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2024



International Industrial Revolution 4.0 Exposition

"INNOVATING IDEAS, TRANSPIRING DREAMS"

ABSTRACT BOOK

Strategic Partners:



Perpustakaan
Sultan Badlishah

Organized By:

**COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS,
UNIVERSITI TEKNOLOGI MARA, KEDAH BRANCH**

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UITM Cawangan Kedah Channel

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IREx 2024

The successful inauguration of IR4.0 Exposition IREx 2019 has witnessed ground breaking initiatives, ideas, and innovations materialised into numerous practical devices today. Treading on the same triumph, the College of Computing, Informatics, and Mathematics, UiTM Kedah is thrilled to announce the continuation of said event, IREx 2024 with the theme: *Innovating Ideas, Transpiring Dreams*.

The IREx 2024 aspires to incorporate even more exciting new technologies including, but not limited to, Information & Communication Technology (ICT), Educational Technology & Innovation (ED), Operational Excellence (OE), Internet of Things (IoT), Process Improvement, Ideas & Design, Multimedia, and Electronics that will chart new milestones in human history. This will serve as an excellent platform for scientists and innovators alike to meet the like-minded individuals and showcase inspiring ideas and notable innovations.

PROGRAM SCHEDULE

International Industrial Revolution 4.0 Exposition (IREx 2024)
21ST May 2024 (Tuesday)
Dewan Perdana, UiTM Kedah Branch

TIME	EVENT
8.00 – 9.00 am	Registration & Booth Set Up
9.00 am – 12.00 pm	Exhibition & Judging Session
12.00 pm – 2.00 pm	Obedient Drone Session & Break
2.00 pm – 5.00 pm	Official Closing & Prize Giving Ceremony
5.00 pm	Program Ends

Official Closing Ceremony

International Industrial Revolution 4.0 Exposition (IREx 2024)

TIME	EVENT
2.00 pm	Arrival of Guests and Participants
2.30 pm	Arrival of VVIP
	National anthem - Negaraku And Wawasan Setia Warga
2.40 pm	UiTM
	Welcoming Speech
3.00 pm	Rector's Welcoming Speech
	Officiating Speech
3.10 pm	Gimmick & Montage presentation
3.30 pm	Prize Giving Ceremony
4.00 pm	Photography
5.00 pm	Program Ends

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CATEGORY C

THE GEOMETRICALLY ELEGANT DESIGNS OF HEVEA BRASILIENSIS-BASED BIOMASS LIGHTWEIGHT BRICK WALLS FOR RADIO FREQUENCY RADIATION ABSORPTION

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ABSTRACT- The explosion of information technology has fueled a high demand for telecommunications services, particularly in wireless communications. However, this development not only drives unprecedented advancements in telecommunications but also results in a surge in Radio Frequency (RF) radiation, posing potential health issues. This project aims to develop alternative lightweight bricks using Hevea Brasiliensis-based biomass, augmented with aluminum powder for lightness while integrating geometrical designs to potentially mitigate RF radiation. Incorporating rubber wood sawdust into the cement composition of lightweight cement bricks leverages its potential as an absorbing material due to its carbon elements. Moreover, the incorporation of geometrical designs of lightweight brick enhances the effectiveness of RF radiation absorption. Additionally, being biodegradable and lightweight, this material addresses wood waste disposal issues prevalent in Malaysia, one of the world's largest rubber suppliers. Consequently, this project holds significant promise for advancing building technology with anti-radiation features, adding substantial value. The subsequent phase involves constructing a model house using this anti-radio frequency radiation building material to comprehensively assess its absorption performance.

Keywords: Radio Frequency (RF) radiation, Hevea Brasiliensis-based, lightweight brick, geometrical design, radiation absorption.



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