

RISE

Catalysing Global Research Excellence

Robotics Technology: Driving Innovation, Transforming Future

**ReNeU's 1st
Anniversary**
Galvanising Research Excellence

**UiTM's Global Effort
in Training Young Aspiring
Neuroscientists**



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ABOUT THE MAGAZINE

RISE Magazine is published by Office of the Deputy Vice-Chancellor (Research & Innovation) with the aim of highlighting the research and innovation on of experts from multidisciplinary fields in UiTM. It serves as a platform for researcher to showcase their high quality and impactful findings, activities and innovative solution through publication. Contribution of these ideas come from academicians, researchers, graduates and universities professionals who will enhance the visibility of research and strive to elevate Universiti Teknologi MARA to global standards. This is an effort to promote research as a culture that should be embraced by everyone.

ABOUT UiTM

Universiti Teknologi MARA (UiTM) is a public university based primarily in Shah Alam, Malaysia. It has grown into the largest institution of higher education in Malaysia as measured by physical infrastructure, faculty and staff, and student enrollment. UiTM is the largest public university in Malaysia with numerous campuses throughout all 13 states in Malaysia. There is a mixture of research, coursework and programmes offered to the students. Office of the Deputy Vice-Chancellor (Research & Innovation) or known as TNCPI (*Timbalan Naib Canselor (Penyelidikan & Inovasi)*) serves a *Pusat Tanggungjawab (PTJ)* that navigates the research and innovation of university in achieving UiTM agenda. TNCPI office strives to mobilise the faculties, and campuses to move together and promotes cooperation among researchers in bringin UiTM as a leading global university of science, technology, and innovation by 2025.



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FOREWORD

VICE-CHANCELLOR



To excel globally, research must be weighed in as a key factor to navigate the university's direction in making an impact. This is especially when focusing on translational research where society can benefit greatly from its findings.

Congratulations to the Office of the Deputy Vice-Chancellor (Research and Innovation) on the publication of this magazine, aptly called RISE. I am pleased to see that the COVID-19 pandemic has not dampened UiTM researchers' pursuit of their dreams. The contents of these pages allow active research and innovation activities be shared with our stakeholders, local and international collaborators.

As UiTM aspires to be a world-renowned university by 2025, I believe that our current research practises are on track. For example, the featured article in the magazine highlights the key success of robotic technology ventured by our researcher, Associate Professor Dr Hanafiah Yussof, who formed a start-up company to advance robotic technology in Malaysia. His contribution to the robotics industry, the Robot Rehabilitation System for Autism Therapy, is an example of innovation that can transform the future.

In our pursuit of changing the future, we at UiTM are cognisant of the current and future direction of research to facilitate research from different disciplines. We have researchers using drones for pineapple plantations, exploring hybrid rockets with Equatorial Space System (ESS), and researching sanitation, collection, and sewage/wastewater treatment systems with Indah Water Konsortium (IWK) Sdn Bhd, to name a few of the work we have been actively involved in.

Hence, we will continue to contribute and make progress associated with processes and knowledge pivotal for impactful research, especially in developing knowledge-based technology that benefit society.

Ultimately, I am confident that the publication of this magazine will further strengthen the visibility of UiTM research and innovation.

Thank you.

PROFESSOR Ts. DR HAJAH ROZIAH MOHD JANOR

Vice-Chancellor

Universiti Teknologi MARA

FOREWORD

DEPUTY VICE-CHANCELLOR (RESEARCH & INNOVATION)



I would like to congratulate the editorial team on the release of RISE, a research magazine highlighting our research and innovation efforts and accomplishments. The magazine exemplifies our office's synergistic and collaborative efforts, as well as those of our researchers and article contributors, to advance the visibility agenda.

As the office in charge of research and innovation, we are constantly hoping that every research result and invention will benefit the community through translational research. Assoc. Prof. Dr Hanafiah Yussof's Robot Rehabilitation System for Autism Therapy, for example, has aided the autism community in improving communication. Even more proud that this endeavour resulted in the formation of a start-up company.

Despite the COVID-19 pandemic, UiTM researchers continued to conduct relevant research activities despite the uncertainty. The scale of the events varies from a small effort to install solar panels at a rural school and organise virtual conferences to the use of drones and precision agriculture technology on pineapple plantations. Notably, a Bioextreem solution capable of inhibiting 99.99 percent of bacteria and viruses was also developed.

With these accomplishments, we will continue to support research efforts, particularly those aimed at developing knowledge-based technology with a social benefit in mind.

Finally, I believe that this magazine can serve as a platform for the visibility agenda by incorporating a wide range of science and research perspective, fostering more potential collaboration between UiTM researchers and local and international institutions and industries.

Thank you.

PROFESSOR Ts. DR MOHD NAZIP SURATMAN

Deputy Vice-Chancellor (Research & Innovation)

Universiti Teknologi MARA

MESSAGE

FROM THE CHIEF EDITOR



Alhamdulillah.

It gives me great pleasure to see this issue published. We received a massive and impactful submission to feature our UiTM community's research stories. Despite the difficult circumstances, UiTM researchers are proactive in carrying out research activities and events within their respective capacities.

Allow me to express my heartfelt gratitude to all of the authors of the articles in this magazine. The publication of this issue would have been far more difficult to achieve without their contributions. Here, we feature Assoc. Prof. Dr Hanafiah Yussof of the College of Engineering's beautiful journey into robotic technology. I believe that robotics has always been on the national agenda for its true mission in helping people. We chose to focus on robotics to honour a UiTM researcher who has dedicated his academic

career to assisting society through technological advancements. To all researchers out there, we hope that his inspiring journey will rekindle our enthusiasm for research.

The inaugural issue of the RISE magazine also features research achievements and the multidisciplinary research areas in UiTM which support national priorities. Research Nexus UiTM (ReNeU) celebrates its first anniversary in 2021, marking a major milestone in its journey. Faculty of Pharmacy is making a global impact towards producing young aspiring neuroscientists. The exploration of Lembah Benua has highlighted the wonderful forest as a potential research station. The potential of fine art logistic industry is also of utmost importance towards making Malaysia as a top art market hub. These are some of the exciting research stories and I invite you to discover more in this issue.

We sincerely hope to bring you more research news from the UiTM family in the coming issues. Have fun reading!

DR MOHD MUZAMIR MAHAT

Head of Research Communication & Visibility Unit (UKPV)
Office of Deputy Vice-Chancellor (Research & Innovation)
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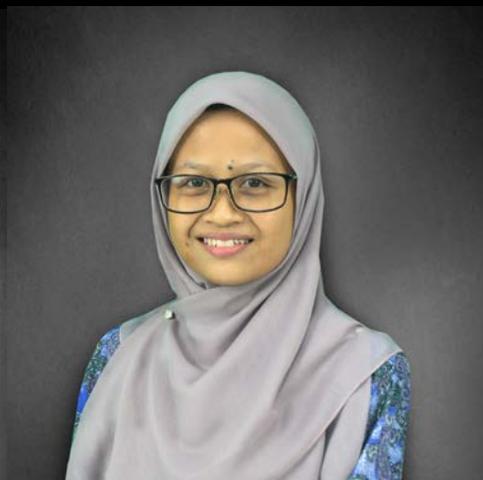
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Collaboration between NEXTGREEN Global and UiTM will strengthen UiTM cooperation with public listed company in zero waste technology and renewable energy for sustainable development



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UiTM'S Global Effort in Training Young Aspiring Neuroscientists

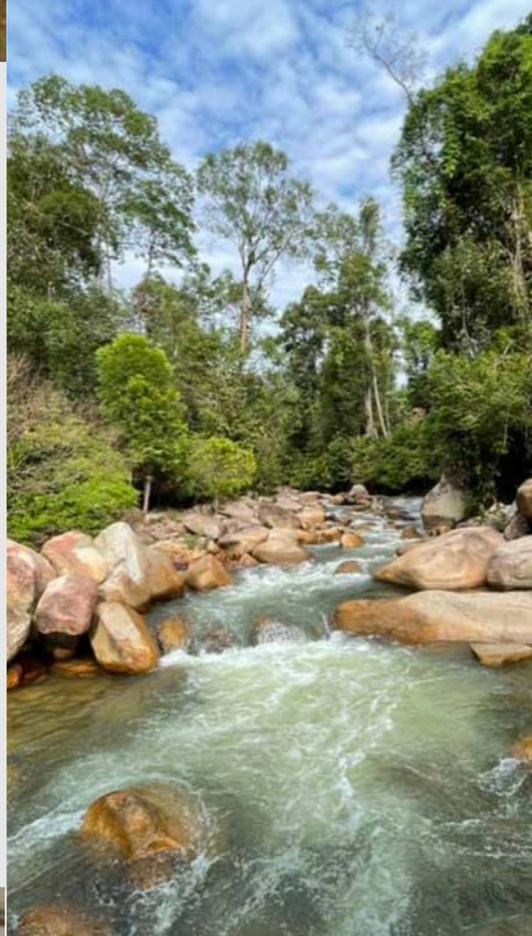


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Hutan Simpan Lembah Benum Exploration 2021



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Faculty of Medicine
Institute of Pathology, Laboratory & Forensic Medicine (I-PPerForM)
and the Malaysian FH research team

on the successful publication in the flagship journal

THE LANCET

(Impact Factor: 79.321)

Global perspective of familial hypercholesterolaemia: a cross-sectional study from the EAS Familial Hypercholesterolaemia Studies Collaboration (FHSC)



Achievements

Congratulations

Professor Dr Wong Tin Wui

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*Source: PLoS Biol 18(10): e3000918. <https://doi.org/10.1371/journal.pbio.3000918>



Green Event Research @ Borneo Jazz Festival

BORNEO JAZZ FESTIVAL
JUNE 25-27, 2021 / MIRI, SARAWAK, MALAYSIA

by Dr Norol Hamiza Zamzuri, Nor Azzura Nordin & Zakiyah Hasan



The lack of knowledge among event organisers about running a green event has resulted in a demand for an interdisciplinary area of knowledge within the Faculty of Business and Management and the Faculty of Art and Design. The combination of expertise and hand-in-hand collaboration between the two faculties led to an inspirational idea to research the green event concept during the Borneo Jazz Festival conducted from 14 to 18 July 2019. The involvement of No Black Tie as an industry partner, along with 132 community members from Miri under the supervision of LA21, helped consolidate the findings by UiTM researchers led by associate professor Dr Norol Hamiza Zamzuri and team members Cik Azzura Nordin (Faculty of Business and Management) and Zakiyah Hasan (Faculty of Art and Design).

An event is seen as one sub-sector of the tourism industry that can potentially have devastating environmental impacts if not correctly managed by event stakeholders. At the same time, an event can be a perfect platform to promote environmental awareness to the local community. An event can demonstrate to the public how we can reduce waste, decrease energy consumption, proper waste management and be more eco-friendly. Therefore, the event industry needs to incorporate sustainability into event planning to promote healthy developments socially, economically, and environmentally.

Creating awareness within the community is one of event stakeholders' responsibilities. Promoting recycling and reusing daily products is an essential strategy in the management of disposable waste products. So, for three months before the Miri Jazz Festival, organisers worked closely with the community to collect waste materials to be recycled and reused and ensure the transfer of knowledge of green event concepts. This project was inspired by the industry partner No Black Tie, whose close participation helped generate the findings.

The community's involvement as part of event organisation is vital to ensure the community's sense of ownership towards community events. A month leading up to the event, three workshops were held during weekends to prepare the materials that were to be used in art installations. The UiTM team flew to Miri for each workshop to teach volunteers and prepare the art installations. Two festival managers and their crew also joined the 5-member team to help strategise how to set up the art installations. During each workshop, volunteers were taught to create parts of the art installations from plastic bottles and CDs. An average of 50 volunteers attended each workshop that ran on Saturdays and Sundays for three weekends. The majority of the volunteers were employees of government agencies such as the Miri State Council, the State Library, and the Health Department. There were also students from private colleges and families with children.

Interestingly, the art installations produced were so attractive and sparkled all over the festival venue that some spectators might not realise that they were a compilation of waste materials such as PET plastic bottles, HDPE containers, used tires, and aluminium cans that were prepared by the city council and sent in by volunteers and the community. The volunteers were very excited to see the realisation of the event's green concept in the form of chandeliers, stage ornaments, and decorations around the festival grounds. The event organiser agreed to "pay" the contributors with tickets to the event in exchange for the recyclable items brought in. They were entitled to one ticket for the first day of the event in exchange for a predetermined number of items. In addition, the volunteers were entitled to entry to the whole festival if they attended all three weekends of workshops.

This programme was a collaborative research project between UiTM, No Black Tie (the event organiser), and the host of the Borneo Jazz Festival, Miri City Council. Volunteers were recruited from government agencies and the local communities. Word was spread about the event through the local media, Myprimabuzz, and with the help of the Miri City Council. This campaign was also in line with the Miri City Council LA21's efforts to achieve low-carbon city status. The outcome of this innovative research has been published in *Sci. Int. (Lahore)*, 33(2), 121-126, 202.





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	02	Logistics & Halal-hub		02	Renewable Energy	02		Islamic Finance Fintech
	03	EV-AV,		03	Environment & Climate Change	03		Socio Innovation
	04	UAV, Aviation		04	Solar Technology	04		B40-Talent
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		06		Food Security	06	Socio-Economic		

Area Sub-Area



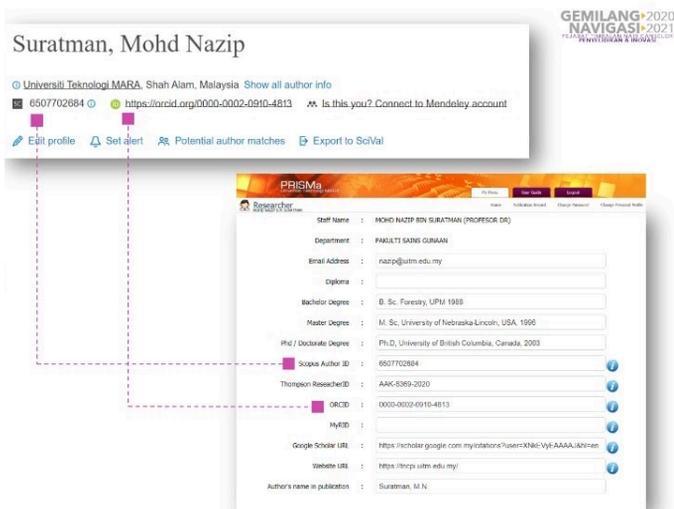
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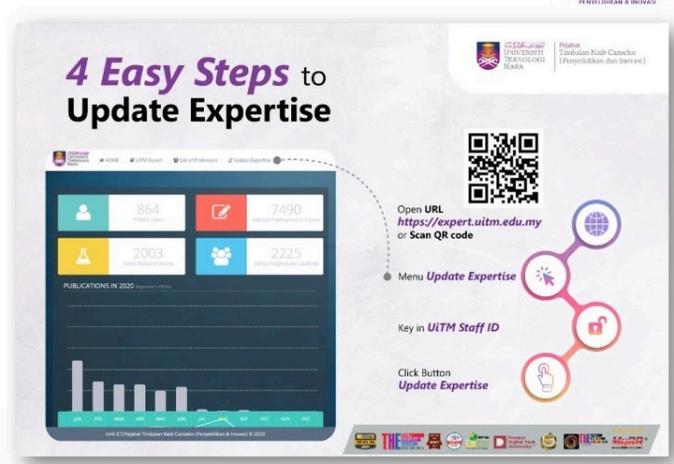
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Campus Pasir Gudang, Johor
Drone and Precision Agriculture Technology for Pineapple Plantation

Dr Nur Azfahani Ahmad

Faculty of Architecture, Planning & Surveying UiTM,
Campus Sri Iskandar, Perak
A Project to Provide Solar-powered Lighting to Rural Schools in Perak

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Virtual Greensafe Cities Seminar (GRESA 2021)

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Dr Faezah Sabirin & Nur Syakila Rohawi**
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Good Bacteria That Lower Cholesterol: Myth or Truth?

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Faculty of Medicine UiTM, Campus Sungai Buloh
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NEXTGREEN GLOBAL-UiTM Research Collaboration

Assoc. Prof. Dr Aidah Jumahat

Research Nexus UiTM, ReNeU (Industrial Technology)
IWK-UiTM Research Collaboration

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Collaboration***

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Faculty of Applied Sciences, UiTM Shah Alam

***Adaptive Strategies for Microbial Performance Through
Optimization Approach***

Prof. Dr Roshima Said

Assoc. Prof. Dr Mohd Rizaimy Shaharudin

Accounting Research Institute (ARI), UiTM

Faculty of Accountancy, UiTM, Campus Sungai Petani, Kedah

Faculty of Business and Management, UiTM, Campus Sungai Petani, Kedah

***The Effectiveness of the ICQS Bukit Kayu Hitam and CIQ Sadao's 24-hour
Operation***

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Green Event Research @Borneo Jazz Festival

Prof. Dr Nooritawati Md Tahir

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Faculty of Art & Design, UiTM Shah Alam

Potential of Fine Art Logistic Industry

Prof. Dr Shahrman Zainal Abidin

Research Nexus UiTM, ReNeU (Logistic & Transportation)

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European Education Systems***

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Miss Nur Syazwani Ahamad Azahari

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