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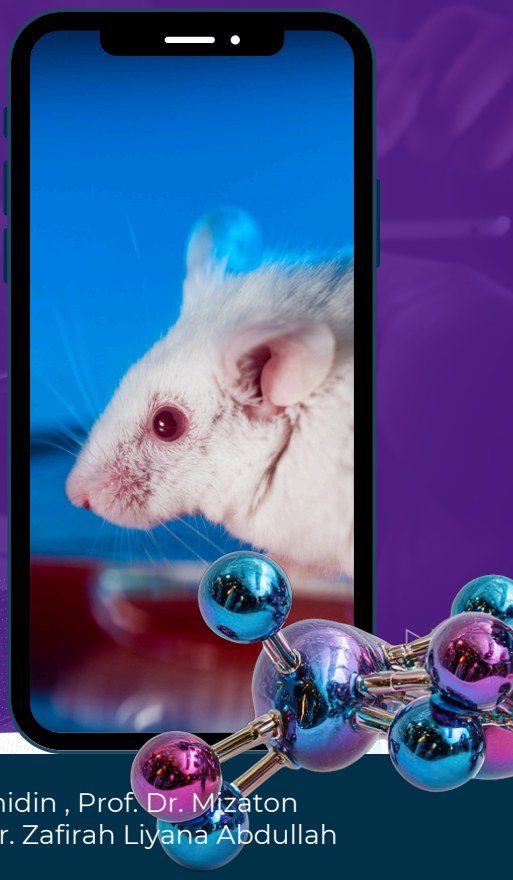
PRECISION DRUG SCREENING: INTEGRATING NETWORK PHARMACOLOGY, MOLECULAR DOCKING AND IN VIVO INSIGHTS; 26-27 NOVEMBER 2025.



By AP Dr. Hanish Singh Jayasingh Chellammal, Dr. Aisyah Hasyila Jahidin , Prof. Dr. Mizaton Hazizul Hasan, Dr. Siti Azma Jusoh Yusof, Dr. Ruzianisra Mohamed, Dr. Zafirah Liyana Abdullah
Edited by Dr. Norkasihan Ibrahim

The Faculty of Pharmacy, Universiti Teknologi MARA (UiTM) successfully hosted a two-day hybrid workshop titled "*Precision Drug Screening: Integrating Network Pharmacology, Molecular Docking, and In Vivo Insights*." This advanced program brought together researchers, postgraduate and undergraduate students, and professionals from pharmaceutical sciences and allied disciplines to explore integrated approaches in modern drug discovery. The workshop aims to bridge computational and experimental methods for accurate and efficient screening of potential drug candidates. The field of drug discovery increasingly relies on interdisciplinary strategies that combine *in silico, in vitro, and in vivo* methodologies to improve the success rate, predictive power, and translational relevance of early screening efforts.

The workshop commenced with an ice-breaking session by Dr. Siti Azma Jusoh, Head, Department of Pharmacology & Life Sciences, Faculty of Pharmacy, UiTM. This was followed by a series of expert-led sessions: Prof. Dr. Mizaton Hazizul Hasan on natural product drug discovery for diabetes, tumors, and inflammation-related diseases; Associate Professor Dr. Hanish Singh Jayasingh Chellammal on pharmacological and toxicological screening; Dr. Siti Azma Jusoh on molecular docking, which is the novel topic of drug discovery in silico; and lastly, Dr. Sohini Chakraborty on network pharmacology. The second day focused on the in vivo toxicological and pharmacological experiments, providing participants with critical insights into validating computational predictions within biological systems.

This workshop was designed to provide knowledge on

Network pharmacology maps complex drug-target and disease pathway interactions

Molecular docking predicts how small molecules interact with biological targets at the atomic level

In vivo studies validate pharmacological effects in biological systems

By connecting these different layers of drug screening, participants learned to contextualize computational predictions with biological relevance-an essential competency in precision pharmacology and translational research. Over the two days, the program combined :

01 Interactive lectures from experts in pharmacology, computational biology, and experimental sciences

02 Case studies and discussions showcasing drug calculations of integrated pre-clinical drug screening approaches

03 Q & A and networking segments to foster collaboration among attendees

The hybrid format enabled broad participation via online platforms, significantly reflecting UiTM Faculty of Pharmacy's commitment to nurturing precision-focused drug discovery skills among its academic community and beyond.