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TEKNOLOGI
MARA

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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 B

NATURAL SMART FERTIGATION SYSTEM

Muhammad Fikri Hazim bin Khalid¹, Wan Zikry Aiman bin Wan Azlan²,
Nur Awatif Zahra binti Zakaria³, Liyana Batrisya binti Jaafar⁴, Aifa Syuhada
binti Jamili⁵, Nurul Balqis binti Norekhsan⁶, Dania Zahra binti Kelana Putra

Setia⁷, Ahmad Bunyameen Iman bin Bakar⁸

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ABSTRAK - Fertigasi adalah kaedah paling rasional dalam meningkatkan pengeluaran tanaman. Dalam sistem fertigasi jenis terbuka, larutan nutrien disalurkan terus ke tanah melalui saluran terbuka. Ini adalah kaedah yang mudah dan murah, tetapi memerlukan pengawasan yang baik untuk mengelakkan pembaziran nutrien. Bagi membantu mengatasi masalah ini, projek *Natural Smart Fertigation System* dihasilkan dengan berpanduan Bidang Projek: Sains Kehidupan, bertemakan SDG 12: *Responsible Consumption and Production* bagi membantu pekebun mengaplikasikan sistem fertigasi yang ringkas, mudah dan tidak memerlukan kos yang tinggi. Projek ini dapat menambahbaik sistem fertigasi sedia ada dengan membuat penambahbaikan kepada sistem automasi secara semulajadi terhadap penitis air tanpa menggunakan peralatan elektronik seperti pemasa dan sebagainya namun sistem pengendaliannya hanya menggunakan sebahagian ciri mekanikal iaitu injap apung dari pam tandas terpakai, sistem perpaipan yang disambung bersama spring, bekas yang diisi dengan span, sabut atau kain terpakai serta bahagian lain yang menjadi asas kepada sistem fertigasi. Aspek cuaca dan persekitaran turut dikaitkan dengan projek ini menjadikannya sebuah projek yang mesra alam dan lestari. Dalam usaha penjimatan sumber tenaga juga, ia membantu pengguna dalam aspek penjimatan kos, masa dan tenaga. Hasil pembangunan projek ini dapat melahirkan generasi berkemahiran tinggi dalam menyelesaikan masalah seterusnya membuka peluang menghasilkan produk berkualiti bagi memenuhi Revolusi Industri 4.0.

Kata Kunci : *Natural Smart*, fertigasi, lestari, Revolusi



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