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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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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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SACCHETTO NATURALE: UTILIZATION OF RICE HUSK, LEMON GRASS, KAFFIR LEAVES, BANANA TRUNK, AND TAPIOCA STARCH IN POLYBAG FABRICATION FOR PLANTATION PURPOSES

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ABSTRACT - Polybags serve as essential tools in modern agriculture, facilitating seedling production and transplantation. However, their widespread use contributes to environmental pollution, primarily due to the non-biodegradable nature of conventional polybag materials. This project investigates the potential of harnessing natural, renewable resources—specifically rice husk, lemon grass, kaffir leaves, banana trunk, and tapioca starch—in fabricating eco-friendly polybags tailored for plantation purposes. The research entails the extraction and processing of these diverse natural materials to obtain fibers, essential oils, and starch-based binders. Through systematic experimentation, various formulations are explored to optimize the composition for achieving polybags with desirable mechanical strength, durability, and biodegradability. Mechanical tests, including tensile strength and tear resistance assessments, are conducted to evaluate the performance of the developed polybags relative to conventional counterparts. Furthermore, the biodegradability of the eco-friendly polybags is scrutinized through degradation studies conducted under controlled environmental conditions. The impact of these polybags on plant growth and soil health is assessed via greenhouse experiments, shedding light on their suitability for sustainable agricultural practices. The findings of this study aim to offer viable alternatives to conventional polybags, mitigating the environmental footprint associated with plastic waste while fostering environmentally friendly agricultural practices. By harnessing the potential of locally available and renewable resources, these eco-friendly polybags hold promise in promoting sustainable plantation initiatives.

Keywords: agriculture, seedling, transplantation, renewable resources



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