Ezani, Ahmed Jalal Khan
Biotechnology, Kulliyah of Science
International Islamic University Malaysia*

Lactic acid bacteria (LAB) are important inhabitants of animal intestine and are useful source of probiotic microorganism. Non-roiler chicken could be an ideal source of probiotic that can be utilized in large scale feeding of broiler chicken. In this study, fifty (50) bacterial strains that were randomly isolated from the gastrointestinal tract of non-broiler chicken (*Gallus gallus*) prepared in 5 ml of Phosphate Buffered Saline (PBS) were tested for the identification of LAB. LAB was identified by morphological and biochemical tests. Out of the fifty (50) isolates, eleven (11) isolates were Gram-positive cocci. The eleven (11) isolates have the ability to utilize lactose as part of their metabolism process and all showed negative reactions towards catalase test. The identified strains were then screened for their inhibitory effects against pathogenic bacteria by the disc diffusion method. Eleven (11) strains of LAB isolated produced antimicrobial compounds that were active against pathogenic bacteria especially *Salmonella typhimurium* strains. The disc dipped in broth containing LAB inhibited the growth of pathogenic bacteria by creating an inhibition zone around the disc. With all these tests, LAB were successfully isolated and screened from gastrointestinal tract of non-broiler chicken for potential probiotic purposes.