



UNDERGRADUATE
RESEARCH CONFERENCE 2022

18TH DECEMBER 2022 | BANQUET HALL, UTM

Programme Book



www.utm.my/urc

Organized by:



UTM
UNIVERSITI TEKNOLOGI MALAYSIA



Welcome to the Undergraduate Research Conference, URC 2022!



"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 2022 (URC 2022)

FOREWORD FROM THE CONFERENCE CHAIR



Assalamualaikum w.b.t and greetings to all,

We would like to welcome you to the 2022 Undergraduate Research Conference (URC2022) which is held on 18th December 2022. This conference is held annually since 2017 and it offers an exciting platform for final year students to showcase their completed research as part of their undergraduate coursework. URC 2022 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, URC2022 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.

Due to the COVID-19 pandemic, last year URC2021 was conducted fully online, however, this year the conference will be held physically. Furthermore, URC2022 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 URC2022 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 2022)

UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

FOREWORD FROM THE DEPUTY VICE CHANCELLOR (RESEARCH & INNOVATION) UNIVERSITI TEKNOLOGI MALAYSIA

Assalamualaikum w.b.t and greetings to all,

I am pleased when I hear that URC2022 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 URC2022 in putting their very best effort to demonstrate their research. I hope by showcasing their research and innovations in URC2022, all the participants can learn, relearn, and continue to innovate.

My utmost gratitude to the URC 2022 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. Dr. Rosli bin Md. Illias
Deputy Vice Chancellor (Research & Innovation)
Universiti Teknologi Malaysia



URC 2022 KEYNOTE SPEAKER



Title: STRIKE WHILE THE IRON IS HOT

Being young is beautiful- health, passion, vigour, inquisitive. Being young means one has vast choices, and the ability to realize dreams. Today, being young also enables one to be leaders and change-makers. This discussion centres around how to optimize being young and successful, happy, and resourceful, contributing to self-fulfilment- at the same time making the world a better place.

Biography:

Dr Durrishah binti Idrus, 62, was a professor in Industrial Relations and Public Policy, who has served in the public and private higher education institutions for 38 years. Today she is a free-lance researcher, writer, and motivator. She was UTM Deputy Vice Chancellor for Student Affairs, and Pro-Vice Chancellor for UTM Kuala Lumpur. She has held post of first Vice Chancellor cum CEO at KPJ Healthcare University College (KPJUC), a subsidiary of KPJ Healthcare Bhd- the biggest private healthcare provider in Malaysia. Dr Durrishah is most happiest motivating the young, and at peace being alone with her books and greenery. She is a wife, mother, mother-in-law, and a grandmother to 4 beautiful grandchildren. Her tagline in life: Be brave, be truthful but always Be Kind.

Prof. Dr. Durrishah binti Idrus
Professor
Universiti Teknologi Malaysia

UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

URC 2022 PROGRAMME SCHEDULE

08:00 AM – 08:15 AM	Registration of URC 2022 Participants and Judging Panel
08:15 AM – 09:00 AM	Briefing Session for Industrial and Academic Panels
09:15 AM – 9:45 AM	URC 2022 Officiation Ceremony by Deputy Vice-Chancellor ((Research & Innovation) Universiti Teknologi Malaysia
9:50 AM – 10:20 AM	Keynote Speech
10:20 AM – 10:30 AM	Break
10:30 AM – 1:00 PM	URC 2022 Poster Presentation and Evaluation
1:00 PM – 2:30 PM	Lunch Break
2:30 PM – 3:00 PM	URC 2022 Award Ceremony
3:00 PM – 3:15 PM	URC 2022 Closing Remark by Deputy Vice-Chancellor (Student Affairs) Universiti Teknologi Malaysia

UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

URC 2022 VENUE AND INFORMATION



VENUE	Dewan Banquet, Bangunan Canseleri Sultan Ibrahim, Universiti Teknologi Malaysia (UTM), Johor Bahru, Johor
LOCATION	1.558885896175069, 103.63841571297871
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 2022 (URC 2022)

URC 2022 JUDGING PANELS

PANEL GROUP 1

Industrial Panels	Mr. S. Sadish Kumar <i>Assistant General Manager, IOI Pan-Century Oleochemicals Sdn. Bhd., Pasir Gudang, Johor</i>
Academic Panels	Assoc. Prof. Dr. Nadia Adrus Dr. Jamarosliza Jamaluddin <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 2

Industrial Panels	Mr. Adny Atiq Hashim <i>Production Engineer, Lotte Chemical Titan, Tanjung Langsat, Johor</i>
Academic Panels	Dr. Mahadhir Mohamed Dr. Tengku Zulaikha Tengku Malim Busu <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 3

Industrial Panels	Mr. Mohamad Kamil Saharuddin <i>Technical Manager, Hyperseal Solutions Sdn. Bhd., Kuala Lumpur</i>
Academic Panels	Dr. Norhayani Othman Dr. Siti Hajjar Che Man <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 4

Industrial Panels	Mr. Muhamad Firdaus Aziz <i>Operation Manager, Hyperseal Solutions Sdn. Bhd., Kuala Lumpur</i>
Academic Panels	Dr. Ahmad Ilyas Rushdan Dr. Aziatul Niza Sadikin <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 5

Industrial Panels	Ms. Nurakma Basri <i>Application Manager, Hyperseal Solutions Sdn. Bhd., Kuala Lumpur</i>
Academic Panels	Dr. Amnani Shamjuddin Dr. Muhammad Afiq Zubir <i>Faculty of Chemical and Energy Engineering</i>

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PANEL GROUP 6

Industrial Panels	Mr. Ahmad Syakir Bin Mohamad Yusof <i>Chemical Engineer, Eco Bee Shop, Kulai, Johor</i>
Academic Panels	Dr. Nurul Huda Baharuddin Dr. Muhamed Yusuf Shahul <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 7

Industrial Panels	Mr. Muhammad Luqman Bin Norrani <i>Petroleum Engineer, MISE Energy Sdn. Bhd., Kuala Lumpur</i>
Academic Panels	Assoc. Prof. Dr. Muhammad Noorul Anam Mohd Norddin Dr. Abdul Rahim Risal <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 8

Industrial Panels	Mr. Janarthanan Rethi <i>Production Associate, Biocon Sdn. Bhd., Iskandar Puteri, Johor</i>
Academic Panels	Dr. Lai Jau Choy Dr. Nur Hidayah Zainan <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 9

Industrial Panels	Mr. Wan Azizan Wan Sulaiman <i>Executive Operation Management, Petronas Gas Berhad, Kerteh, Terengganu</i>
Academic Panels	Ts. Dr. Miss Hasimawaty Mat Kiah Dr. Farhana Aziz <i>Faculty of Chemical and Energy Engineering</i>

PANEL GROUP 10

Industrial Panels	Mr. Muhammad Muaz Zulkifli <i>Electro-Mechanical Electrician Cum Assistant Local Radiation Safety Officer, Halliburton, Singapore</i>
Academic Panels	Dr. Khairulnadzmi Jamaluddin Dr. Mohsin Sies <i>Faculty of Chemical and Energy Engineering</i>

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PANEL GROUP 11

Industrial Panels

Mr. Mohd Redzuan Hamjah

Ketua Program Teknologi Kimpalan, Kolej Vokasional Kota Tinggi, Johor

Academic Panels

Dr. Muhammad Afzamiman Aripin

Dr. Mohd Hizwan Mohd Hisham

Faculty of Social Sciences & Humanities

PANEL GROUP 12

Industrial Panels

Ts. Haslinda Ibrahim

Ketua Program Teknologi Elektronik, Kolej Vokasional Kota Tinggi, Johor

Academic Panels

Dr. Nurul Aini Mohd Ahyan

Dr. Mohamad Abdillah Royo

Faculty of Social Sciences & Humanities

PANEL GROUP 13

Industrial Panels

Ms. Rama Praba A/ P Ramdu

Guru Tingkatan 6, SMK Gelang Patah, Johor

Academic Panels

Dr. Shanti Chandran A/P Sandaran

Dr. Yasmin Hanafi Zaid

Faculty of Social Sciences & Humanities

PANEL GROUP 14

Industrial Panels

Mr. Mohd Zharif Safwan Zakaria

Pen. PPD Menengah & Tingkatan 6, Pejabat Pendidikan Daerah Kulai, Johor

Academic Panels

Dr. Fatihah Raimi

Dr. Diyana Zulaika Abdul Ghani

Faculty of Social Sciences & Humanities

PANEL GROUP 15

Industrial Panels

LAr. Kwan Yu Wen

Landscape Architect, (Associate), Tierra Design Studio Pte. Ltd., Singapore

Academic Panels

Dr. Lee Yoke Lai

Dr. Mohd Ruzaini Che Zahari

Faculty of Built Environment & Surveying

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PANEL GROUP 16

Industrial Panels	LAr. Meor Abdullah Zaidi Meor Razali <i>Pengarah Landskap Bandaraya, Jabatan Taman & Landskap, Majlis Bandaraya Ipoh, Perak</i>
Academic Panels	Dr. Janatun Naim Yusof Dr. Roshida Binti Abdul Majid <i>Faculty of Built Environment & Surveying</i>

PANEL GROUP 17

Industrial Panels	LAr. Ahmad Yusri Mat Yusoff <i>Manager – Landscape, Sustainability Placemaking & Maintenance, Sime Darby Property, Shah Alam, Selangor</i>
Academic Panels	Assoc. Prof. LAr. Dr Sapura Mohamad Dr. Nabila Abdul Ghani <i>Faculty of Built Environment & Surveying</i>

PANEL GROUP 18

Industrial Panels	LAr. Ca Susanna Nazaruddin <i>Principal Landscape Architect, Provinca Landscape Design Sdn. Bhd., Kulai, Johor</i>
Academic Panels	Dr. Norliza Mohd Isa Dr. Zuhra Junaida <i>Faculty of Built Environment & Surveying</i>

PANEL GROUP 19

Industrial Panels	Mrs. Wan Shireen Sofea <i>Operation Manager, BMW Malaysia, Senai, Johor</i>
Academic Panels	Dr. Mohamad Shah Kassim <i>Faculty of Management</i> Assoc. Prof. Ir. Ts. Dr. Zaki Yamani Zakaria <i>Faculty of Chemical & Energy Engineering</i>

UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

URC 2022 POSTER BOOTH LAYOUT



UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

POSTER PRESENTATIONS

FACULTY OF ELECTRICAL ENGINEERING

- FKE01 **FITRA HANIFAH**
Electrical Engineering
Title: Smart Railway Safety System in Indonesia
-
- FKE02 **BELAL YAHYA HUSSEIN AL-TAM**
Biomedical Engineering & Health Sciences
Title: Honey Hydrogel Patch Assisted by Ultraviolet Exposure: Characterization and Adhesion Analysis
-

FACULTY OF CHEMICAL & ENERGY ENGINEERING

- FKT01 **AMREEN CHOWDHURY**
Chemical Engineering
Title: Fibrous Silica Cadmium Sulphide Photoanode for Enhanced Photoelectrochemical Water Splitting
-
- FKT02 **NURIN MUZFIRAH BINTI MOHD YUNUS**
Chemical Engineering
Title: Modelling of Swelling Mechanism in Cellulose-Based Matrix for Controlled Release Application
-
- FKT03 **SAM CHUA CHUN HONG**
Chemical Engineering
Title: Gasification of Biomass - Coconut Shell
-
- FKT04 **LEE ZHI XIN**
Chemical Engineering
Title: Ternary Titanium Carbide Mxene and Titania Nanowires on Carbon Nitride for Green Solar Hydrogen Production
-
- FKT05 **GAN XIN LI**
Chemical Engineering
Title: Microwave-Assisted Synthesis of Ethyl Levulinate from Cellulose Via 1-Sulfonic Acid-3-Methyl Imidazolium Trichlorozincate
-
- FKT06 **SK MD AMZAD HOSSANI**
Chemical Engineering
Title: Simulation of Photocatalytic Reduction of Carbon Dioxide to Methanol in Monolith Reactor by using Comsol Multiphysics
-
- FKT07 **NORHANI BINTI SARBINI**
Chemical Engineering
Title: Performance of High Temperature on Direct Methanol Fuel Cell Polybenzimidazole-Based Membrane
-

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- FKT08 **MUHD. SYAFIQ SYAZWAN BIN DZULZALANI**
Chemical Engineering
Title: Characterization of Epoxy Resin for Plug and Abandonment Operations
-
- FKT09 **ANAS ABDULQADER NASSER ALSHAIKH**
Chemical Engineering
Title: Biodiesel Production Using Palm Fatty Acid Distillate Feed via Sulfonated Sago Pith Waste Catalyst
-
- FKT10 **CHEW CUI YEE**
Chemical Engineering
Title: Characteristics and Swelling Behaviours of Hydroxypropyl Methylcellulose Hydrogel Derived from Oil Palm Empty Fruit Bunch
-
- FKT11 **STEPHEN WONG KEE CHENG**
Chemical Engineering
Title: Thermodynamic Analysis of Palm Fatty Acid Distillate Conversion To Methyl Esters
-
- FKT12 **YIRTHICK A/L KATHIRAVAN**
Chemical Engineering
Title: Facile Synthesis of Magnetic Carbon Black Nanocomposite for Removal of RB5 Dye from Aqueous Solution
-
- FKT13 **TING JING SHENG**
Chemical Engineering
Title: Simulation Study of Copper Removal from Wastewater by using Kenaf Fibre as Bio-Sorbent
-
- FKT14 **SERI AFRA INDAHNI BINTI A. RAZAK**
Chemical Engineering
Title: Environmental Impact Quantification of Natural Rubber as Raw Material for Green Tyre
-
- FKT16 **PREVEAN A/L GANAPATHY**
Chemical Engineering
Title: Development and Characterization of Moulded Paper from Modified Semantan Bamboo Pulp Impregnated with Polyhexamethylene Guanidine Hydrochloride (PHGH)
-
- FKT17 **TANG ZHI YING**
Chemical Engineering
Title: Preparation and Characterization of Fresh and Rotten Jicama Starch-Based Bioplastic
-
- FKT18 **TAN ZE KAI**
Chemical Engineering
Title: Biobased Rubber Seed Oil Epoxy Vitrimer: Optimization of Synthesis Parameters by Using Response Surface Methodology
-

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- FKT19** **AHMAD AIDILHAFIDZ BIN SHAHARUDIN**
Chemical Engineering
Title: Facile Synthesis of Magnetic Carbon Black Nanocomposite Bead for Removal of RB5 Dye from Aqueous Solution
-
- FKT20** **LYDIA HII DAI JIA**
Chemical Engineering
Title: Environmental Impacts Evaluation of Treating Municipal Wastewater using Bioelectrochemical Membrane Reactor (BEMR) via Life Cycle Impacts Assessment
-
- FKT21** **LIM YI LING GERMAINE**
Chemical Engineering
Title: Preparation and Characterization of Regenerated Silk Fibroin/ Regenerated Cellulose Films via Ionic Liquid
-
- FKT22** **MUHD. SYAFIQ SYAZWAN BIN DZULZALANI**
Chemical Engineering
Title: Fibrous Silica Molybdenum Oxide Photocatalyst for Simultaneous Photo-Redox of Aniline Blue and Hexavalent Chromium
-
- FKT23** **NUR FATIN NABILAH BINTI MOHD RASDAN**
Chemical Engineering
Title: Effect of Calcium as Foliar Application on Growth and Yield of Solanum Lycopersicum
-
- FKT24** **RAHMAT AGUNG RAMADHAN**
Chemical Engineering
Title: Preparation and Characterization of Recycled Polyethylene Terephthalate/High-Density Polyethylene Blends
-
- FKT25** **CHEAH XIN YEE**
Chemical Engineering
Title: Cellulose-based Nanofillers for Carboxylated Nitrile Butadiene Rubber (XNBR) Glove
-
- FKT26** **SIM JIA YI**
Chemical Engineering
Title: Water Absorption and Mechanical Properties of Recycled Natural Fillers Filled Polypropylene Composite
-
- FKT27** **CHIANG LI JOY**
Chemical Engineering
Title: Verification of Adhesive Properties for Epoxy/Liquid Epoxidized Natural Rubber (LENR) Blend via Experimental
-
- FKT28** **NURFATINAH BINTI MOHD ANUAR**
Chemical Engineering
Title: Optimisation of Water and Material Recovery Network
-

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FKT29	LOW KER ROU <i>Chemical Engineering</i> Title: Energy Efficiency Improvement of Vulcanisation Process in Medical Glove Manufacturing
FKT30	JASON YAP HAN YUEN <i>Chemical Engineering</i> Title: Rheology and Physical Behaviour of Regenerated Silk Fibroin using Binary Solvent
FKT31	ABDULLAH MURTADHA AHMED ALHEBSHI <i>Chemical Engineering</i> Title: Nickel-Promoted Fibrous Silica Mesoporous Zeolite Socony Mobil-5 a Highly Selective Catalyst for Dehydration Of Methanol
FKT32	LUKMAN HAKIM <i>Chemical Engineering</i> Title: Simulation Application of Heat Exchanger Design for Small and Medium Industry Usage
FKT34	TAY BOON YI <i>Chemical Engineering</i> Title: Process Safety Implementations in Ammonia Refrigeration Plant
FKT35	HOO ZHI JUN <i>Chemical Engineering</i> Title: Incorporation of Safety and Health Properties in Formulation of Fragrance Product
FKT36	CHARIS LIM <i>Chemical Engineering</i> Title: Molar Ratio Determination of Natural Deep Eutectic Solvent using a Graphical Method
FKT37	RYAN TOH JUN SHEN <i>Chemical Engineering</i> Title: Accelerated Diffusion of Vehicle-To-Grid (V2G) Technology Toward Low Carbon Mobility in Malaysia
FKT38	ONG MEI ZHI <i>Chemical Engineering</i> Title: Synthesis and Design of Scheduled Wastes Process to Enhance Final Product Quality in Driving a Circular Economy
FKT39	LEONG KHEI SEONG <i>Chemical Engineering</i> Title: Framework for Ship Emission Analysis System in Port

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FKT40	NOR ASYIQIN BINTI SHAHARUL ANUAR <i>Chemical Engineering</i> Title: Simulation Application of Gas-Liquid Absorption Process Using Packed Absorption Column
FKT41	NURUL ZAHIRAH MUHAMAD ZAKRI <i>Chemical Engineering</i> Title: Preservation of Phenolic Compounds in Celery Juice Concentrate using Progressive Freeze Concentration
FKT42	DAYINI BATRISYIA BIN NORZABIDI <i>Chemical Engineering</i> Title: Anaerobic Co-Digestion Of Food Waste and Glycerine Pitch
FKT43	MARK IRVINE ANAK LESLIE RAMSAY <i>Chemical Engineering</i> Title: Development of Tilapia Fish Feed from Common Water Hyacinth (Pontedria Crassipes)
FKT44	ATHIRA SYAFIQA BINTI AZMAN <i>Chemical Engineering</i> Title: Performance and Heat Transfer Analysis in Multiple Probe Cryo-Concentration System for Freeze Concentration of Tomato Juice
FKT45	LEOW KAI YING <i>Chemical Engineering</i> Title: Effect of Subcritical Water Condition in Production of Low Methoxyl Pectin and High Methoxyl Pectin
FKT46	MAGED ABDULLAH ABDO SHEHARI <i>Chemical Engineering</i> Title: Isotherm and Kinetics of Malachite Green Adsorption onto Formaldehyde Resin Residue-Based Activated Carbon
FKT47	SOONG SHEN LONG <i>Chemical Engineering</i> Title: Breakage and Swelling in Emulsion Liquid Membrane Extraction of Zinc Assisted with Nanoparticle
FKT48	NG ZHEN XIAN <i>Chemical Engineering</i> Title: Production of Biohythane from Pineapple Waste
FKT49	POO WEN JIE <i>Chemical Engineering</i> Title: Study on the Efficiency of Small-Scale Ethanol Distillation using Factorial Experimental Design

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- FKT50** **TAN YONG SHENG**
Chemical Engineering
Title: Topical Cinnamon Oil-Loaded Carrageenan-Based Gel as Antibacterial Agent for Wound Healing
-
- FKT51** **CARYN EMRISA GONIE**
Petroleum Engineering
Title: The Feasibility of Schizophyllan Produced Using Alternative Sources for Polymer Flooding in High Salinity
-
- FKT52** **REHMINE MARTIN BENJAMIN**
Petroleum Engineering
Title: Performance Comparison Between Industrial-Based Additives with Plant-Based Additives as Fluid Loss Reducers in WBM Performance Comparison Between Industrial-Based Additives with Plant-Based Additives as Fluid Loss Reducers in WBM
-
- FKT53** **ZULKIFLI BIN MYDEEN**
Petroleum Engineering
Title: Henna Leaf Extracts Water-Based Drilling Mud to Increase Cutting Transport Efficiency in Fully Eccentric Drill String on Deviated and Non-Deviated Wells
-
- FKT54** **AL-OBAIDI ALI KHUDHAIR MAHMOOD**
Petroleum Engineering
Title: Real-Time Prediction on Rheological Properties of Non-Newtonian Drilling Fluid by Using Artificial Neural Networks
-
- FKT55** **SOH WAI SHENG**
Petroleum Engineering
Title: Application of Coagulation/Flocculation in Various Water Cut with Fine Sand Contamination
-
- FKT56** **SHAKTIS A/L MURUGIAH**
Petroleum Engineering
Title: Experimental Investigation of Polymer Relative Permeability Modifier for The Downhole Selective Water Shut-Off Technique in Mature Wells with Unwanted Water Production
-
- FKT57** **MUHAMMAD HAFEEZUDDIN BIN ABU BAKER**
Petroleum Engineering
Title: Condensate Banking Removal by Wettability Alteration
-
- FKT58** **MUHAMMAD FADZLI FITRI BIN SAWAL**
Petroleum Engineering
Title: The Effect of Nanoparticles and Zwitterionic Surfactant on Enhanced Oil Recovery
-

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FKT59	AMIRUL HAKEEM BIN AZLAN <i>Petroleum Engineering</i> Title: The Impact of Water Influx on Predicting Hydrocarbon Production for Undersaturated Oil Reservoir and Dry Gas Reservoir
FKT61	FARAH NAJEEHA BINTI SAIFUL BAHRI <i>Chemical-Bioprocess Engineering</i> Title: Stevia Fraud Determination using Fourier Transform Infrared (FTIR) Based Chemometrics
FKT62	GOVINRAJ A/L RAVI CHANDRAN <i>Chemical-Bioprocess Engineering</i> Title: Antimicrobial Properties of Deep Sea Water and Its Potential as Thickener in Cosmeceutical Industry
FKT63	YANG CHONG SENG <i>Chemical-Bioprocess Engineering</i> Title: Design and Fabrication of Modular Based Aquaponic System for Urban Farming
FKT64	YONG WERN CHUN <i>Chemical-Bioprocess Engineering</i> Title: Design and Fabrication of Portable Arduino-Based Mini Spectrometer
FKT65	LIM CHIEW TIAN <i>Chemical-Bioprocess Engineering</i> Title: Formulation and Characterization of Herbal Cleansing Gel from Turmeric Extract Loaded Nanostructured Lipid Carriers
FKT66	SHARIFAH SAFIA ZAHRA BINTI SYED EZANEE ZULFAKHRI <i>Chemical-Bioprocess Engineering</i> Title: Optimization of Extraction Condition for Antioxidant Phenolics from <i>Acalypha Indica</i> to Target Agent
FKT67	SOO HUI LUN <i>Chemical-Bioprocess Engineering</i> Title: Characterisation of Biomimetic Nanozyme of Laccase-Like Activity
FKT68	KESHVINE A/P RAGURAMAN <i>Chemical-Gas Engineering</i> Title: Weight Loss Study on Quinine and Hydroquinone as Corrosion Inhibitors for Carbon Steel at Elevated Temperature
FKT69	LIM EN QI <i>Chemical-Gas Engineering</i> Title: Correlation between Intrinsic Properties Of NF/RO Membranes and Phthalates Removal

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FKT70 **RAYTHEN A/L CHANDRAN**
Chemical-Gas Engineering
Title: CO₂ Gas Removal and Demulsification Behaviour of Emulsion Liquid Membrane Containing Methyldiethanolamine (MDEA) and 2-Amino-2-Methyl-1-Propanol (AMP) with SPAN-80 Surfactant

FKT71 **SREE A/L NAGENDRA RAO**
Chemical-Gas Engineering
Title: Hydrophilicity Enhanced Eggshell Chitosan Incorporated Polysulfone Membrane

FKT72 **SYAHIDAH BINTI SAMSUL BAHARI**
Chemical-Gas Engineering
Title: Activated Carbon Nanofiber Incorporated with Metal Oxide

FKT73 **TAN PIK LIN**
Chemical-Gas Engineering
Title: The Effect of Utilizing Organic Wastes as Substrate on the Performance of Biological Cathodic Protection

FKT74 **THEAVERAJ A/L RAVI**
Chemical-Gas Engineering
Title: Deep Eutectic Solvent for Extractive Oxidative Desulfurization of Model Oil

FKT76 **ADAM HAZIQ BIN MOHAMAD FAHMI**
Nuclear Engineering
Title: Paraffin Shielding Reinforced with Graphene Nanoplatelets for Improved Neutron Attenuation and Structural Strength

FKT77 **MUHAMMAD AIMAN BIN SHAMSUDDIN**
Nuclear Engineering
Title: Comparing The Use Of OPENMC And MCNP to Simulate an Exposure Room

FKT78 **MUHAMMAD BUKHARI BIN YAKUB**
Nuclear Engineering
Title: Polyethylene Composite with Tungsten Oxide and Cadmium for Mixed Radiation Shielding

FACULTY OF EDUCATION

SOE01 **NAJIHA BINTI ZAINAL**
Technology with Education (Mechanical Engineering)
Title: Faktor - Faktor yang Mempengaruhi Pencapaian Pelajar dalam Mata Pelajaran Lukisan Kejuruteraan di Sekolah Menengah Teknik Johor Bahru

SOE02 **SIVARAJINI A/P VADIVELLOO**
Technology with Education (Mechanical Engineering)
Title: Membangunkan Modul Pembelajaran Kendiri (MPK) Lukisan Isometri Bagi Mata Pelajaran Lukisan Teknik di Kolej Vokasional

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- SOE03 **AMEER HAIKAL BIN KAMARUZZAMAN**
Technology with Education (Mechanical Engineering)
Title: Tahap Kesiapan dan Jangkaan Pelajar Kolej Vokasional Sekitar Johor dalam Melaksanakan Simulator Realiti Maya untuk Kursus Teknologi Kimpalan
-
- SOE04 **NUR SHAHIRAH BINTI MOHAMED NASIR**
Technology with Education (Mechanical Engineering)
Title: Penguasaan Kemahiran Fizikal Pelajar Pekak Bidang TVET Melalui Pembelajaran Berasaskan Pengalaman
-
- SOE05 **AMIRUL AFIQ BIN MOHD SARONI**
Technology with Education (Mechanical Engineering)
Title: Persepsi Pelajar Terhadap Keberkesanan Pelaksanaan Kelas Secara Atas Talian di Kolej Vokasional
-
- SOE06 **MUHAMMAD BADRUL AMIN BIN ABDUL RASHID**
Technology with Education (Mechanical Engineering)
Title: Pelaksanaan Pengajaran Amali Pendidikan Teknik Dan Vokasional Untuk Pelajar Berkeperluan Khas Di Sekolah Pendidikan Khas Vokasional (SMPKV)
-
- SOE07 **MUHAMMAD AFIF AMMAR BIN MUHAMMAD HIJAZ**
Technology with Education (Mechanical Engineering)
Title: Pembangunan Modul Teknologi Penyejukan dan Penyamanan Udara (Melakukan Kerja Menservis Unit Penyaman Udara Pisah) Di Universiti Teknologi Malaysia
-
- SOE08 **DANIAL ISKANDAR BIN JAFRIDIN**
Technology with Education (Living Skills)
Title: Tahap Kecenderungan Pelajar Tingkatan 2 Di SMK Taman Selesa Jaya Dalam Mengaplikasikan Amalan 5S Di Dalam Bengkel Rekabentuk Teknologi
-
- SOE09 **NUR AFIFAH BINTI MUSA**
Technology with Education (Building Construction)
Title: Matlamat Pembangunan Lestari Pendidikan Berkualiti dalam Kalangan Guru Kolej Vokasional d Negeri Melaka
-
- SOE10 **ZETTI IZLIN BINTI ZULKI ALWANI**
Technology with Education (Building Construction)
Title: Pengamalan Budaya Keselamatan Pelajar Sarjana Muda Teknologi dengan Pendidikan (Binaan Bangunan) di Universiti Teknologi Malaysia
-
- SOE11 **MUHAMMAD ZIKRI BIN HASAN**
Technology with Education (Building Construction)
Title: Persepsi Pensyarah Terhadap Pelaksanaan Mod Pengajaran Secara Teradun Di Kolej Vokasional Sekitar Johor, Malaysia
-
- SOE12 **MUHAMMAD AFANDI BIN AZMI**
Technology with Education (Electric & Electronic)
Title: SMARTDoB (Smart Distribution Board)
-

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- SOE13 **MUHAMMAD HAZNIL HAFIQ HASNUL HADI**
Technology with Education (Electric & Electronic)
Title: "TINTAR" Kantin Pintar Menggunakan Pengawal Mikro dan Pengenalalan Frekuensi Radio dengan Internet Serba Benda
-
- SOE14 **MOHAMAD NAZHAN BIN NAZRI**
Technology with Education (Electric & Electronic)
Title: PETIK (Penanaman Tanaman di Dalam Kotak)
-
- SOE15 **MUHAMMAD ASRI BIN RAZALI**
Technology with Education (Electric & Electronic)
Title: Persepsi Pelajar Jabatan Pendidikan Teknikal dan Kejuruteraan Terhadap Kerja Sambilan
-
- SOE16 **SITI NURAI SHAH BINTI ABDUL RAWI**
Technology with Education (TESL)
Title: Factors Influencing Malaysian Users to Tweet in English
-
- SOE17 **FITRIAH BINTI AB RAHMAN**
Technology with Education (TESL)
Title: UTM Undergraduate Students' Strategies of Using YouTube for Self-Regulated Language Learning in English Speaking Skills
-
- SOE18 **NORUL SABRINA BINTI NORUL RIZAL**
Technology with Education (TESL)
Title: Preferences of TESL Pre-Service Teachers Toward Presentation Software in Teaching English Language
-
- SOE19 **NURHALIYANA BINTI MOHD YATIM**
Technology with Education (TESL)
Title: Usage of English Slang Words Among Young Malaysian ESL Speakers on Instagram
-
- SOE20 **NURUL IZZAH BINTI ZAKARIA**
Technology with Education (TESL)
Title: Feedback as an Interaction Strategy Between Teachers and Students in ESL Classroom
-
- SOE21 **TAY YEE MEH**
Technology with Education (TESL)
Title: Investigating Students' Motivation in Improving Speaking Skills in an Institution of Higher Learning
-
- SOE22 **CHE WAN AMIRUL FARHAN BIN CHE WAN AZIZ**
Technology with Education (TESL)
Title: Watching Films as Method in Improving Speaking Skills
-

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SOE23	NURUL QUDRUL NADA BT. NOOR AZRULHISHAM <i>Technology with Education (TESL)</i> Title: Students' Perception of Learning Materials for Reading in an Online Literature Course
SOE24	ZAHRA NAJIHAH BINTI MOHD ZIN <i>Technology with Education (TESL)</i> Title: TESL Pre-Service Teachers' Perception of Digital Storytelling in English Language Classroom
SOE25	NORAN NUR MUNIRA BINTI KHALILI <i>Technology with Education (TESL)</i> Title: Understanding Technostress Level in Online Learning and Strategies to Overcome Technostress Among University TESL Students
SOE26	MUHAMAD SAHIRIN BIN ABDUL SHARIF <i>Technology with Education (Sports Science)</i> Title: Perbandingan 3 Jenis Kontak Tendangan Penalti "Kick-Out" Dari Kawasan 22 Meter Terhadap Ketepatan Jatuhan Bola Dan Jarak Dalam Sukan Ragbi
SOE27	AHMED NABIL BIN WAN AHMAD <i>Technology with Education (Sports Science)</i> Title: Kesan Kualiti Tidur Terhadap Fungsi Kognitif dan Tindak Balas Psikologi dalam Kalangan Belia di Seremban
SOE28	NUR UMI RASYIDAH BINTI MOHD NOR <i>Technology with Education (Sports Science)</i> Title: Rawatan Rendaman Air Sejuk Pelbagai Suhu Ke Atas Kecederaan Otot Selepas Senaman Dalam Kalangan Pelajar Perempuan UTM
SOE29	NORAINI BINTI IBRAHIM <i>Technology with Education (Sports Science)</i> Title: Koordinasi Mata Tangan Lakuan Motor Halus Pesakit Shizophrenia
SOE30	SHANKARI A/P K LOGANATHAN <i>Technology with Education (Sports Science)</i> Title: Perkaitan Ujian Kecergasan Fizikal Dengan Masa Larian Atlet 100 Meter SMK Ketari

FACULTY OF BUILT ENVIRONMENT & SURVEYING

FABU01	AFIQAH NURNABILA BINTI MD YANI <i>Landscape Architecture</i> Title: Rehabilitation of Disturbed Land for Ecosystem Services in an Industrial Setting
FABU02	AIREEN SHAHEERA BINTI MOHAMAD ZAIDI <i>Landscape Architecture</i> Title: Role of Liveable Community Toward Food Security Through Urban Farming

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FABU03	A'MILA SYAZWINA BINTI MOHD NIZAM <i>Landscape Architecture</i> Title: Preserving Ethnobotanical Values of Wetland Plants Through Recreational Landscape Design
FABU04	AQEELA QISTINA AZAMI <i>Landscape Architecture</i> Title: Establishment of Ecological Knowledge Through Human and Nature Interaction at Tropical Rainforest
FABU05	AUNI AQILAH BINTI HAZMAN <i>Landscape Architecture</i> Title: Reviving Urban River Corridor Through Sustainable Urban Drainage System
FABU06	CELINE CHIOW JIA YEE <i>Landscape Architecture</i> Title: Brownfields as Landscape Solutions to Mitigate Negative Impacts of Industrial Activities
FABU07	CHEW VI KEE <i>Landscape Architecture</i> Title: Therapeutic Landscape for Drug Rehabilitation Centre
FABU08	GOH QI FANG <i>Landscape Architecture</i> Title: Implementation of Ecological Stormwater Management for Flood Mitigation and Sustainable Environment Through Sponge City Concept
FABU09	ARIYANTI SULISTYO PUTRI <i>Landscape Architecture</i> Title: Connectivity of Urban Green Spaces for Community Mental Health Well-Being
FABU10	CHO JUN KEE <i>Landscape Architecture</i> Title: Walkable Urban Heritage Trail Through Narrative Landscape
FABU11	HADJIZ BIN SAHALEK <i>Landscape Architecture</i> Title: Defining A Railway Landscape Character for A Heritage Tourism
FABU12	HENG JING JIE <i>Landscape Architecture</i> Title: Learning Discovery Space for Autism Spectrum Disorder
FABU13	HO HUI CHING <i>Landscape Architecture</i> Title: Application of Landscape Cultural Identity in Heritage Settlement

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FABU14	HO JIA ER <i>Landscape Architecture</i> Title: Transformation of Disused Railway to Green Corridor for Urban Regeneration
FABU15	JASMINE EDWIN GUMILAR <i>Landscape Architecture</i> Title: Landscape for Sports Centre Towards Community Well-Being
FABU16	MUHAMMAD FAHMI IZZUDIN BIN MOHD AZHARI <i>Landscape Architecture</i> Title: Rehabilitation Of Brownfield Abandoned Quarry
FABU17	KOO SHENG SHAO <i>Landscape Architecture</i> Title: Developing Walkable City Using Blue-Green Infrastructure Network Strategy
FABU18	MASITAH BINTI MOHAMAD <i>Landscape Architecture</i> Title: Preserving Heritage and Culture of Orang Asli Laut Through Cultural Development
FABU19	MUHAMMAD SHAFIQ BIN SAHFUDIN <i>Landscape Architecture</i> Title: Strengthening Youth Well-Being Through Green Space
FABU20	MUHAMMAD SHUKRI BIN ZAIRUDIN <i>Landscape Architecture</i> Title: Rewilding The Urban Parks for Habitats and Biodiversity in Cities
FABU21	NESAMALAR GANESAN <i>Landscape Architecture</i> Title: Application of Green Infrastructure for Green City Toward Heritage Town
FABU22	NUR AZIAHNIE BINTI JAINI <i>Landscape Architecture</i> Title: Rejuvenation of Cultural Identity for Indigenous Community Through Place-Making
FABU23	NURUL IZZAH BINTI MOHD NIZAM <i>Landscape Architecture</i> Title: Implications of Wildlife-Based Ecotourism Planning to Conservation of Wildlife and Endangered Species
FABU24	NURUL NADIAH BINTI MAAROF <i>Landscape Architecture</i> Title: Enhancing the Cultural Landscape of Paddy and Its Farming Community for Agrotourism

UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

FABU25	SOON SUH JING <i>Landscape Architecture</i> Title: Blue-Green Infrastructure for Resilient Landscape Development
FABU26	NABIL AJWAD BIN NAZMAN <i>Landscape Architecture</i> Title: Reviving Historical Sites as Cultural Heritage Park
FABU27	NUR HAIRUL MUSZAFFAR BIN MOHD SAAD <i>Landscape Architecture</i> Title: Biophilic Design into Community Sports Park
FABU28	NURUL NAJIAH BINTI MUHADDIS <i>Landscape Architecture</i> Title: Regenerate Eutrophication on Waterbody Using Natural System for Landscape Planning
FABU29	SHAFI SALFABIL NUR MASLIKHAH <i>Landscape Architecture</i> Title: Revitalization of Heritage District to Strengthen Cultural Identity
FABU30	SITI NABILAH BINTI ZAHRI <i>Landscape Architecture</i> Title: Reconnecting Fragmented Green Patches for Urban Ecosystem
FABU31	SITI NUR EDA FARAHIN <i>Landscape Architecture</i> Title: Regeneration of Urban Waterfront Through Innovative Public Space Design
FABU32	SOH HUEY XUANG <i>Landscape Architecture</i> Title: Transformation of Residual Space for Urban Green Space Equity in Vertical Urban Development
FABU33	SOH RUI JIE <i>Landscape Architecture</i> Title: Regulating Stormwater Management for Flood Mitigation in Urban Area
FABU34	VAISNITHASRI RAMAKRISHNAN <i>Landscape Architecture</i> Title: Revitalization of Indian Cultural Hub in Urban City of Malaysia

FACULTY OF MANAGEMENT

AHIBS01	EILEEN TING SING YEE <i>Management (Technology)</i> Title: Awareness, Knowledge and Practices of Green Technology Among Youth in Malaysia
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- AHIBS02 **LIAN YI WAN**
Management (Technology)
Title: The Moderating Role of Logistics Performance on The Relationship Between Logistics Services and Customer Satisfaction in Malaysia
-
- AHIBS03 **SADDIQ SANI ADAMU**
Management (Technology)
Title: The Causes and Solutions of Small-Scale Business Failures in Nigeria
-
- AHIBS04 **FARID ABDULLAH RANGKUTI**
Management (Technology)
Title: The Moderating Role of Logistics Performance on the Relationship Between Logistics Services and Customer Satisfaction in Malaysia
-
- AHIBS06 **ALYA LEDIAS ANSHAR**
Management (Technology)
Title: The Relationship Between Digital Competence and Technostress Among Hospital Nurses
-

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UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

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 2022 today. First of all, I would like to thank the Undergraduate Research Conference 2022 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 2022 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 2022 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 2023. Stay safe and healthy everyone. With that, that remark is my last word. Thank you.

Prof. Dr. Shamsul bin Sahibuddin
Deputy Vice Chancellor (Student Affairs)
Universiti Teknologi Malaysia

UNDERGRADUATE RESEARCH CONFERENCE 2022 (URC 2022)

ACKNOWLEDGEMENT

The URC 2022 organising committee would like to extend our sincere appreciation to:

**Office of Deputy Vice Chancellor (Academic & International),
Institute of Life-Ready Graduate (UTM iLeague),
Universiti Teknologi Malaysia,**

All industrial and academics panels.



URC 2022 Committee

The background is a deep blue color. It features several abstract elements: wavy, glowing lines in the upper corners; a network of thin lines connecting various sized blue dots in the lower right; and faint, thin-lined wavy shapes in the lower left. A semi-transparent dark blue rectangle is centered in the middle of the page, containing the title text in white.

Undergraduate Research Conference
URC 2022
Programme Book