

Institute of Medical Molecular Biotechnology Newsletter



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IMMB International Webinar Series 03/2025: Unlocking the Mysteries of Nanostructures with SAXS. On 19th February 2025, the IMMB International Webinar Series 03/2025 featured **Dr. Manfred Kriechbaum**, a Senior Research Scientist at **Graz University of Technology, Institute of Inorganic Chemistry, Graz, Austria**. Dr. Kriechbaum shared his groundbreaking research on **“(Bio)molecular Nanostructures Studied by Small Angle X-ray Scattering (SAXS)”**, a significant contribution to the field that has the potential to revolutionize our understanding of nanostructures. He began with the basics of SAXS—a powerful technique for studying the structural properties of materials at the nanoscale. Dr. Kriechbaum explained how SAXS is particularly valuable as it does not require samples to be frozen or crystallized, making it ideal for analyzing flexible, dynamically changing, and heterogeneous samples in their near-native state. By combining SAXS with other methods, researchers can enhance the technique’s capability and open new possibilities for structural identification of protein molecules and characterization of small carriers like Lipid Nanoparticles (LNP). The talk attracted 25 in-person participants and 45 online viewers, contributing to a genuinely engaging and insightful session.



IMMB Research Talk 03/2025: Embracing a Multi-Faceted Career in Research. The IMMB Research Talk 03/2025, held on 5th March 2025, featured **Dr. Lam Ming Quan**, Assistant Professor at the Department of Biological Science, Universiti Tunku Abdul Rahman (UTAR). In his talk, entitled **“Wearing Many Hats: A Slash Career in Multi-Omics Research, Genetic Consultation, and Science Columnist”**, Dr. Lam shared his experience balancing various roles. He discussed the importance of adaptability in modern research, emphasizing the need to integrate academic research with industry and community involvement. Dr. Lam explained how he combines “wet” lab experiments with “dry” bioinformatics analysis. He also serves as a genetic consultant and science columnist for China Press. The talk, attended by 45 in-person and online participants, inspired attendees to embrace diverse careers for personal and professional growth.



IMMB Research Talk 04/2025: Building Bridges in Research. The IMMB Research Talk 04/2025 on 19th March 2025 featured **Assoc. Prof. Ts. Dr. Nor Aishah Hasan**, Senior Lecturer at the Faculty of Applied Sciences, UiTM Cawangan Negeri Sembilan. In her insightful presentation titled **“Building Bridges in Research: The Role of Networking in Academic Success”**, Dr. Nor Aishah highlighted the crucial role of networking in research. She emphasized that although researchers can work independently, they are never truly alone, as a strong network provides vital support, facilitates funding, and opens doors to new opportunities. Dr. Nor Aishah also stressed the importance of attending conferences to connect with researchers with similar interests. The session, attended by 30 participants, was chaired by **Ms. Dayana Syahirah Adam Hong**. It was an inspiring and valuable session for the research community.



Congratulations Anis! Outstanding Achievement at MJIC 2025. We want to congratulate **Anis Syahirah Binti Mohd Shafie (MD990)** for her outstanding achievement in winning the **Best Oral Presentation** at the **6th Malaysia-Japan International Conference on Nanoscience, Nanotechnology, and Nanoengineering (MJIC 2025)**, held from 21st until 23rd February 2025, at Double Tree by Hilton Melaka. This accomplishment is a proud recognition of her expertise and profound understanding of nanotechnology and nanoengineering. It also offered her a valuable opportunity to expand her professional network. This success will inspire her to continue excelling in research, contribute to future science and technology progress, and motivate others. Once again, congratulations, and we wish you continued success in all your future endeavors.



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“The greatest jihad (struggle/striving) is to battle your own soul, to fight the evil within yourself.”
Prophet Muhammad

ACTIVITIES, INITIATIVES & INVOLVEMENT

Enhancing Forensic Science Knowledge: A Collaborative Workshop on Entomology with NUS. From 23rd to 28th February 2025, the Institute of Medical Molecular Biotechnology (IMMB) hosted the Global Classroom: Forensic Science Entomology Workshop in collaboration with the **National University of Singapore (NUS)**. Held at the Royal Chulan Hotel, Damansara, and UiTM Sg. Buloh Campus, the workshop welcomed 33 students from NUS accompanied by **Assoc. Prof. Stella Tan, Dr. Shawn Lee, and Ms. Danielle**. The program opened with an engaging lecture on forensic entomology by **Assoc. Prof. Dr. Heo Chong Chin**, Faculty of Medicine, UiTM. This was followed by a multidisciplinary forum featuring **Prof. Dr. Mohd Yusmiadil Putera Mohd Yusof (Forensic Odontology, Faculty of Dentistry, UiTM)** and **Dr. Khoo Lay See (Forensic & Mass Disaster Expert, Hospital Kuala Lumpur)**. A Crime Scene Investigation session by **Tuan Amidon Anan** introduced students to real-world crime scene procedures and evidence handling. Hands-on activities included setting up fly traps and observing decomposition at UiTM Sungai Buloh Campus. The students also benefited from **Colonel Juma'in Saadon** and the **Air Accident Investigation Bureau (AAIB)** team demonstration on aviation-related forensic investigations. Educational visits included the **Royal Malaysia Police Forensic Lab, Forest Research Institute (FRIM), and Department of Forensic, Al-Sultan Abdullah Hospital (HASA)**, where they met **Assoc. Prof. Dr. Razuin Rahimi** and **Dr. Wan Muhammad Hafiz**. During their visit, students had the opportunity to meet the Deaneries of the Faculty of Medicine. **Prof. Dr. Anis Safura Ramli, represented our Dean**, along with **Assoc. Prof. Dr. Noor Shafina Mohd Noor** and **Assoc. Prof. Dr. Yuhaniza Shafinie Kamsani**. This meeting provided a platform for the students to express gratitude for their participation and foster academic exchange, making them feel connected and part of a larger community. The workshop concluded with a Closing Dinner attended by **Prof. Dr. Mohd Haidzir Abdul Manaf**, Assistant Rector of the UiTM Sg. Buloh, Selayang & Teluk Intan Campuses together with Top Management of the Faculty of Medicine UiTM. On the final day, students presented what they had learned, marking the end of an enriching, career-shaping experience in forensic science. The workshop's impact will influence future forensic scientists, contributing to the global advancement of the field.



Strengthening IMMB's Operations and Facilities. On 20th February 2025, the Institute of Molecular Medical Biotechnology (IMMB) was invited to attend a meeting with **Prof. Dr. Mohd Haidzir Abdul Manaf**, Assistant Rector of the UiTM Sungai Buloh, Selayang, and Teluk Intan Campuses, to discuss the management and operations of IMMB. The meeting was attended by **Assoc. Prof. Dr. Wang Seok Mui**, Director of IMMB, **Mrs. Norita Salim**, **Mr. Azhar Ahmad**, **Mr. Hazrul Nizam Hisham Hasmi**, **Ms. Nurul Hazwani Azehari**, and several facility staff, including assistant engineers. Key discussions focused on enhancing IMMB's facilities and infrastructure, particularly the maintenance of equipment and buildings. A proposal to relocate the freezer room on the ground floor, with improvements by the facilities team, was discussed. Additionally, IMMB proposed new projects to improve operational efficiency and research needs, including installing more CCTV. **The meeting was productive, reflecting the strong commitment to strengthening IMMB's effectiveness within the university ecosystem.**



UTM Skudai Academic Visit: Gaining Insights into Forensic Science and Entomology Practices. On 27th February 2025, IMMB welcomed an academic visit from **Universiti Teknologi Malaysia (UTM), Skudai, Johor**, involving 18 postgraduate students from the Department of Chemistry, Faculty of Science, UTM, and three accompanying lecturers led by **Ts. Dr. Naji Arafat bin Haji Mahat**. The students were privileged to have the opportunity to learn from forensic entomology expert **Assoc. Prof. Dr. Heo Chong Chin** from the Department of Medical Microbiology and Parasitology, Faculty of Medicine, UiTM. The visit began with an insightful lab tour led by the Director of IMMB, **Assoc. Prof. Dr. Wang Seok Mui**, who provided a comprehensive overview of the Institute's state-of-the-art facilities and ongoing multidisciplinary research. During the visit, **Assoc. Prof. Dr. Heo Chong Chin** presented the role of entomology, specifically the study of flies, as a tool in forensic science to determine the time of death by analyzing the decomposition process, inspiring the students with a deeper understanding of its application in criminal investigations.



The important thing is to never stop questioning – Albert Einstein

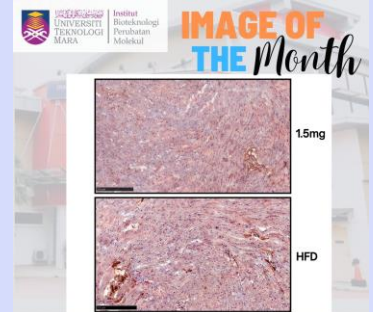


PhD VIVA VOCE Success: Congratulations to Nurul Fathiyah Zaipul Anuar. IMMB congratulates Mrs. Nurul Fathiyah Zaipul Anuar on passing her PhD VIVA VOCE (MD 990) on **20th February 2025**. Her research, titled “**Molecular Characterization and Immunostimulatory Properties of Extracellular Membrane Vesicles (EMVs) of Streptococcus pneumoniae,**” was supervised by Assoc. Prof. Dr. Navindra Kumari Palanisamy, with co-supervision from Assoc. Prof. Dr. Jamal Houssaini (UiTM) and Prof. Ts. Dr. Mohd Nasir Mohd Desa (UPM). Her study focused on the potential of EMVs for developing a highly effective vaccine. Throughout her PhD journey, Nurul achieved notable accomplishments, including publishing four papers, two of which were

published in the International Journal of Infectious Diseases. She also participated in three conferences and won two innovation competitions. IMMB is proud of her achievements and wishes her continued success in her future endeavors.

IMMB Image of the Month. The image shows IHC staining in the heart tissue of ApoE knockout mice using an FSPI marker. It was used to indicate the fibroblast activation, visualized by DAB chromogen in the dark brown colour. The images were scanned via Hamamatsu Nanozoomer S60 and quantified the area using Aperio ImageScope. HFD group (untreated ApoE ^{-/-} mice fed high-fat diet) revealed high expression of FSPI marker compared to the 1.5 mg group (1.5 mg of celastrol treated ApoE ^{-/-} mice fed high-fat diet). Thus, celastrol proved to attenuate the effect of fibrosis in the heart induced by high-fat diet consumption.

Image courtesy of Arifah Ahmad Damahur, PhD student under the supervision of Dr. Nasibah Azme.



Ihya Ramadhan: Bubur Manis Program 12th March 2025 MediPA & IMMB



Serving warmth/more than 800 packs were distributed to staff, students and visitors at UiTM Sg. Buloh Campus



Thank you to all the donors and everyone who made the program a success

Inikan Raya

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Dengan ingatan tulus ikhlas daripada
Institut Bioteknologi Molekul Perubatan (IMMB), Fakulti Perubatan UiTM