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MINISTRY OF HEALTH MALAYSIA
NATIONAL INSTITUTES OF HEALTH

ABSTRACT BOOK

INTERNATIONAL MEDICAL RESEARCH JOURNAL

1ST INTERNATIONAL BIOMEDICAL CONFERENCE 2025

BRIDGING THE GAPS: TRANSLATING BIOMEDICAL RESEARCH FROM LAB TO COMMUNITY

3RD - 4TH SEPTEMBER 2025

AC HOTEL BY MARRIOTT, KUANTAN PAHANG

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IMRJ

International Medical Research Journal

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INTERNATIONAL MEDICAL RESEARCH JOURNAL

PROGRAMME

DAY 1 : 3rd September 2025

Time	Ballroom	
0800-0900	Registration	
0915	Arrival of YBhg. Dato' Indera Dr. Nor Azimi binti Yunus, Deputy Director General of Health (Medical), Ministry of Health Malaysia	
0930	National Anthem "Negaraku" Doa Recital	
0935	Joint Welcome Address by **YBrs Dr. Mohd Fairulnizal Md Noh** and **YBrs Prof. Dr. Nor Fadilah Rajab**, Organising Chairpersons, 1st International Biomedical Conference 2025	
0945	Officiating Speech by YBhg. Dato' Indera Dr. Nor Azimi binti Yunus, Deputy Director General of Health (Medical), Ministry of Health Malaysia	
1000 - 1030	**KEYNOTE:** MicroRNAs: Tiny Regulators, Massive Impact - Unlocking Their Potential in Cancer Diagnosis and Therapy *Prof. Ts. Dr. Cheah Yoke Kqueen, FASc. (Universiti Putra Malaysia)* Chairperson: Prof. Dr. Fadilah Rajab (UKM)	
1030	Tea Break & Networking	
1045 -1115	**PLENARY 1:** Uncovering Novel Therapeutic Targets for Head and Neck Cancers *Prof. Dr. Cheong Sok Ching (Cancer Research Malaysia)* Chairperson: Assoc. Prof. Dr. Lim Chooi Ling (IMU University)	
Time	**Ballroom**	**Meeting Room**
1115 - 1215	**SYMPOSIUM 1:** **Precision Medicine** Chairperson: Dr. Mohd. Khairul Nizam Mohd Khalid (IMR) MyGENOM: Advancing Precision Medicine Through Inclusivity and Equity in Malaysia *Dr. Adiratna Mat Ripen (IMR)* Precision Medicine in Practice: Bridging Genomic Insights to Public Health Impact *Prof. Dr. Chee-Onn Leong (AGTC Genomics)*	**SYMPOSIUM 2:** **AI & Machine Learning** Chairperson: Dr. Mohd Kamarulariffin Kamarudin (IMR) The Future of Computational Methods in Personalised Medicine *Assoc. Prof. Dr. Ooi Ean Hin (Monash University Malaysia)* Clinician-Centric Innovation: From Smart Forms to Deep-Learning Suites in Biomedical Imaging *Prof. Dr. Mohd Zulfaezal Che Azemin (IIUM)*
1215 - 1300	RAPID-FIRE PRESENTATION 1	RAPID-FIRE PRESENTATION 2
1300 - 1400	Lunch Break	
1400 - 1530	ORAL PRESENTATION 1	ORAL PRESENTATION 2
Time	**Ballroom**	
1530 – 1630	**FORUM:** R&D to Remedy: The Pathway of Drug Discovery Moderator : Assoc. Prof. Dr. Wan Amir Nizam Wan Ahmad (USM) *Prof. Dr. Nor Fadilah Rajab (UKM)* *Dr. Zaril Zakaria (NPRA)* *Mr. Sheikh Mohamad Nor Hafiz Abdul Aziz (ROCHE (M))*	
1630	End of Day 1	

PROGRAMME

DAY 2 : 4th September 2025

Time	Ballroom	
0800-0830	Registration	
0830-0900	**PLENARY 2:** Effects of Environmental Changes on the Transmission Dynamics of Aedes-borne Diseases *Assoc. Prof. Dr. Pratap Singhasivanon (SEAMEO TROPMED Network)* Chairperson: Dr. Nor Aziyah Mat Rahim (IMR)	
Time	**Ballroom**	**Meeting Room 5**
0900 - 1000	**SYMPOSIUM 3:** **Non Communicable Diseases** Chairperson: Assoc. Prof. Dr. Adeline Chia Yoke Yin (Taylor's University) Decoding the Lung Immune Ecosystem: From Fundamental Insights to Biomedical Impact. *Dr. Megat Hafizzuddin Abd Hamid (UM)* Lipoprotein (a): The new target in CV risk reduction? *Assoc. Prof. Dr. Ahmad Syadi Mahmood Zuhdi (UM)*	**SYMPOSIUM 4:** **Molecular Biology & Immunology** Chairperson: Dr. Ibrahim Adham Taib (IIUM) Exploration Of Protoemic Biomarker Discovery For Precision Medicine. *Asst. Prof. Dr. Norbaiyah Mohamed Bakrim (IIUM)* Human-induced pluripotent stem cell-derived neural models to understand neuropathogenesis in Down syndrome. *Prof. Dr. Ling King Hwa (UPM)*
1000	Breakfast Talks & Tea Break	
1030 - 1130	**SYMPOSIUM 5:** **Drug discovery & regulatory** Chairperson: Assoc. Prof. Dr. Suvik Assaw (UMT) From Bench to Bedside: Incorporating Herbal Therapies in Treatment of Diabetic Nephropathy *Assoc. Prof. Dr. Wan Amir Nizam Bin Wan Ahmad (USM)* Cancer Chemopreventive Activity of Terpenoid Rich Canarium odontophyllum MIQ. Leaf Extract (TRCO) in UVB-Induced Skin Cancer Models In Vitro and In Vivo *Prof. Dr. Ahmad Rohi Ghazali (UKM)*	**SYMPOSIUM 6:** **Planetary Health** Chairperson: Assoc. Prof. Dr. Suzita Mohd Noor (UM) Planetary Health in Focus: Redefining Human Well-being in a Changing World *Prof. Ts. Dr. Muhammad Lokman Md Isa (IIUM)* Planetary Boundaries and Child Health *Prof. Dr. Amir Hamzah Abdul Latiff (Sunway University)*
1130 - 1300	YOUNG INVESTIGATOR AWARD	ORAL PRESENTATION 3
1300 - 1400	Lunch Break	
1400 - 1445	RAPID-FIRE PRESENTATION 3	RAPID-FIRE PRESENTATION 4

1445 - 1545	**SYMPOSIUM 7:** **Infectious diseases** Chairperson: Ms. Adela Ida Anak Jiram (IMR) Aptasensor: A Tool for the Detection and Differentiation of SARS-CoV-2 Variants. *Prof. Dr. Chee Hui Yee (UPM)* Trend of SARS-CoV-2 Variants, and Molecular Epidemiology of Dengue and HCV: Highlights of Viral Infectious Diseases in Pakistan. *Asst. Prof. Dr. Saba Farooq (University of Karachi)*	**SYMPOSIUM 8:** **Biomedical Data Science Bioinformatics (Big Data in Biomedical)** Chairperson: Dr. Wan Ahmad Syazani Mohamed (IMR) Cracking Chemoresistance in Breast Cancer: Insights From Big Data and Translational Omics. *Prof. Dr. Badrul Hisham Yahaya (USM)* Decoding the Diabetic Gut Microbiome: Insights from a Malaysian study. *Assoc. Prof. Dr. Siva Gowri Pathmanathan (USIM)*
1545 - 1630	Prize Giving & Closing Ceremony	
1630	End of Day 2	

E-POSTER PRESENTATIONS

particularly against MRSA, with phytochemical analysis confirming the presence of key bioactive compounds. These findings support *G. mangostana* as a promising natural antimicrobial agent.

KEYWORDS: *Garcinia mangostana*, Antimicrobial, Phytochemical Analysis, Xanthones, MRSA

EP_095

IN SILICO DISCOVERY OF α-GLUCOSIDASE INHIBITORS FROM *Mitragyna speciosa* FOR ANTIDIABETIC THERAPY

Siti Norain Mat Rasid[1], Alfi Khatib[2]*, Dendi Noventri Nando[3], Hussam Abdeljabar Ahmad Mizher[1], Mohd Hamzah Mohd Nasir[4], Mohd Hafiz Arzmi[5]

[1]Department of Basic Medical Sciences, Kulliyyah of Pharmacy, International Islamic University Malaysia, 25200, Kuantan, Pahang, Malaysia

[2]Department of Pharmaceutical Chemistry, Kulliyyah of Pharmacy, International Islamic University Malaysia, 25200, Kuantan, Pahang, Malaysia

[3]Department of Food Science and Biotechnology, Faculty of Agricultural Technology, Universitas Brawijaya, Kota Malang, Jawa Timur 65145, Indonesia

[4]Department of Biotechnology, Kulliyyah of Science, International Islamic University Malaysia, 25200, Kuantan, Pahang, Malaysia

[5]Department of Fundamental Dental and Medical Sciences, Kulliyyah of Dentistry, International Islamic University Malaysia, 25200, Kuantan, Pahang, Malaysia

**Corresponding author: Alfi Khatib. alfikhatib@iium.edu.my*

INTRODUCTION: : *Mitragyna speciosa* (kratom) is a medicinal plant known for its richness in phytochemicals with potential antidiabetic activity. α-glucosidase is an enzyme that plays a key role in carbohydrate hydrolysis. The inhibition of α-glucosidase activity represents a validated therapeutic approach to manage postprandial hyperglycaemia in type 2 diabetes. This study investigates the potential of *M. speciosa* leaf extract as an α-glucosidase inhibitor.

OBJECTIVE(S): To identify bioactive compounds in *M. speciosa* ethanolic leaf extract that inhibit α-glucosidase and to evaluate their interaction with the enzyme through *in silico* molecular docking.

MATERIALS & METHODS: Phytochemical profiling of the 95% ethanolic extract of *M. speciosa* leaf was performed using LC-MS QTOF. *In vitro* α-glucosidase inhibition assay was conducted to determine the IC_{50} value of the extract. Selected compounds were subjected to molecular docking analysis using AutoDock software against α-glucosidase enzyme (PDB ID: 3A4A), and key binding interactions were analysed.

RESULTS: A total of 16 putative bioactive compounds were identified from the extract. The extract exhibited α-glucosidase inhibitory activity with an IC_{50} of 21.64 µg/mL. In the molecular docking analysis, Rhyncophylline showed strong binding to α-glucosidase (ΔG = -8.8 kcal/mol), comparable to standard inhibitors. Its interaction with ASP352, a known catalytic residue, suggests that Rhyncophylline may act as a potential α-glucosidase inhibitor.

CONCLUSION: The ethanolic leaf extract of *M. speciosa* exhibits α-glucosidase inhibitory activity. Rhyncophylline, identified via in silico docking, is a promising lead compound for future antidiabetic drug development.

KEYWORDS: *Mitragyna speciosa*, α-Glucosidase, Molecular Docking, Rhyncophylline

EP_096

LIPID PROFILING AND TOXICITY EVALUATION OF ANTARCTIC MICROALGAE (BO-11) IN ZEBRAFISH EMBRYO DEVELOPMENT

Amirah Mohd Yuzanai[1], Nurfatihah binti Pahdin[1], Siti Aqlima Ahmad[1], Noor Azmi Shaharuddin[1] and Syahida Ahmad[1]*

[1]Department of Biochemistry, Faculty of Biotechnology and Biomolecular Sciences, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

**Corresponding author: Syahida binti Ahmad. syahida@upm.edu.my*

INTRODUCTION: Microalgae have garnered significant scientific interest due to their diverse applications in various fields such as biodiesel production, bioremediation and biomedical properties. The Antarctic strains, in particular, have been reported extensively for their high lipid content due to their survival ability in extreme weather.

OBJECTIVE(S): This study investigates the lipid components of microalgae (BO-11) collected from Bernardo O'Higgins, Antarctic and its toxicity effects using zebrafish embryo as animal model.

MATERIALS & METHODS: The lipid was extracted using a modified Bligh and Dyer method and subsequently analyzed by Gas Chromatography-Mass Spectrometry (GC-MS). Toxicity assessment was conducted over 120 hours post-fertilization (hpf) at concentration ranging from 15.63 µg/mL to 1000 µg/mL based on several parameters including survival rate, LC_{50} values, hatching rate, heart beat rate and morphology observation.

RESULTS: GC-MS result revealed high lipid yield of 75% where polyunsaturated fatty acids is the major compound of the extract at 80.24%. The predominant compound identified was α-linolenic acid (ALA), reported in its methylated form as 9,12,15-octadecatrienoic acid, methyl ester, (Z,Z,Z)-, followed by saturated fatty acids (15.62%) and monounsaturated fatty acids (4.13%). Despite its substantial lipid content, BO-11 demonstrates negligible toxicity towards zebrafish embryo (LC_{50} = 130.87 µg/mL) indicating that it is practically nontoxic. At higher concentrations (≥250 µg/mL), the survival rate showed significant decrease as early as 24 hpf. In contrast, lower concentrations (≤62.5 µg/mL) exhibited 100% survival rates and hatching rates. Embryos exposed at 125 µg/mL showed normal hatching rate and heartbeat rate of ≤125 µg/mL remained normal at 120 to 180 beats per minute (bpm).

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