



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Institute for Life-Ready Graduate (UTM iLeaGue)
Office of Deputy Vice Chancellor
(Academic & International)

WWW.UTM.MY/URC

6th Universiti Teknologi Malaysia's Undergraduate Research Conference 2023



Programme Book

25th June 2023
DEWAN SRI PERDANA
UTM JOHOR BAHRU

Welcome to the Undergraduate Research Conference, URC 2023!



"**Undergraduate Research Conference (URC)**" is an annual conference organized by the **Institute of Life-Ready Graduate (UTM iLeague)** and is open to all students taking Undergraduate Project (UGP) 1 and 2 courses at Universiti Teknologi Malaysia. The first URC event was held on 16 December 2018 and received encouraging response with 100 participants from various faculties.

URC aims to provide a platform that allows participants to showcase their research work, open space for collaboration and feedback from industrial panels on the projects. URC is also organized to appreciate students' effort in producing quality final year projects. Furthermore, this program hopes to inspire students in expanding their research activities to postgraduate level. URC is expected to help students in generic skills improvement, i.e., communication and scholarship skills.

The organization of URC is also to attract the linkage between UTM and the industrial sector in research and student recruitment for the workforce.

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

FOREWORD FROM THE CONFERENCE CHAIR



Assalamualaikum w.b.t and greetings to all,

We would like to welcome you to the 2023 Undergraduate Research Conference (URC2023) which is held on 25th June 2023. This conference is held annually since 2018 and it offers an exciting platform for final year students to showcase their completed research as part of their undergraduate coursework. URC 2023 provides an excellent platform for these young researchers to demonstrate their communication skills, enhance their work readiness, meet students from other disciplines, learn how other disciplines approach research and learn problems. Additionally, URC2023 will be the programme for the students to share their thoughts and exchange ideas on how to chart their journey forward to reach new heights.

Furthermore, URC2023 provides undergraduate researchers a unique opportunity to present their research and enjoy a research conference environment. To that end, I would like to thank the organizing committee for their invaluable support in organizing the conference. Also, the technical support team, our keynote speaker, judging panels, the authors, and presenters for participating and making URC2023 a great venue for final year students to showcase their research. Stay safe and healthy.

Assoc. Prof. Dr. Mazura binti Jusoh
Chair
Undergraduate Research Conference (URC 2023)

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

FOREWORD FROM THE DEPUTY VICE CHANCELLOR (ACADEMICS & INTERNATIONAL) UNIVERSITI TEKNOLOGI MALAYSIA

Assalamualaikum w.b.t and greetings to all,

I am pleased when I hear that URC2023 has received overwhelming responses from amongst UTM final year undergraduate students from multidisciplinary research fields. It shows that many more innovations and ideas are being materialized which tells us that our students are striving and doing their best in undergraduate research. URC creates an opportunity for the participants to expose themselves to the recent research development, network and meet colleagues.

In general, this event provided a good opportunity to meet others and exchange ideas. The success of past URC is a testimony of the dedication of UTM educators in bringing high quality education to our future generations. I am truly impressed with the great enthusiasm shown by the participants of URC2023 in putting their very best effort to demonstrate their research. I hope by showcasing their research and innovations in URC2023, all the participants can learn, relearn, and continue to innovate.

My utmost gratitude to the URC 2023 organizing committee from various faculties and schools, as well as Institute of Life-Ready Graduate (UTM iLeague) for their tremendous contribution and dedication to make this conference successful. I wish all the participants the very best of luck for your presentations.

Prof. Sr. Dr. Hishamuddin Bin Mohd Ali
Deputy Vice Chancellor (Academics & International)
Universiti Teknologi Malaysia



UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

URC 2023 KEYNOTE SPEECH



PASSION FOR KNOWLEDGE, HUNGER FOR DISCOVERY, GUIDED BY VALUES

Research is important in prospering the society. In our term a society that prospers is reflected in their quality of life, sustaining the resources and the environment while progressing and creating equal opportunity for everyone to live in harmony within the global community. With knowledge that you possess in Engineering, Technology, Sciences, Management and etc, research would allow us to explore and discover new knowledge, hence new inventions that would result in better quality of life. Research needs creativity, passion to explore, ability to innovate, and having entrepreneurial mind set. Research must be guided by values and purpose; thus it will lead to a

positive outcomes. The new discovery should not in any way destroy the humanity and the ability for future generations to survive, thus values are very critical for researchers to embrace.

Biography:

Wahid Omar was the 6th Vice-Chancellor of Universiti Teknologi Malaysia (UTM), from September 2013 until August 2020. He retired as a Professor from UTM in May 2022, but continues to serve UTM until now, under the Voluntary Scheme working mainly on Leadership Development. He was entrusted as Head of Department and Deputy Dean in the Faculty of Civil Engineering between 1999-2008. He was the Director of the Office of Asset and Development from 2008 to 2011. During that period, besides managing assets and facilities of UTM, he led (as Superintendent Officer) in the completion of RM1 billion development projects in UTM and led in the planning and completion of RM180 millions UTM Residensi Project in UTMKL. He was appointed as the Deputy Vice-Chancellor (Development) in 2011 before becoming the Vice Chancellor in 2013. Altogether he had accumulated 21 years of management and leadership experience. Currently he serves as a Board Member of Universiti Sultan Azlan Shah, Perak (USAS), Board Member of UTMSPACE; Chairman Board of Trustee, Hidayah Education Centre (Johor); and member of Advisory Council, UTM Azman Hashim International Business School (AHIBS). Wahid is a Fellow of the Institution of Engineers Malaysia (FIEM), a Registered Professional Engineer with the Board of Engineers Malaysia, a certified ASEAN Chartered Professional Engineer (ACPE), an Honorary Member of the ASEAN Federation of Engineering Organization (AFEO) and a Certified Professional Coach under International Association of Coaching (IAC).

Prof. Datuk Ir. Dr. Wahid Bin Omar

Professor

Universiti Teknologi Malaysia

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

URC 2023 PROGRAMME SCHEDULE

08:00 AM – 08:30 AM

Registration of URC 2023 Participants and Judging Panel

08:30 AM – 09:00 AM

Briefing Session for Industrial and Academic Panels

09:15 AM – 9:45 AM

URC 2023 Officiation Ceremony

9:50 AM – 10:20 AM

Keynote Speech

10:20 AM – 10:30 AM

Break

10:30 AM – 1:00 PM

URC 2023 Poster Presentation and Evaluation

1:00 PM – 2:30 PM

Lunch Break

2:30 PM – 3:00 PM

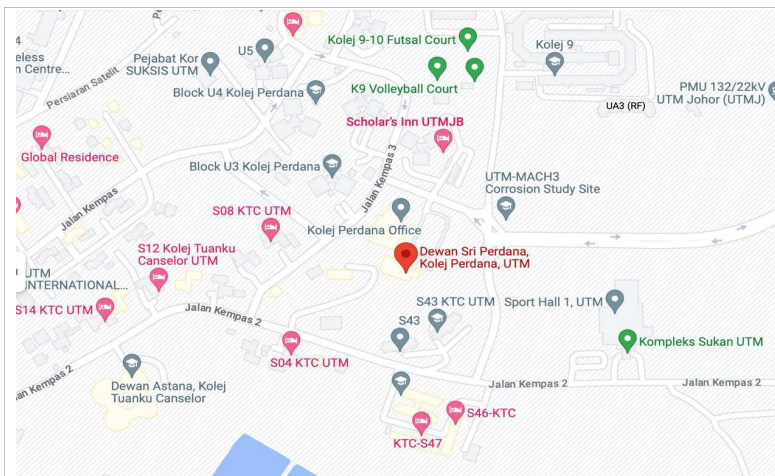
URC 2023 Award Ceremony

3:00 PM – 3:15 PM

URC 2023 Closing Remark

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

URC 2023 VENUE AND INFORMATION



VENUE	Dewan Sri Perdana, Universiti Teknologi Malaysia (UTM), Johor Bahru, Johor
LOCATION	1.5563394081514421, 103.64809051940694
WEBSITE	https://www.utm.my/urc/
FACEBOOK	https://www.facebook.com/URCUTM/
INSTAGRAM	https://www.instagram.com/urcutm/
EMAIL	URC@utm.my

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

URC 2023 JUDGING PANELS

PANEL FABU-1

Industrial Panels

Ar. Norazlina Jubari
Architect, JKR Johor

Academic Panels

Ar. IDr. Ts. Noraslinda Abdul Rahman
En Azari Mat Yasir
Faculty of Built Environment and Surveying

PANEL FABU-2

Industrial Panels

Asst. Prof. Dr. Masitah Zulkepli
Senior lecturer, Southern University College

Academic Panels

Dr. Hariati Abdullah Hasim
Dr. Siti Zaleha Daud
Faculty of Built Environment and Surveying

PANEL FABU-3

Industrial Panels

Prof. Dr. Ahmad Ariffian Bujang
Professor, Southern University College

Academic Panels

Dr. Nur Berahim
Dr. Nurul Syakima Mohd Yusoff
Faculty of Built Environment and Surveying

PANEL FABU-4

Industrial Panels

Sr. Ezam Ariffin
Vice President, PEJUTA

Academic Panels

Dr Nurul Izzati Abd Karim
Dr Kelvin Tang
Faculty of Built Environment and Surveying

PANEL FABU-5

Industrial panel

Sr. Mohd Farid Omar
Surveyor, Royal Institution of Surveyors Malaysia, Johor

Academic Panels

Assoc. Prof. Dr. Nur Emma Mustaffa
Dr. Nur Hajarul Falahi Binti Abdul Halim
Faculty of Built Environment and Surveying

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

PANEL FC-1

Industrial Panels	Murniyanti Malik <i>Technical Manager, Infusion Information Technology Sdn Bhd</i>
Academic Panels	Dr Muhammad Aliif bin Ahmad Dr. Ahmad Najmi bin Amerhaider Nuar <i>Faculty of Computing</i>

PANEL FC-2

Industrial Panels	Vincent Kok Chin Keong <i>Microsoft Technical Trainer, Microsoft Singapore</i>
Academic Panels	Dr. Jamilah Mahmood Dr. Nurfazrina Mohd Zamry <i>Faculty of Computing</i>

PANEL FC-3

Industrial Panels	Vincent Kok Chin Keong <i>Microsoft Technical Trainer, Microsoft Singapore</i> Murniyanti Malik <i>Technical Manager, Infusion Information Technology Sdn Bhd</i>
Academic Panels	Dr. Izyan Izzati Binti Kamsani Dr. Tarmizi Adam <i>Faculty of Computing</i>

PANEL FKA-1

Industrial Panels	Heng Peng Siang <i>Executive Director, Dataran Tenaga (M) Sdn. Bhd.</i>
Academic Panels	Ts. Dr. Ng Chiew Teng Dr. Ahmad Azim Shukri <i>Faculty of Civil Engineering</i>

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

PANEL FKE-1

Industrial Panels

Mr. Muhammad Najib Abdullah
Technical Lead, Techcare Innovation Sdn. Bhd.

Academic Panels

Ts. Dr. Mohd Riduan Mohamad
Faculty of Electrical Engineering

PANEL FKE-2

Industrial Panels

Dr. Muhammad Asraf Mansor
Director, MOM Solutions Sdn. Bhd.

Academic Panels

Ts. Dr. Mohd Riduan Mohamad
Faculty of Electrical Engineering

PANEL FKE-3

Industrial Panels

Dr. Aizat Azmi & Dr. Nazirah Othman
R&D Engineer, TDK Electronic (Malaysia)

Academic Panels

Dr. Hasmat Malik
Faculty of Electrical Engineering

PANEL FKE-4

Industrial Panels

Mr. Muhammad Syarafi
Engineer, GPV Malaysia

Academic Panels

Dr. Nurizzati Mohd Daud
Faculty of Electrical Engineering

PANEL FKE-5

Industrial Panels

Ts. Dr. Tan Jia Hou, CEng
R&D Engineer

Academic Panels

Ir. Ts. Dr. Asnida Abdul Wahab
Faculty of Electrical Engineering

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

PANEL FKE-6

Industrial Panels

Mr. Muhammad Sofwan Zamri
Manager, DF Automation

Academic Panels

Assoc. Prof. Ts. Dr. Norzanah Rosmin
Faculty of Electrical Engineering

PANEL FKM-1

Industrial Panels

Ir. Azalea Shezdiana Badrulshah
Senior Design Engineer, Dyson

Academic Panels

Dr. Mohd Haziq Dzulkifli
Dr. Muhammad Noor Afiq Witri Muhammad
Faculty of Mechanical Engineering

PANEL FKM-2

Industrial Panels

Wan Mohd Hakimi Wan Harun
Manager, Factory Innovation Unit

Academic Panels

Dr. Abdillah Sani Mohd Najib
Faculty of Mechanical Engineering
Ir. Ts. Abdu Aziz Mohd Yusof
Faculty of Mechanical UITM

PANEL FKM-3

Industrial Panels

Ts. Mohamad Azmi Ariffin
Senior Claims Manager, Dyson

Academic Panels

Wan Fahmin Faiz Wan Ali
Nor Akmal Fadil
Faculty of Mechanical Engineering

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

PANEL FS-1

Industrial Panels

Sharifah Azni Syed Nizar
Senior Supplier Quality Engineer

Academic Panels

Dr. Ahmad Fadillah Embong
Dr. Taufiq Khairi Ahmad Khairuddin
Faculty of Science

PANEL FS-2

Industrial Panels

Junaidi Sarju
Maintenance Executive, Hersheys (M) Sdn. Bhd.

Academic Panels

Dr. Nurliyana Ahmad Zawawi
Dr. Rohul Hayat Adnan
Faculty of Science

PANEL FS-3

Industrial Panels

Nurul Fatin Alia Mustapha
Production Engineer, Swan Metal Products Sdn. Bhd.

Academic Panels

Dr. Faizani Mohd Noor
Ts. Dr. Razif Razali
Faculty of Science

PANEL FSSH-1

Industrial Panels

Ts. Dr. Norisham A.Rahim
Kolej Vokasional Kota Tinggi

Academic Panels

Assoc. Prof. Dr. Mohd Safarin Nordin
Dr. Mohamad Abdillah Royo
Faculty of Social Sciences and Humanities

PANEL FSSH-2

Industrial Panels

Dr. Jessica Abisheganathan A/P Jeevaratnam
Ministry of Education

Academic Panels

Dr. Kew Si Na
Dr. Faraha Hamidi
Faculty of Social Sciences and Humanities

PANEL FSSH-3

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

Industrial Panels

Hajah Ida Amiza Hamid

Sektor Sumber Teknologi Pendidikan, Jabatan Pendidikan Negeri Johor

Academic Panels

Dr. Lee Huan Yik

Dr. Noor Mala Ibrahim

Faculty of Social Sciences and Humanities

PANEL FSSH-4

Industrial Panels

Mohd Zharif Safwan Zakaria

Pejabat Pendidikan Daerah Kulai

Academic Panels

Assoc. Prof. Dr Halijah Ibrahim

Dr. Lee Shih Hui

Faculty of Social Sciences and Humanities

PANEL MJ-1

Industrial Panels

Noorfazlida Mohamed

R&D Chemist, Samurai 2K Aerosol Sdn. Bhd.

Academic Panels

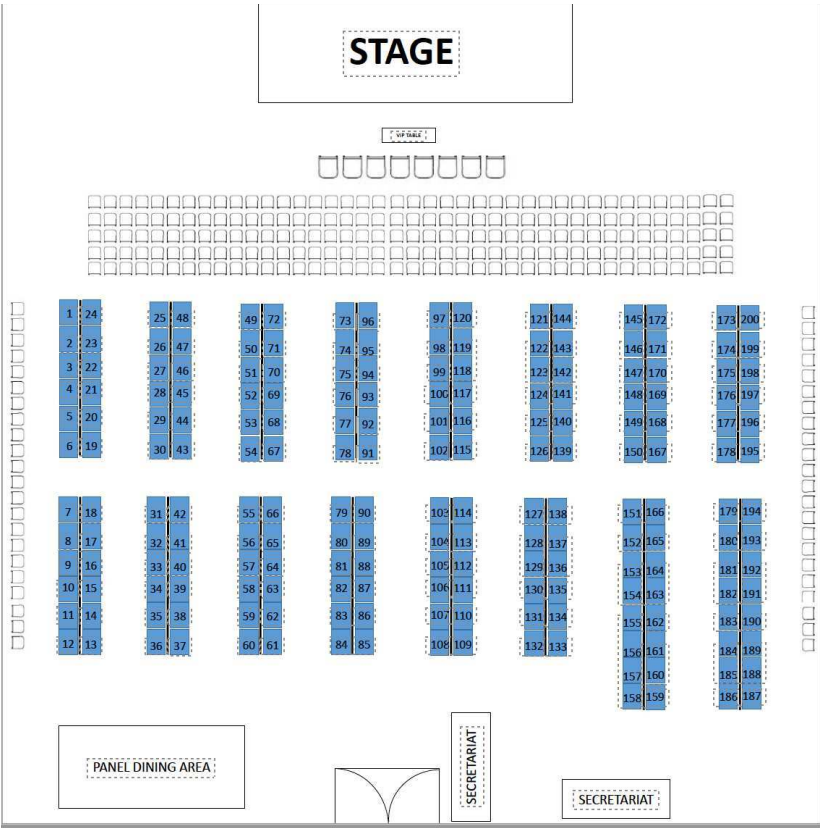
Dr. Amnani Shamjuddin

Dr. Mohd Dinie Muhaimin Samsudin

Faculty of Chemical and Energy Engineering

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

URC 2023 POSTER BOOTH LAYOUT



UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

POSTER PRESENTATIONS

FACULTY OF CIVIL ENGINEERING

FKA-1-1	LIM QIAN XI Title: Flexural Behavior of Glued- Laminated Timber with Square Openings
FKA-1-4	SYAFIQ AIMAAN BIN HASMANDI Title: The Effect of Impact Location on Modal Testing
FKA-1-5	ALAN WONG ZONG XIANG Title: Vibration-Based Damage Detection for One-Story Frame Structure Using Mode Shape Curvature
FKA-1-6	RUHAN PERIYANNAN Title: Physical and Mechanical Properties of Concrete Made with Partial Replacement of Medical Waste Fly Ash
FKA-1-7	RAJA SAAD MUZAFFAR SHAH Title: Performance of Concrete Containing Fibres from Badminton Shuttlecock
FKA-1-8	MUHAMMAD ANAS BAIHAQI BIN MOHD RASOLL Title: Laterite Soil Improvement for Preventing Leachate in the Landfill
FKA-1-9	MUHAMMAD ZHAFIAN BIN MAMAT JAILANI Title: Laterite Soil as Ground Improvement for Bottom Liner to Prevent Leachate from Infiltrating the Landfill
FKA-1-10	NUR SUHAILA BINTI ISMAIL Title: Durability of Lime-Stabilised Laterite for Landfill Liner
FKA-1-11	SITI NURSYAMIRA BINTI SALLEH Title: Ground Improvement to Prevent Leachate in Sanitary Landfills

FACULTY OF MECHANICAL ENGINEERING

FKM-1-1	ROOHAN PANNEER SELVAM Title: Comparative study of turbulence models for predicting flow over a circular cylinder from subcritical to supercritical regimes
FKM-1-2	HAARIHARAN AMPALAGAN Title: Design and Development of Controllable Shaft Alignment Device
FKM-1-3	ESLAM TAREK SAFWAT SAYED ABDALLA Title: Development of Quadruped Robot for Forest Mapping
FKM-1-4	MUHAMMAD SYAZWAN HAKIMI BIN RUZAIMI Title: Design and Development of Autonomous Monitoring System for Electric Autonomous Vehicle (EAV) For FTENTH RACE TYPE-R

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FKM-1-5	MUHAMMAD AFIQ BIN ROHAIZAM Title: Design and Development of Smart Lobster Breeding System (SLABS V3)
FKM-1-6	MUHAMMAD AIMAN BIN MUHAMMAD ASYRAF Title: Design and Development of Autonomous Monitoring System for Electric Autonomous Vehicle (EAV) For FTENTH RACE TYPE-S
FKM-1-8	MUHAMMAD SUHAYL AZMIN BIN SAIPOLLIZAN Title: The Development of Image Captioning Algorithm
FKM-1-9	LIM XINLIN Title: CFD Simulation of Seawater Desalination by Using Direct Contact Membrane Distillation
FKM-2-1	MUHAMMAD FAIZ BIN ABD GHAFAR Title: Carbon Nanotubes Growth Distribution Analysis Within Methane Diffusion Flame Using Pure Nickel Wire
FKM-2-2	TING CHEK YU Title: Pipeline Leakage Detection Using Arduino Sensor
FKM-2-3	AHMED ARIEF BIN YUSOF Title: Combustion Chamber Simulation Analysis for Micro Gas Turbine Performance
FKM-2-4	MUHAMMAD THAQIF BIN NASARUDIN Title: Analysis of Thermal Effects of Methane Diffusion Flame on Carbon Nanotubes Growth Region Distribution in Methane Diffusion Flame
FKM-2-5	YEW QI MING Title: Development of AUV with AI Vision
FKM-2-6	MUHAMMAD FATHURIZQULLAH Title: Environmental Buoy for River Water Assessment
FKM-2-7	GOH JIE HENG Title: Improving Pitching Motion of Oscillating Wave Surge Convertor Using Magneto-Rheological Damper
FKM-2-8	KEW SIANG WEN Title: Analysis of Floating Wind Turbines Arrangement Effect on Power Generation
FKM-2-9	NG CHEN XIAN Title: Design of Control Algorithm for Autonomous Near Surface Vehicle
FKM-3-1	HAFIZ DIKA JIWANTA Title: Work Study on The Production in An Electronics Manufacturing Company
FKM-3-2	MUHAMMAD DANIAL ALIF BIN ARZE Title: Systematic Layout Planning in Aluminium Fabrication Workshop

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FKM-3-3	MUHAMMAD NIZAM BIN ADNAN Title: Case Study for Engineering Design of Noise in an Electronic Manufacturing Company
FKM-3-4	ONG SIN CHEE Title: Ergonomics Improvement in A Machine Vision System Company
FKM-3-5	CONI TAN CO NI Title: A Case Study on Topology Optimization of Ball Valve Components Design for Additive Manufacturing in Oil and Gas Industry
FKM-3-6	CHIN CAI YING Title: Effect of Minimum Quantity Lubrication on Surface Quality and Tool Life in End Milling of Stainless Steel AISI 420
FKM-3-7	CHIN YEE JIAN Title: Online Tool Monitoring System for End Milling of Stainless Steel AISI 420
FKM-3-8	A'FAF A'QILAH BINTI ISMAIL Title: Unsupervised Machine Learning of Acoustic Emission Waves in Damaged
FKM-3-9	JEREMY ONG JUN SHENG Title: Biofuel as a Sustainable Fuel for Aviation

FACULTY OF ELECTRICAL ENGINEERING

FKE-1-1	NURSHAFIZA BINTI KAMARUDDIN Title: Development of Home-Based Rehabilitation Mobile Apps for Autism Spectrum Disorder Children
FKE-1-2	QISTINA BALQIS BINTI ZAIDI Title: Automatic Assessment of Specific Balancing Movement in Autism Spectrum Disorder by Using Pose Detection Method
FKE-1-3	KEVIN NG ZHI HAO Title: Intelligent Heart Rhythm Monitoring System Prototyping on Efinix Field Programmable Gate Array (FPGA) Technology Platform
FKE-1-4	AISYAH BINTI SAFI'AI Title: Three Dimensional Printed Invisible Dental Braces for Treating Misaligned Teeth
FKE-1-5	MUHAMMAD FARHANKA THARIQ Title: Fabrication and Characterisation Analyses on Electrospun Membrane of Polyvinyl Alcohol/Chlorhexidine
FKE-1-6	NOOR ATIRAH BINTI MOHD NOH Title: Synthesis And Physiochemical of PVA/Gelatin Based Hydrogel with Andrographolide For Biomedical Application

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FKE-1-7	FAISHAL ADILAH SURYANATA Title: RFID Read Range Performance: Investigating the Impact of The Human Tissue Layer
FKE-2-1	YANG JIANYU Title: Wireless Charger for Small Power Applications using Magnetic Inductive Coupling
FKW-2-2	FADHILLAH RAHMAT KHAIRANI Title: Improving Voltage Profile in Distribution System Considering Massive Electric Vehicle Charging Station Installation Using Capacitor Bank with Assistance of Particle Swarm Optimization
FKE-2-3	AISYAH BINTI MOHD AKRAM Title: Smart Pipeline Inspection Robot (SPIR)
FKE-2-4	IRFAN HANAFI BIN SOHAIMI Title: The Role of Silicon Oil on AC Breakdown Strength of Aged Nano composited
FKE-2-5	AMIRUL ASHRAF BIN KAMIL Title: Analysis of Power Factor Correction for Induction Motors Using Power Factor Correction Devices
FKE-3-1	NUR IZZATI BINTI ASLAN Title: Voltage Stability Enhancement based on Voltage Stability Indices Using FACTS Controllers
FKE-3-2	MASLAH GURE ABDIKARIM Title: The Design of Single-Phase Energy Power Meter Using an Arduino Microcontroller
FKE-3-3	FATEHAH BINTI BURHANNUDIN Title: Soil Ionisation Effects on Transmission Line Tower Grounding Performance
FKE-3-4	WAN AKMAL NAZIRAH BINTI WAN UBaidillah Title: Anomaly Detection on DC Motor Using Embedded Artificial Intelligence
FKE-3-5	FAISAL KHALED ABDULLAH ALWAZER Title: Intelligent Model Development for Solar Irradiance (SR) Prediction/Forecasting
FKE-4-1	ABDULRAHMAN A LUDEEN Title: Autonomous Cleaning Robot
FKE-4-2	IVYN TAN SHI HAN Title: Heart Rate Detection Using Pan Tompkins Algorithm Implemented on Efinix FPGA

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FKE-4-3	NUR FATINI BINTI MOHAMMAD NAZRI Title: Study of Radius Variation of Photonic Microring Resonators in Wavelength Division Multiplexing
FKE-4-4	AHMAD ZIDAN FIRMANSYAH Title: Vehicle-To-Vehicle and Vehicle-To-Roadside Cooperation Video Alert Dissemination in the Highway Environment
FKE-4-5	SITI YUSAIRAH BINTI MOHD ZAINOL Title: Design of Filtering Microstrip Antenna Using Filter Synthesis Approach
FKE-4-6	JOYCE LIM XIN YEE Title: 6 Minute Walk Test Monitoring System with Vital Signs Measurements using Mobile Phone and Cloud Technology for Home Rehabilitation
FKE-5-1	ANSON HOH SIEW SANG Title: Performance Evaluation of High Bandwidth Availability Network for Drone Communication
FKE-5-2	NORDURRATUL HIKMAH BINTI MUSTAFFA Title: Crowd Detection and Tracking System
FKE-5-3	RIFKY PRAMUDITA MAHENDRA Title: Eyeball Segmentation and Measurement in Magnetic Resonance Imaging Images of Myopic Children Using Image Processing in MATLAB
FKE-5-4	IZNI MAISARAH BINTI MOHAMMAD NIZAR Title: Drone-Assisted Hotspot for Emergency Communications
FKE-5-5	YUKI WONG Title: Brain Tumor Classification from MRI Images Using Deep Learning
FKE-5-6	YVONNNE WONG LIANG LIANG Title: Register Transfer Level Design of Floating Point Artificial Neural Network Node for Arrhythmia Classifier
FKE-6-1	CHUA SHU EN Title: Investigation of Effects of Path Planning Algorithms on Mobile Robot's Performance
FKE-6-2	YEAP SHIN CHIN Title: Low-Cost Carpet Drying Spinner with Control and Monitoring
FKE-6-3	NUR ADRIANA SHAZLEEN BINTI MOHD NIZAM Title: Valve Control Using Magnetic Precipitate Detection in Magnetic Water Filter System
FKE-6-4	OMAR ABDULLAH Title: Human Movement Tracking System in Construction Sites and Crowded Places

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FKE-6-5 NAIF FAHD ABBAS AHMED
Title: Real-Time Concrete Crack Detection and Segmentation Using Convolutional Neural Network

FKE-6-6 TOK XUE WEN
Title: Input Shaping and Fuzzy Logic Control of an Overhead Crane

FKE-6-7 JEREMY SIA YIK XIAN
Title: Robot Manipulator for Petrol Fuelling

FACULTY OF COMPUTING

FC-1-1 NUR IZZAH IZZATI BINTI MOHD YUSOF
Title: Implementation of Adaptive Synthetic Sampling Approach in Classification of Protease Substrate Cleavage Site

FC-1-2 LEE BAO YI
Title: Alzheimer's Disease Genes and Pathways Identification Using Signalling Pathway Impact Analysis

FC-1-3 CHEE WAI LUM
Title: Identifying Potential Antimicrobial Resistant DNA in Neisseria Gonorrhoeae Using Support Vector Machine - Recursive Feature Elimination (SVM-RFE)

FC-1-4 THONG NYOOK ANN
Title: Improved K-Nearest Neighbours with Recursive Feature Elimination with Cross-Validation on Breast Cancer Classification

FC-1-5 LIM WEI HSIEN
Title: Classification of Microarray-Based Lung Cancer Using K-Means Clustering with Black Widow Optimization and Random Forest

FC-1-6 ARINA ZAFIRA BINTI AMRAN
Title: Classification of Acne Vulgaris and Rosacea using Convolutional Neural Network (CNN)

FC-1-7 NURUL LIYANA BINTI MOHD YUSOF
Title: Development of Question-Answer System of Post-Covid Syndrome Using Rule-Based Classifier

FC-1-8 MUHAMMAD NABIEL IZZUDDIN BIN RADZUAN
Title: Prediction on Thalassemia Carrier Using Feature Selection on Machine Learning

FC-2-1 RAFAH RAGHEB OMAR AL-QIRSHI
Title: Gold Price Prediction Using Support Vector Regression, Artificial Neural Network, and ARIMA

UNDERGRADUATE RESEARCH CONFERENCE 2023

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FC-2-2	MOHAMMED RAGAB ELSINOUSI ABDALHADY Title: Recognition of Distortive Fingerprints for Criminal Investigation
FC-2-3	AL-BARAA YAHYA ABDULLAH HNSHAL Title: Gender Recognition by Voice Using SVM
FC-2-4	MAIDUL HASAN MASUM Title: Underwriting in the Age of Insurtech: A Comparative Study of Algorithms and Their Efficacy
FC-2-5	ALUGE ELINOR OSEI-AMAKA Title: Revolutionizing Food Sustainability: The Save Excess Food Application for Curbing Wastage and Nourishing Communities in Malaysia
FC-2-6	DHIO RIDHOLA PRIANTAMA Title: Sentiment Analysis on Indonesian Twitter Users Perspective Towards Russia Invasion of Ukraine
FC-2-7	OMAR KHALED ALATTAS Title: Detecting Malicious Applications in Mobile Cloud Computing
FC-2-8	NICHOLAS PANG JIA CHERN Title: Comparative Study on Image Encryption Algorithm
FC-2-9	AHMAD FARIS AIMAAN BIN ARIZAL Title: Performance Comparative Study on Zero Day Malware Detection Using XGBoost and Random Forest Classifiers
FC-3-1	CHONG LI LING Title: Multi-user Interaction for Living Room Furniture Layout Design in Handheld Augmented Reality
FC-3-2	CLIVE LAI YI CHENG Title: Interactive Augmented Reality Mobile Educational Game on History of James Brooke in Sarawak
FC-3-3	LEE HUI ZHONG Title: Augmented Reality Clothing Try-on Application
FC-3-4	NURSYAFIQAH BINTI ABDUL HALIM Title: Augmented Reality Apps for Preschool Children to Learn Syllables in Bahasa Melayu
FC-3-5	SITI FATIMAH AZ ZAHRA BINTI MOHD NIZAM Title: Smart Contract: E-Voting Blockchain Based System
FC-3-6	SIMON CHONG KAI YUEN Title: Real-time Smart Driver Sleepiness Detector Using Computer Vision

UNDERGRADUATE RESEARCH CONFERENCE 2023 (URC 2023)

FC-3-7

ONG YIN REN

Title: A Comparative Analysis of Convolutional Neural Network Training Algorithms for Image Recognition

FACULTY OF SCIENCE

FS-1-1

AHMAD FARHAN BIN ROOH AZZAM

Title: The Maximum Degree Energy of the Cayley Graph Associated to the Alternating Group of Order 12 with Subsets of Order One

FS-1-2

GOH CHAI YING

Title: Determination of Hamiltonian Polygonal Paths of Assembly Graph for FTTM₆ Using Ω -Algebra

FS-1-3

KONG TZI JING

Title: Analysis of Casson Hybrid Nanofluid of Unsteady Squeezing Flow in a Porous Medium Between Two Parallel Plates Under Variable Magnetic Field

FS-1-4

MAZ ANNIS SYAHIRA BINTI ZAINUDIN

Title: Modelling of the Spread of Dengue Disease Using SIR Model

FS-1-5

NIK ABDUL HADI BIN NOOR NASRAN

Title: The Laplacian Energy of Conjugacy Class Graph Associated to Some Dihedral Groups

FS-1-6

NOORSALWANISAH BINTI ZAINAL

Title: Modelling the spread of COVID-19 in Malaysia using SEIR Model

FS-1-7

NUR FAIZAH BINTI ISHAM

Title: Effects of Heat Generation and Thermal Radiation on Thermophoretic Mixed Convection Flow over A Spherei

FS-1-8

NUR YASMYN BINTI ZULKIFLI

Title: Prime Power Noncoprime Graph of Nonabelian Metabelian Groups of Order at Most 24

FS-1-9

PA WEI JIN

Title: Determination of Hamiltonian Polygonal Paths in Assembly Graph of FTTM₇ Using Ω -algebra

FS-1-10

SITI NUR NADHIRAH BINTI YAHAYA

Title: SEIR Model of Hand Foot Mouth Disease (HFMD)

FS-2-1

REASWINA A/P KUSRAJU

Title: Analysis of Unsteady Dual Convective Transportation of Bi-Component Species in Casson Blood Flow of Stenosed Arteries

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FS-2-3	CHIA PEI SEE Title: Isolation and Characterization of Bacteria from Coastal Seawater
FS-2-4	ENG JIA JIA Title: Neoteric Green Dissolution Solvent of α -Tocopherols for Pharmaceutical Application
FS-2-5	NOOR LAILA AMEERA BINTI MEOR YAZID Title: Anti-cariogenic Activities of Kappaphycus Alvarezii Crude Extract Against Streptococcus Mutans
FS-2-6	TOH SHEK MAN Title: Antiproliferative and Apoptosis-Inducing Response of Curcumin and Trail Combination Treatment on Breast Cancer Cells
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FS-3-1	NASHMITTA PILLAI A/P VASUDEVAN PILLAI Title: Surface-Enhanced Raman Scattering Substrate Based on Bimetallic Nanoparticles Embedded Reduced Graphene Oxide for Beta-D-Glucose Detection
FS-3-2	PRIYAA A/P NANDAGOPAL Title: Elucidating the Performance of Reduced Graphene Oxide Embedded with Zinc Oxide Nanoparticles for Beta-D-Glucose Detection
FS-3-3	SHAREN A/L RAJENTHIRAN Title: A Mathematical Approach to Nuclear-Matter Problem and On Nuclear Geometry
FS-3-4	AZIA NURYASMIN BINTI A BUSHNAL AZ Title: Particle Tracks Identification and Classification by YOLOV4 Algorithm
FS-3-5	PARAMEES RAO RAMACHANDRAN Title: Characterizations of Iron Disilicide Nanostructures Grown on Silicon Substrate by Chemical Vapor Deposition
FS-3-6	NUR NADIA BATRISYIA BINTI ARMAN Title: Basil/Zno as Green Materials Towards Removal Amlodipine-Based Pharmaceutical Waste
FS-3-7	DARREN ANG JIA LE Title: Measuring Sudden Ionospheric Disturbance Using UTM-SID

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FS-3-8 **LUA YU HUI**
Title: Development of an elementary 4.4 GHz S21 Network Analyzer

FS-3-9 **LOK YONG YU**
Title: Development of a Spectrometer at X Band Frequencies

FACULTY OF BUILT ENVIRONMENT AND SURVEYING

FABU-1-1 **SAIK WEN XUAN**
Title: A Community Library as Discovery Journey in Promoting Community Engagement and Well-being

FABU-1-2 **MUHAMMAD SYAFIQ BIN NORIZAN**
Title: Harvesting the Potential of Urban Farming and Collaborative B40 Community to Enhance Social Sustainability & Socio-Economic of Bandar Sri Permaisuri

FABU-1-3 **AMIR ZAIM AZRYNE BIN ADZIM**
Title: Cultivating a Culture of Creative Reuse by Reconnecting People, Waste and Place Through Making

FABU-2-1 **MUHAMMAD AMIRUL HAFIZ BIN AZMAN**
Title: Green Concept: Sustainable for Private Residential Properties

FABU-2-2 **GOH XIU TING**
Title: A Literature Review on the Impact of the Good Practices for the Environmental Management in Malaysia Towards Land Development

FABU-2-3 **NORAMIRAH NABILAH BINTI SULAIMAN**
Title: Complaint Handling Regarding Maintenance Issues in High-Rise Residential Building

FABU-2-4 **MUHAMMAD ZIKRY IRFAN BIN KARIM**
Title: The Multi-Faceted Impact of Energy Conservation on Economy, Society, and Environment: Insights from University Students

FABU-2-5 **CHENG XIN YU**
Title: Benefits and Implication of Environmental, Social and Governance (ESG) Compliance for Major Asean Countries' Listed Real Estate Companies

FABU-2-6 **AMIRA FA'SHA BINTI HALIM**
Title: Critical Success Factors Contributing to Property Overhang in Iskandar Putri, Malaysia

FABU-2-7 **NURUL IZZAH BINTI AHEMAD**
Title: Government's Involvement in the Rural Development of Sabah Towards the Sustainable Development Goals (SDGS)

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FABU-3-1	NUR ELISA MUZAMIR Title: The Malaysia Real Estate Metaverse Credibility for Investment Purpose
FABU-3-2	SITI SARAH MD ZAINUL Title: Factors Influencing Acceptance of Smart Home Concepts and Challenges Affronted by Property Developers
FABU-3-3	KHOR YONG QI Title: The Influence of Sustainable Building Materials in Malaysian Real Estate Building Construction
FABU-3-4	NEO JUN LOONG Title: The Effect of the Growth of E-Commerce Businesses Towards the Commercial Property Market
FABU-3-5	WAN NOR ASYIKIN BINTI WAN AHMAD Title: Consequences of Inefficient Land Use Types Restraint the Economic Growth in Kelantan State
FABU-3-6	MUHAMMAD NUR EZZAT BIN ESHAMUDDIN Title: Unlocking Smart Cities Concepts in Johor Bahru Real Estate Development
FABU-3-7	NURFARISHA EZZATY BINTI MOHAMMED YUSWAN Title: A Literature Review on the Application of the Environmental Valuation Method in Malaysia
FABU-3-8	SITI NURLYANA BINTI YATIM Title: The Adaptation of Green Building Services by Residential Buildings in Malaysia
FABU-4-1	TAN YI PIN Title: Interpretation of Sea Surface Temperature over Malaysian Seas Using Multi-Mission Satellite Altimetry Data
FABU-4-2	NUR FAEZAH BINTI MOHD FAUZI Title: Assessing Tidal Datum Changes based on Different Time Frames Around Malaysian Coastal Tide Gauge
FABU-4-4	LAU JETT XIANG Title: A Comparison Between Tidal Constituents Derived from Satellite Altimetry and In-Situ Data Around Malaysian Seas
FABU-4-5	TAN TAI WEI Title: Quantification of Mean Sea Level Using Various Tidal Analysis Approaches Along Malaysian Coastal Tide Gauges

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FABU-4-6	RABI'ATUL'ADAWIYAH BINTI AZMIL Title: Integration of Point Cloud Data from Two Different Sensor for Forensic Application
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FABU-5-2	PHAN JHIN NI Title: The Critical Roots and Preventive Strategies for Scope Creep in Project Management
FABU-5-3	NUR SYAIRA BINTI MOHD ZUKI Title: Adoption of Modular Construction in Malaysian Construction Industry
FABU-5-4	NURADIBAH BINTI ABD MULO Title: Implementation of Ergonomics in Quantity Surveying Firms
FABU-5-5	NUR ADRIANA BINTI MOHD ASYIQ Title: The Readiness and Barriers of IBS Manufacturers Towards 3D Printing Technology in Malaysia
FABU-5-6	LAU QIAO JUN Title: Job Satisfaction and Turnover Intention among Junior Quantity Surveyors in Malaysia

FACULTY OF SOCIAL SCIENCES AND HUMANITIES

FSSH-1-1	SITI NUR AISYA BINTI OSMAN Title: Cabaran Dalam Industri Fesyen & Pakaian Terhadap Pengusaha Butik Tempatan di Kuantan
FSSH-1-2	NURUL NADIAH BINTI FADLIL ALAMIN Title: Persepsi Pelajar Masalah Pendengaran dalam Bidang Latihan Teknikal dan Vokasional terhadap Pembelajaran Mudah Alih
FSSH-1-3	NOR SHUHADA BINTI MOHAMAD SHARAPI Title: Penggunaan Video Pengajaran dalam Proses Pembelajaran di kalangan Pelajar Khas Bidang Latihan Teknikal dan Vokasional
FSSH-1-4	QALIDA AIMA BINTI MUHAMMED KHAIRUDDIN Title: Cabaran Peniaga Kecil Dalam Menjalankan Perniagaan di Batu Pahat
FSSH-1-5	MUHAMMAD NOR ANUAR FIRDAUS BIN AL BAKRI Title: Tahap Kompetensi Tenaga Pengajar Kemahiran terhadap Pengajaran Murid Berkeperluan Khas (MBPK) Program Pendidikan Khas Integrasi (PPKI) di Sekolah Menengah Negeri Johor

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FSSH-1-7	MUHAMMAD DANIAL IKRAM BIN ROSDI Title: Analisis Kekasaran Permukaan Terhadap Plat Logam Menggunakan Proses Mengisar
FSSH-1-8	NUR ANIS HAAFIZHAH BINTI TAN ANUAR Title: The Relationship Between Gender and Metacognitive Reading Strategy Used by Second Language Readers
FSSH-1-9	MOHAMAD FARHAN BIN MOHD TAP Title: Video Games as Tools for Developing English Language Speaking Performance
FSSH-1-10	AINATUL SOFIYA BINTI JAMALUDIN Title: Utilising TikTok Distinct Features as an Educational Tool in Language Learning
FSSH-2-1	KIMBERLY ELSIE PETER Title: Managing Inclusive Education in ESL Classroom
FSSH-2-2	HANIS ATHIRAH BINTI ZAHRI Title: Foreign Language Anxiety (Fla) on Students' Speaking Performance Among Islamic Studies Students in UTM
FSSH-2-3	NURUL SYAHIRAH BINTI ABDUL RASHID Title: Implementation of Online Educational Games in Teaching and Learning in ESL Classroom
FSSH-2-4	NURUL NATASYA BINTI ZAHARI Title: The Challenges faced by ESL Pre-Service Teachers in Implementing Effective Classroom Management Skills during Teaching Practicum
FSSH-2-5	SITI NURUL ADHA BINTI AZIZ Title: The Effects of Game Based Learning on Students' Engagement in ESL Classrooms
FSSH-2-6	KIROOSHINI A/P R NAVARATHNARAJA Title: Willingness to Communicate (WTC) in English as the Second Language among Sports Science Students in UTM
FSSH-2-7	AN NUR FARINA BINTI JAMALUDIN Title: The Problems of Speaking Skills in English Among UTM Undergraduate Students
FSSH-2-8	NUR MUSYIRAH BINTI MOHD NOR Title: Reading Anxiety and Its Effect on Reading Performance Among ESL Undergraduate Students in UTM
FSSH-2-9	NORNAJWA BINTI YUSOFF Title: Challenges and Effects of Emotional Well-being of TESL Pre-Service Teachers

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FSSH-3-1	ARISHA BALQIS BINTI ABDUL RAZAK Title: The Difficulties Faced by ESL Pre-service Teachers in Utilizing ICT in the Classroom
FSSH-3-2	ZAINUL ARIFFIN BIN KAMARUL AZLI Title: Primary School Students' Perception on Oral Presentation
FSSH-3-3	NATASHA AMELIA BINTI AZIZAN Title: Active Learning Strategies for Acquisition and Enhancement of English Speaking Skills Among Universiti Teknologi Malaysia Students
FSSH-3-4	NORASYIKIN BINTI ROSLAND Title: Kecerdasan Emosi Atlet Sukan Individu dan Berpasukan di Universiti Teknologi Malaysia (UTM)
FSSH-3-5	FATIN NURHANIS BINTI IBRAHIM Title: Kesan Latihan Barbell Hip Thrust Terhadap Capaian Jarak Larian Pada Kelajuan Maksimum Dalam Kalangan Pelari Pecut
FSSH-3-6	AIN FARHANAH BINTI AHMAD FIKRI Title: Kesan Latihan Half Squat Jump Terhadap Tinggi Lompatan Dalam Kalangan Atlet Bola Baling UTM
FSSH-3-7	NUR IZZATI BINTI MOHAMED Title: Perkaitan Antara Ukuran Panjang Tangan Dan Sudut Pelepasan Peluru Terhadap Jarak Balingan Atlet Acara Lontar Peluru Kebangsaan
FSSH-3-8	CASSANDRA A/P JOHNSON Title: Hubungan Penggunaan Aplikasi Active Arcade Terhadap Penglibatan Aktiviti Fizikal
FSSH-3-9	NOOR FADZILLA ROZIETA BT HOSNIN Title: Hubungan Tempoh Masa Skrin Dengan Kecergasan Fizikal Dalam Kalangan Belia di Bandar Penawar
FSSH-4-1	FIDERICA JEPLY Title: Persepsi Ibu Bapa Terhadap Pendidikan Seksualiti di Sekolah Menengah
FSSH-4-2	NUR 'AIN SAKINAH BINTI KOSNON Title: Analisis Kinematik Prestasi Hayunan Smesy di Kalangan Pemain Badminton Kelab Teguh Badminton Batu Pahat
FSSH-4-3	NUR SHAHIRA YASMIN BINTI SUHAIMI Title: Perkaitan Kualiti Tidur dan Prestasi Semasa Latihan Atlet Bowling UTM
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Title: Kesan Latihan Bebanan Dengan Blood Flow Restriction Terhadap Aktiviti Otot Biceps Bagi Pelajar Sains Sukan UTM

FSSH-4-5 **NUR DIYANA BINTI OMAR**

Title: Kesan Latihan Neuromuskular Terhadap Tahap Keseimbangan Buku Lali Atlet Hoki UTM

FSSH-4-6 **NUR HUSNA INSYIRAH BINTI RAMLI**

Title: Kajian Rintis Mengenai Tinjauan Terhadap Video Prototaip Program Senaman "Fun And Fit With Babywearing Exercise"

FSSH-4-7 **AZIEM BIN ABDUL HALIK**

Title: Kesan Pengambilan Kafein Terhadap Masa Reaksi Dan Ketepatan Atlet Esukan Universiti Teknologi Malaysia

FSSH-4-8 **MOHD FIRDAUS BIN ISMAIL**

Title: Perbandingan Analisis Sudut Pergerakan Tangan Dan Posisi Kaki Semasa Melakukan Pukulan Backhand Clear Di Antara Pemain Profesional Dan Beginner

FSSH-4-9 **UMMI UMMAIRAH EIRAZAH BINTI HIZAM**

Title: Kesan Pengambilan Karbohidrat- Elektrolit Terhadap Kadar Dehidrasi Dan Isipadu Air Kencing Selepas Larian Jarak Jauh

MALAYSIA-JAPAN INTERNATIONAL INSTITUTE OF TECHNOLOGY

MJ-1-1 **DESMOND LAI YII CHIN**

Title: Effect of Ultrasonic Frequency and Operating Parameters on Biodiesel Conversion in High-Frequency Ultrasonic Assisted Enzymatic Transesterification

MJ-1-2 **AHBHIRAHMI RAVINDRAN**

Title: Co-Pyrolysis of Empty Fruit Bunch and Used Cooking Oil for Hydrocarbon Production in Pyrolysis Oil: Effect of Temperature

MJ-1-3 **CAROLINE AK JANA**

Title: Influence of Hzsm-5 And Used Cooking Oil on Pyrolysis of Empty Fruit Bunch for Aviation Fuel Production

MJ-1-4 **THANISH NAIDU A/L GANESAN**

Title: Hospital Food Waste Conversion to Methane Through Subcritical Water Pretreatment and Anaerobic Digestion

MJ-1-5 **PRIYATARRSINI A/P SEGAR**

Title: Exploring Pre-Treated Chicken Bone as a Potential Adsorbent for Copper Ion Removal from Aqueous Solution

MJ-1-6 **THURGAAH A/P BALAKRISHNAN**

Title: Development of the Tertiary Structure of Laccase from Geobacillus Uzenensis using Homology Modelling

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MJ-1-7	KHIRTHA RUBINI A/P BALAN Title: The Effects of Sub-Critical Water Treatment on Growth Kinetic of Methane producing Microorganisms
MJ-1-8	NURUNNASYRAH BINTI ABD MAJID Title: The Effects of Sub-critical Water Treatment on Biogasification Rate of Empty Fruit Bunches
MJ-1-9	AHMAD ZIYAD BIN AHMAD RUBIL Title: Subcritical Water-Transesterification Reaction with Heterogeneous Catalyst For Biodiesel Fuel Production From Vegetable Oil
MJ-1-10	AARTHI A/P S.ALAKUSUNDRAM Title: Adsorption of Alizarin Dye on Adsorbent Prepared from Banana Stem

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CLOSING REMARK



Assalamualaikum w.b.t and greetings to all,

I am honoured and delighted to deliver the closing remark at the end of Undergraduate Research Conference 2023 today. First of all, I would like to thank the Undergraduate Research Conference 2023 team and committees for their enthusiastic and dedicated work while I see that they put their heart and soul to make this event happen.

I am extremely pleased that the Undergraduate Research Conference 2023 was well attended by students from various disciplinary fields in UTM. I believed the participants benefited from panels that were filled with insightful contents and comments.

On behalf of the Undergraduate Research Conference 2023 committee, I would like to thank all the participants, panels from UTM, panels from industry and the speaker for your support. Your presence has been invaluable and without any doubt, has helped make the event a great success.

Since the Undergraduate Research Conference is an annual event, we look forward to seeing you again next year in 2024. Stay safe and healthy everyone.

Prof. Ts. Dr. Intan Zaurah Binti Mat Darus
Director of Centre for Academic and Experiential Learning (CAEL)
Universiti Teknologi Malaysia

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ACKNOWLEDGEMENT

The URC 2023 organising committee would like to
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All industrial and academics panels.



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