MONASH University

MALAYSIA

SYNC

Say Yes N' Collaborate

The Great Wall Of China

GRS: What's Next?

GRS Event Highlights

Enterprising Research

ISSUE 13 | SEPTEMBER 2024

If you push through that feeling of being scared, that feeling of taking a risk, really amazing things can happen.

MARISSA MAYER

American Businesswoman and Ex-Yahoo! CEO

Insights from

Prof Anthony Guo

The Head of School, School of Engineering

Over the years, the School of Engineering has grown to be research-intensive, as evidenced by the increasing number of high-quality publications in top journals, high-impact external grants from industry, and a vibrant sizable Graduate Research Students (GRS) community. While most staff pursue research to advance their academic fields, a growing number of staff have embarked on a journey focusing on Enterprising Research, i.e. innovation and commercialisation that may make a greater societal impact.

However, the journey is less travelled and potentially risky, which requires an understanding and supportive ecosystem. The School is highly committed to fostering an innovation and entrepreneurship environment, and it has established a School Innovation and Industry Engagement committee (SIEC) with several initiatives dedicated to supporting innovation and advancing the Technology Readiness Levels (TRL), ensuring that outcomes are driven for commercialisation and societal impact.

The success of these efforts is increasingly evident in the adoption of our research by industry, demonstrating the tangible impact of our work beyond academia, which has resulted in substantial industry grants awarded to academics in the school. In addition, we have seen some successfully licensed patents come from GRS.

I strongly encourage you to discuss with your supervisors how your research outcomes can be extended beyond the lab. As a school, we are committed to supporting the innovation and entrepreneurial spirit of our GRS and helping you make your research more impactful to society.

BOTTOM ROW (LEFT TO RIGHT)

Dr Mohammed Ayoub Juman | Advisor
Shafeeq Syed Ali | Editor
Dr Tan Wen Shan | Advisor
Jeremy Chin Shi Hau | Designer

TOP ROW (LEFT TO RIGHT)

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{ EDITOR'S NOTE }

Hello readers!

The editorial team is delighted to present the 13th edition of the SYNC Newsletter, titled "Enterprising Research". This issue explores how research often breaks the boundaries of academia to drive successful entrepreneurial ventures. These 'enterprising researchers' embody the spirit of innovation and demonstrate that research can catalyse entrepreneurship, creating value far beyond the confines of traditional academia.

In our research journey, it's easy to get trapped in the cycle of 'experiment - results - publish'. We often overlook our work's potential impact and how it adds to the bigger picture. Crafting a narrative that ties your research together can be the stepping stone in moving from idea to implementation. This dynamic world demands that we are well-versed beyond academia and driven to commercialise our work to real-life applications. This also ensures that nothing 'gets lost in translation'.

I hope this issue inspires you to take a step back and explore the possibilities of your work beyond the cubicle, lab space and journal publications.

The editorial team sincerely thanks all the contributors who made this issue possible. We welcome any feedback and suggestions through the Google form for continuous improvement.

Finally, I want to express my deep gratitude to the members of the editorial team who have supported me over the last two issues. This was a memorable addition to my PhD journey. I wish the next team all the best and look forward to more exciting content in future editions!

Signing off,

Shafeeq Syed Ali
mum.sync.soe@monash.edu
Editor

Got any feedback? We want to hear it! Submit your thoughts on SYNC here:

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Aiology: Pioneering AI and IoT Solutions for Industry Automation

by: Zakia Hussain

Dr Marcus Lim Jun Yi

CEO of Aiology

AIOLOGY
Scan here to learn more!

Dr Marcus Lim Jun Yi (CEO)

Dr Lim Jun Yi (Marcus) embarked on his entrepreneurial journey inspired by the desire to develop solutions that meet real-world needs. With a PhD in Engineering, his research focused on real-time aggressive action detection, leading to the development of a human-weapon interaction detection transformer. Despite data collection challenges, including late-night scenarios involving knives and machetes that alarmed campus and mall security, Dr Marcus successfully published his work in IEEE Transactions on Image Processing. His postdoctoral role then allowed him to commercialise this research, deploying the AI system in Sunway Pyramid to enhance public safety.

Dr Marcus founded Aiology, a company dedicated to optimising operations through cutting-edge AI and IoT solutions, particularly in 5G telecommunications and industry automation. Aiology addresses various IoT challenges to position Malaysia as a leader in this space. Dr Marcus recalls the lack of external funding for an "organic" startup as one of the early challenges. Aiology thrived by expanding the functionality of its initial solutions to consistently address customer pain points, thereby ensuring sustainable cash flow.

Drawing from his experience, Dr Marcus emphasised the importance of problem-solving skills and the ability to write effectively, which have been crucial to his business success. He advises aspiring entrepreneurs to focus on solving genuine pain points and to ask three critical questions:

1) How long have they been facing the problem?
2) How much have they spent on solving the problem?
3) What solutions have they already tried?

He reiterates that a successful solution should be immediate, cheap, affordable, and unique. His journey reflects a commitment to innovation, practical problem-solving, and a strategic approach to entrepreneurship.

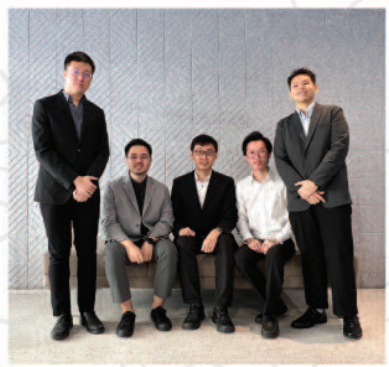
TranXenergy: Innovating Malaysia's Energy Landscape

by: Zakia Hussain

TRANXENERGY
Scan here to learn more!

Dr Tan Wen Shan
CEO of TranXenergy

TranXenergy, co-founded by Dr Tan Wen Shan (Lecturer, Monash University Malaysia), Dr Lim Fang Sheng, and Mr Chia Jun Shen — alumni of MUM — is rapidly transforming Malaysia's energy sector. With deep academic roots, this startup aims to bridge the gap between theoretical research and practical industry application.



Left to right: John Jin Keong (Staff); Dr Lim Fang Sheng (COO, Monash Alumnus); Dr Tan Wen Shan (CEO); Chia Jun Sheng (CTO, Monash Alumnus); Chong Yu Wei (Staff, Monash Alumnus)

Dr Tan, with his expertise in smart grids, renewable energy, and blockchain, identified a disconnect between academic research and its real-world implementation. Motivated by his successes in global competitions like Siemens Innovation Ecosystem and IBM Call for Code, he founded TranXenergy to revolutionise Malaysia's energy sector using advanced optimisation algorithms for energy planning and management.

TranXenergy develops software algorithms to enhance the renewable energy sector and supports Malaysia's 2050 net-zero carbon goal. It provides a platform for corporations to manage carbon emissions. It is developing a peer-to-peer (P2P) energy trading platform for selling excess solar energy, promoting solar adoption and reducing reliance on fossil fuels. The company collaborates on energy storage management algorithms with a solar firm to lower industrial electricity costs.

Building TranXenergy was challenging due to funding shortfalls, technical issues, and team-building difficulties. The co-founders overcame these by bootstrapping, securing an angel investor, using agile development, and promoting a strong company vision to attract talent. Dr Lim Fang Sheng's Monash Engineering PhD provided crucial skills and resilience essential for navigating the unpredictable startup landscape.

The co-founders suggest starting in the industry for practical experience and a solid foundation for future transitions for those uncertain about their career path. Academia offers access to emerging trends and foundational knowledge, which can lead to pioneering innovations with a passion for societal impact.

Self-Healing Gloves: Redefining Workplace Safety

by: Jeffrey Ruzain

Dr Patrick Tang Siah Ying

Chemical Engineering

SCAN HERE to learn more!

The rising use of disposable rubber gloves, in line with workplace safety, health and hygiene practices, has culminated in a tremendous degree of monthly global rubber waste generation. This pervading environmental predicament propelled Dr Patrick Tang Siah Ying to lead his team in developing self-healing rubber gloves by incorporating functionalised nanocellulose fillers into the rubber compound, inducing ionic bonding to repair minor damages automatically. This technology thus improves glove strength and durability, which aids in reducing waste, all while safeguarding health and safety.

Early success from lab trials inspired Dr Patrick to potentially commercialise this groundbreaking innovation but he notes that this process must involve further optimisation of the rubber formulation, the creation of functional prototypes, future human trials, and pilot-scale production studies. Ergo, Dr Patrick also plans on collaborating with industrial glove manufacturers to successfully introduce this technology to the market, envisioning global accessibility to these gloves and future adoption of self-healing technology in other rubber-based products.

Dr Patrick asserts that the importance of research commercialisation is undeniable as it permits real-world testing and enhancements of innovative technologies. Consequently, this generates profound economic and societal benefits for manufacturers and users. With research commercialisation being a shared commonality between academia, industry and entrepreneurship, Dr Patrick advises aspiring students who may consider a career between any of the three to assess several facets, namely their strengths, long-term goals, risk tolerance, desire for stability versus independence,and passion for either applied or theoretical work. Finally, Dr Patrick believes networking, seeking mentorship, and gaining experience through internships or collaborations can provide clarity and valuable insights throughout this critical career decision.

From left to right: Mr Darren Low Yi Sern; Dr Patrick Tang Siah Ying; Dr Janarthanan Supramaniam

Innovations in semiconductor manufacturing: Advancing MEMS-based sensor technologies

by: Afnan Ahmad

SCAN HERE to learn more!

Assoc Prof N. Ramakrishnan

Electrical and Robotics Engineering

A/P Ramakrishnan attending Semicon along with his prograduate students

A/P N. Ramakrishnan's journey towards entrepreneurship was driven by his extensive background in semiconductor devices, and MEMS-based sensors, and the innovative approaches he adopted during his career at Monash University Malaysia. With limited resources, he and his initial PhD students creatively established a small-scale lab, allowing them to conduct meaningful research and develop microdevices in-house. This experience not only resulted in publications in prestigious journals like IEEE Transactions but also sparked his interest in translating research into practical prototypes for semiconductor manufacturing and sensor instrumentation.

A/P Ramakrishnan believes that commercialising research is essential to demonstrate its impact. He stresses that, especially in engineering, considering commercialisation from the start ensures that research extends beyond academic papers and achieves real-world applications. This principle has guided his focus on practical prototypes.

His research group, the Micro and Nano Devices Lab, focuses on developing miniaturised sensor chips with IoT-ready interfaces through fundamental studies of acoustic wave devices, MEMS sensors, and IoT integration. They tackle batch fabrication challenges with innovative, cost-effective automation, relying on the dedication and creativity of their PhD students to overcome limited resources.

A/P Ramakrishnan credits his students with significantly contributing to initiating startups, particularly by developing prototypes and filing patents, which are crucial steps toward commercialisation. He emphasises the importance of innovation competitions and exhibitions in gaining exposure and networking, citing their participation in Semicon SEA 2024 as a key example.

To aspiring researchers and entrepreneurs, A/P Ramakrishnan advises focusing on how their research can be quickly translated into real-life applications, urging them to pursue opportunities to turn their ideas into market-ready inventions, thereby demonstrating the impact of their work.

can i $ELL it?

Dr. Alpha Agape Gopalai
Senior Lecturer and Course Director
Robotics and Mechatronics Engineering

Dr. Surya Nurzaman
Senior Lecturer
Mechanical Engineering

Q1

How can GRS identify and validate the market potential of their research project?

10:54 a.m.

To identify and validate market potential, GRS should consult their supervisors to determine their project's Technology Readiness Level (TRL). For research at lower TRLs, which often lack immediate market clarity, tools like TRIZ can help predict future trends and potential applications. Successful identification of market potential involves understanding how fundamental findings can be scaffolded to reach practical applications. Consulting with supervisors with deeper insights into the field is essential for aligning research with market needs.

12:34 p.m.

Q2

What resources or support systems (e.g., funding opportunities, mentorship) should GRS leverage to bring their research-based ideas to market?

9:34 a.m.

GRS should leverage funding opportunities and mentorship that align with their project's TRL. Projects at higher TRLs are more likely to attract industry funding due to their proven feasibility and potential for scalability. However, even fundamental research at lower TRLs holds value for generating new knowledge and market areas. Research grants and funding usually expect a progression from lower to higher TRL stages, and GRS should seek support for projects at different stages of development. Engaging with mentors with experience in taking research from bench to market can also provide critical guidance.

10:34 a.m.

Q3

What advice would you give GRS on pitching their research ideas to investors or industry partners?

04:34 p.m.

Having a high TRL, intellectual properties, and top-tier publications is crucial when pitching research ideas. The pitch should clearly demonstrate the feasibility, strong project management skills, well-planned milestones, and risk assessment. While pitching often extends beyond the GRS period, showcasing progress and effective project management is essential.

06:14 p.m.

For additional insights and practical advice, GRS can consult experienced mentors like A/P N Ramakrishnan, chair of the innovation and industry engagement arm for the school of engineering, who have extensive experience in innovation and industry engagement.

06:16 p.m.

Q4

What common mistakes should GRS avoid when commercialising their research?

12:02 p.m.

Common mistakes include attempting commercialisation too early and neglecting the complexities of the process. GRS should focus on research projects at an appropriate TRL for commercialisation and only rush into market applications with sufficient readiness.

01:22 p.m.

Seeking advice from supervisors and mentors throughout the commercialisation journey is vital. Learning from successful examples, such as A/P Vineetha and Dr Tan Wen Shan, can provide valuable insights into transitioning research from the lab to the market.

01:24 p.m.

THE GREAT WALL OF CHINA

by: Dakshina Fernando

From being built to protect the Silk Road Trade to becoming a world wonder, the Great Wall of China still stands strong. While we marvel at this iconic structure's immense size and historical significance, we often overlook the countless names lost to history over its 2,500 years of construction. History teaches us that no effort should go to waste, yet not all efforts that contribute to significant life-changing moments are recognised. This lack of appreciation is still encountered daily and across all industries.

Like Emperor Qin Shi Huang is often credited with developing the Wall of China, we see many prominent figures in groundbreaking events. In this context, Neil Armstrong as the first human to set foot on the Moon in the Apollo 11 mission, Elon Musk as the founder of SpaceX and Tesla, and Kiichiro Toyoda, the founder of Toyota Motor Corporation, we celebrate worldwide. However, behind these history-making figures were countless engineers, scientists, and technicians who made these feats possible.

In a local context, the appreciation of the role of all these individuals is crucial to the field despite often being overlooked. The daily responsibilities, skills and knowledge of all these people ensuring the safety, accuracy and reliability of results deserve the recognition and appreciation that reflect the significance of their work. The downside of forgotten appraisal is that it can affect job satisfaction and motivation, essential for the success of current and future work. In the words of Prof Richard Sennett, "The carpenter, lab technician, and conductor are all craftsmen because they are dedicated to good work for its own sake. Theirs is a practical activity, but their labour is not simply a means to another end." Thus, recognising these crucial behind-the-scenes roles becomes essential, as it empowers us to appreciate and honour the significant contributions that are vital to our success yet often go unnoticed.

Even though global recognition is light years away, acknowledging all individuals supporting a cause will bring on a well-balanced culture and pave the way for a brighter future. A simple gesture of gratitude can make a significant difference; may this become the value you carry into tomorrow.

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Breaking Bad

by: Dakshina Fernando

In the words of Sir Isaac Newton, 'If I have seen further, it is by standing on the shoulders of Giants,' acknowledging the contributions of those who came before him. This sentiment celebrates the collective progress of scientific discovery. However, not all advancements lead to positive outcomes, as illustrated by the critically acclaimed American television series “Breaking Bad”. The show follows the transformation of a high school chemistry teacher into a drug kingpin, driven by desperation and the misuse of his scientific expertise. Through this narrative, Breaking Bad vividly portrays how knowledge can be a double-edged sword — capable of remarkable achievements but also dangerous when misapplied, reminding us of the complex moral responsibilities that come with scientific progress.

The intent and circumstantial evidence in both these epitomes show that knowledge is power in two ends. Newton’s legacy starts with Galileo, Kepler, and Descartes and ends with groundbreaking theories introduced to physics and mathematics. Walter White's story explores how his profound scientific knowledge is initially a force for good, allowing him to teach and inspire students, but later becomes a tool for illegal activities. From the mark of revival in classical learning and wisdom during the European Renaissance period, the work pioneered by Sir Newton resonates with modern sciences. This portrays the decades-long mentorship and legacy a true pioneer has left for the scientific world. Along the same lines, the negative mentorship outcomes have been presented in breaking bad through dragging Jesse (the mentee) into a criminal life.

Both these stories mirror how the transfer of knowledge can shape the future. Moral descent, however, has been lost along the way in some areas, and there are potential dangers of misusing the knowledge inherited from giants. Many historical landmarks demonstrate the destructive potential of knowledge without moral grounding. For any scientist leveraging knowledge and imparting wisdom to achieve greater vision and advancement, it is always encouraged to ponder the moral implications of their actions. The progression of scientific work should descend with duality, mentorship, moral descent, and ethical responsibility, providing a richer understanding of how the future should grow positively.

The mentor and mentee relationship reflects the outcome in any research-based setup. This was from first-hand intervention by supervision to second-hand literature that imparted wisdom. Hence, the ethical responsibility lies with both parties; from the mentor’s point of view, it is important to impart a cautionary tale about the ethical pitfalls and, from the mentee’s point of view, to refrain from misuse of knowledge. Let us use our inherited knowledge for the greater good, learning from the achievements and mistakes of those before us.

UNSUNG

FEATURING OUR BEL

Mr Firdaus Jamaludin

Senior Technical Officer, Chemical Engineering

The thrill of tackling complex problems and making a real-world impact drives me. My passion is fuelled by continuous learning, particularly in the dynamic field of chemical engineering. However, ensuring that all lab activities adhere to stringent safety standards remains a significant challenge, requiring regular training and vigilant monitoring.

Ms Nur Azreen Ariffin

Senior Technical Officer, Chemical Engineering

What I find most engaging is the challenge of mastering new equipment and establishing the best practices for a well-managed lab environment. What motivates me to continue in this field is the work culture that we have as a team and the supportive management. My role requires significant multi-tasking, which requires effective time management and clear communication with academics and students.

Mr Amir Syafiq Bin Samsudin

Senior Technical Officer, Civil Engineering

One of the main challenges in my role is adapting to diverse research testing methods. I overcome this by collaborating with researchers, drawing on successful methods from other labs, and applying my experience to implement effective solutions. The thrill of developing new technologies and solving unique challenges keeps me motivated and passionate about my work.

HEROES

OVED LAB TECHNICIANS

Ms Wan Nurul Aimi Mohd Sallehuddin

Technical Officer, Electrical and Robotics Engineering

Discovering new technologies to enhance lab capabilities and student learning experiences is fascinating. The ever-evolving tech landscape inspires me to innovate and adapt, ensuring we offer top-notch resources and support for education. My challenges include keeping up with advancements, integrating IoT systems, and ensuring equipment reliability, which I tackle through continuous training and collaboration.

Mr Azlan Bin Abdul Aziz

Senior Technical Officer, Mechanical Engineering

The lab's conducive environment and the opportunity to learn new technologies while assisting students with their final-year projects are the most enjoyable aspects of my job. The biggest challenge is equipment breakdowns during lab sessions, but with preventive maintenance and a supportive team, these challenges are effectively managed.

Mr Tharmaa Varatharaja

Senior Technical Officer, Electrical and Robotics Engineering

Working at Monash University is deeply rewarding. The collaborative atmosphere fosters creativity and learning from experts while engaging in cutting-edge research fuels my passion. The supportive environment encourages exploration, and staying updated through conferences and workshops keeps my work relevant. These elements combine to motivate and inspire me to contribute meaningfully to engineering.

what's next?

GRS Feature

"I aspire to explore opportunities beyond traditional academic roles. I am particularly interested in leveraging my research skills in diverse fields such as industry and consultancy. I aim to apply my expertise to solve real-world problems, drive innovation and contribute to impactful projects across various sectors."

Nur Atika Nikma Dahlan
Chemical Engineering

"As a 3rd-year PhD candidate with six years of industry experience, my key objective after completing my PhD is to return to the industry, applying my research in precast construction and the building environment sector. Throughout my studies, I've focused on cement and concrete testing, supported by industry collaboration and my supervisor, A/P Sudharshan. I'm also committed to learning programming and AI to stay ahead in this evolving field."

Davies Chung
Civil Engineering

"I suppose I will look to pursue lecturing. It has always been my goal to become a lecturer, and I have been working hard to achieve it since my degree days. With the end of my PhD in sight, I will double my efforts and work even harder for it."

Freddy Phan Kang Yik
Electrical and Robotics Engineering

“I aim to embark on postdoctoral research to further hone my expertise in computational modelling. My goal is to advance the mathematical modelling of complex biological systems to uncover underlying principles and broaden the application of population balance models in emerging and innovative fields.”

Simon Tiong Ing Xun
Chemical Engineering

"I intend to pursue a postdoctoral fellowship to further establish and deepen my research expertise. My long-term goal is to enter academia as a lecturer, where I can contribute to teaching and research, mentoring future scholars while contributing to advancing my field."

Christopher Ang
Mechanical Engineering

“I aim to secure an engineering position while pursuing academic roles. Malaysia's new professional engineer requirement poses challenges, yet I'm determined to navigate these hurdles with diligence and continue striving towards my academic aspirations in the long run.”

Abraham Matthews Joshua
Mechanical Engineering

“My immediate post-PhD goal is to pursue a career in civil engineering design consultancies. I am excited to apply my research and experience to real-world problems, helping to develop novel solutions and advance the discipline of structural engineering, particularly in the precast modular industry. In the long term, I aim to transition to academia, where I can continue my research, mentor the next generation of civil engineers, and contribute to the academic community through teaching and collaboration.”

Hafiz Zain Saeed
Civil Engineering

Global Mobility

MONASH AIRLINES

FROM **POL** POLAND → TO **KUL** KUALA LUMPUR

PASSENGER DAUD KHAN

DEPARTMENT TRANSPORT & AVIATION ENGINEERING

COUNTRY POLAND

UNIVERSITY SILENSIAN UNIVERSITY OF TECHNOLOGY

I selected Monash University Malaysia for its prestigious global ranking and the chance to collaborate with Dr Susilawati, whose expertise in traffic sustainability and congestion forecasting perfectly aligns with my research interests. My internship has allowed me to delve into urban traffic flow models, actively participate in workshops, and present my findings during Graduate Research Week 2024. The university's vibrant campus life, interdisciplinary collaboration opportunities, and cutting-edge facilities have significantly enriched my academic journey. Beyond my studies, I've enjoyed exploring Malaysia's rich cultural tapestry, from Kuala Lumpur's bustling landmarks to Penang's historical sites and the serene beaches of Terengganu. These experiences have broadened my perspective and deepened my appreciation for the country's diverse culture and heritage.

MONASH AIRLINES

FROM **FRA** FRANCE → TO **KUL** KUALA LUMPUR

PASSENGER SAMI MAKHLOUFI

DEPARTMENT CIVIL ENGINEERING

COUNTRY FRANCE

UNIVERSITY CESI ENGINEERING SCHOOL

I chose Monash University Malaysia for my internship due to its distinguished reputation in Australia and the unique opportunity to gain international experience in a new cultural context. I'm currently engaged in a civil engineering research project focused on developing innovative capsules to rejuvenate bitumen, which is crucial for enhancing the durability of asphalt pavements. The experience here is quite different from my engineering studies in France, particularly with everything conducted in English and the laboratory methods tailored to Malaysia's distinct climate. The cultural diversity at Monash has been a highlight, offering me the chance to connect with peers from various backgrounds. Outside of my academic pursuits, I've taken the opportunity to explore Malaysia's vibrant cities and cultural heritage, visiting Kuala Lumpur, Penang, and Malacca. This immersion into Malaysia's history, cuisine, and traditions has been incredibly rewarding.

Monash University Malaysia was the ideal choice for my internship, mainly due to Dr Vivi's prompt and enthusiastic response, offering a project that closely matched my academic interests. My current work involves applying Machine Learning models to optimise data for an industrial project, a challenging yet rewarding experience. The academic environment at Monash differs significantly from my home institution in France, particularly in the level of independence and trust placed on students. The supportive and collegial relationship between faculty and students has made my time here enjoyable and productive. Beyond academics, I've had the chance to explore Malaysia's stunning landscapes, including Kuala Lumpur and the Cameron Highlands, which has given me a deep appreciation for the country's natural beauty and warm hospitality. The combination of academic freedom and a nurturing environment has made my experience at Monash truly fulfilling.

Seeking to complete my 4-month internship in Southeast Asia, I chose Monash University Malaysia, where I had the opportunity to work under Dr Poh. My project focused on optimising a wastewater treatment process, specifically targeting nitrification and denitrification, by adjusting different parameters such as tank hydraulic retention time. The Monash campus offered many perks, including diverse lunch options, lively discovery days with activity booths, and convenient access to Sunway Pyramid. However, I did miss the relaxation spots back in France, where hammocks and lounge chairs were more common. Outside of work, I fully embraced my time in Malaysia by visiting the stunning Perhentian and Pangkor islands and exploring Borneo's rich and exotic wildlife. These experiences made my stay both professionally enriching and personally fulfilling.

{ grs achievements }

OMG!

Quan Yee

MATSUS24 Conference

The MATSUS24 conference in Barcelona was a truly enlightening experience. Surrounded by many eye-opening displays of sustainable materials research, I had the great opportunity to present my research findings and receive valuable input from the renowned researcher Kevin Sivula. His suggestions on how to further my studies were invaluable. The cherry on top was listening to Nobel Laureate Moungi Bawendi's motivational speech. The conference was brimming with enthusiasm, encouraging discussion and potential collaborations with international experts. I left Barcelona full of new ideas, driven to advance my research, and appreciative of the learning and networking opportunities.

Khai Jie

ITEX 2024
Gold Medal Winner

I am deeply grateful to Monash University for the opportunity to participate in ITEX 2024. ITEX allowed me to showcase my research and receive invaluable feedback from industry professionals. This event bridges the gap between academia and industry, helping us understand real-life applications and investor expectations. It highlighted areas for improvement to meet industry needs. Additionally, I had the privilege to network with academics from prestigious local universities and local companies, enriching my perspective and fostering collaborations. I am immensely proud and thankful to my supervisor, Prof Wu Ta Yeong, and my team members, Cheah Zhi Wei and Tan Yong Yi, for their support in winning the Gold Medal. Representing Monash University at ITEX 2024 has been a remarkable journey. I strongly encourage my peers to participate in such events, as they offer invaluable learning experiences and opportunities to connect with industry leaders.

We had the opportunity to be selected for the "2024 Graduate Research Academy on Inclusive Urban Mobility in Developing Countries," held in Bangkok, Thailand, from 13th to 17th May 2024. The primary aim of this academy was to foster a network of emerging researchers dedicated to inclusive urban mobility in developing countries. The program included various activities to enhance research skills, such as brainstorming and pitching sessions. These activities promoted collaboration among participants and provided engagement with mentors from prestigious institutions like the University of Southern California, the University of Tokyo, and Chulalongkorn University. The experience significantly improved our research skills and led to the formation of a valuable research network.

Hamza Zubair
Fugaro Sogbo

Fully Funded Workshop in Thailand

Ervin Tiu

Surendra P Shah Award 2024 Finalist

I'm thrilled to share that as a 3rd-year PhD student in Civil Engineering specialising in cement engineering, I've had the incredible honour of being named one of the finalists for the prestigious Surendra P. Shah Award 2024. I was invited to present my research at the Young Researchers' Symposium (YRS) 2024, which took place during the International Workshop on Technologies for Low-Carbon and Lean Construction (TLC2) at the Indian Institute of Technology - Madras (IITM) in Chennai, India, from 28th to 30th January 2024.

What makes this experience even more special is that I'm the only finalist speaker from Southeast Asia representing Monash University Malaysia. Additionally, I was proud to secure a Top 6 placement for the Best Poster Award at the symposium, further validating the quality and impact of my research contributions. The symposium offered a fantastic platform for young researchers like myself to showcase our advances and results in the construction materials and management sector. It was an incredible opportunity to interact with peers and experts in the field and to expand my professional network. I'm deeply grateful for the recognition and support I've received throughout this journey.

Winning the Three Minute Thesis (3MT) competition was an exhilarating experience, made even more special by the honour of representing our school in the campus round. My presentation on "Nanobullets: Fighting Cancers with Smart Drug Carrier" highlighted the potential for significant advancements in the biomedical field. Condensing such a complex topic into a concise, compelling presentation challenged me to think critically about my work's impact. I am honoured to have showcased our school's commitment to excellence and look forward to continuing my academic journey with the support of our outstanding academic community. This victory reflects our collective dedication to advancing knowledge and making meaningful contributions to the field. May this success inspire us all to push the boundaries of what is possible and to strive for greatness in every endeavour!

Chin Siew Sia

3 Minute Thesis Winner

34th Symposium of Malaysian Chemical Engineers (SOMChE)

#SOMChe2024

The 34th edition of SOMChE, organised in collaboration with IChemE, was held at Monash University Malaysia between the 9th - 11th of July under the theme, "Circular Economy and Multi-disciplinary Engineering: Redesigning Systems for Resource Efficiency". This symposium provided a dynamic platform for academic researchers, industry practitioners and scholars to present their research findings and innovative solutions in chemical engineering and related interdisciplinary domains, focusing on a sustainable and resource-efficient future.

Circular Economy and
Multidisciplinary Engineering:
Redesigning Systems for Resource Efficiency

This event convened researchers and academics from far and wide, from the United Kingdom and South Africa to Australia, along with key figures from global energy players PETRONAS and ExxonMobil. Throughout this 3-day event, various plenary and keynote speeches, interactive forums on the renewable energy transition and the pathway of an early career researcher, along with oral and poster presentations were organised for the diversely specialised audience present.

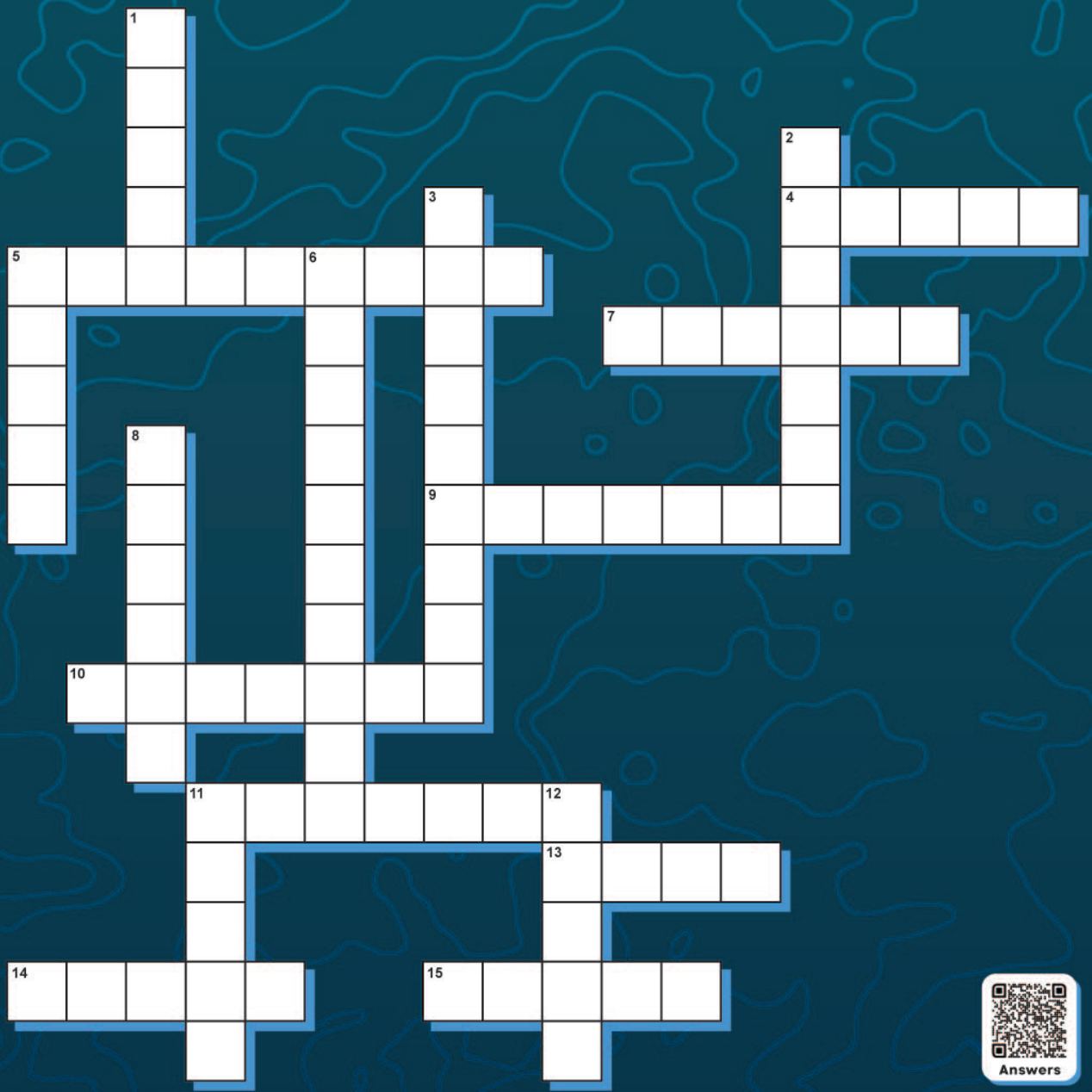
Monash University Malaysia Graduate Research Week 2024

#MUMGRW2024

Empowering the
Next Generation of Changemakers

The inaugural MUM Graduate Research Week 2024 was held on campus between 1st to 4th July. This four-day event, with the theme 'Empowering the Next Generation of Changemakers', focused on research impact, intellectual property, and research commercialisation. The event started with a keynote presentation by Dr Stefan Bächtold, followed by a plenary discussion led by Monash Malaysia alumni Dr Daniel Mahadzir, Dr Faizal Hamid and academic staff members Dr Raksha Pandya-Wood and Dr Juliana French, moderated by Professor Avvari Mohan. Throughout the week, workshops were conducted by various academics and research platforms. Graduate research students also presented their research through oral and poster presentations.

BREAKZONE



Answers

Across

4. What I do when I finally submit my paper
5. What keeps you up at 3 AM, staring at a screen
7. The ultimate goal, besides surviving
9. Something you keep hoping to find in your research
10. What my research advisor says when they review my code
11. What you call friends who don't understand why you're always busy
13. My research paper's current status
14. What I do when I encounter a bug
15. My favorite debugging technique

Down

1. A must-have for all-nighters
2. What my code does when I'm not looking
3. What I do when I finally understand a concept
5. What I'm trying to do when I'm staring at my code
6. What your supervisor says when you turn in your 200th draft
8. Your grad school's favorite liquid
11. What I call my code when it works
12. The first thing you lose during a thesis-writing marathon