MONASH University

MALAYSIA

SYNC

Say Yes N' Collaborate

Issue 15 | November 2025

ENGINEERING INTEGRITY

Doing Great Work the Right Way

IN THIS ISSUE…

FEATURING INSIGHTS FROM…

Prof. Chai Siang Piao

Assoc. Prof. Arshad Salema

Dr. Izni Zahidi

“

Real integrity is doing the right thing, knowing that nobody’s going to know whether you did it or not.

Oprah Winfrey

American talk show host, author, and philanthropist

In engineering and research, integrity means doing science the right way, even when no one is watching.

>>> FOREWORD BY THE DEPUTY HEAD OF SCHOOL (RESEARCH) FOR THE SCHOOL OF ENGINEERING

Prof. Ir. Dr. Chai, Siang Piao

As researchers, we must constantly reflect on the impact of our work, the changes we aim to bring and the challenges we seek to address. Research is not only about creating new technologies or generating knowledge; it is also about ensuring that these advances serve society, communities, and industries in meaningful ways. Because our findings can shape public trust, influence industry practices, and guide government policies, research ethics and integrity are not optional, they are essential to earning the confidence of all stakeholders.

Too often, the pursuit of quantity, such as increasing the number of publications, overshadows the pursuit of quality. This tendency risks compromising both data integrity and the true value of research. At Monash, we emphasise quality over quantity, striving for research that makes a genuine contribution rather than merely "reinventing the wheel." We must commit to honesty, transparency, and rigour in all aspects of our research to safeguard not only our credibility but also the trust placed in us by society and our funders.

In this spirit, the School of Engineering continues to foster a culture of research excellence and accountability among all researchers, including graduate research students. Supervisors play a vital role in mentoring the next generation, not only in developing technical expertise but also in upholding ethical standards and integrity. By instilling these values, we ensure that our collective pursuit of knowledge remains both impactful and responsible.

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>>>*IN THIS ISSUE*

..... {EDITOR'S NOTE}

What does it take to uphold integrity in engineering and research, ensuring that the work we do is not only excellent, but also ethical, responsible, and lasting in its impact?

This is the central question we explore in this September 2025 issue of SYNC, themed "Engineering Integrity: Doing Great Work the Right Way." In this issue, we spotlight voices reflecting on how integrity, accountability, and ethical practice underpin engineering and research excellence. From research labs to applications, our contributors share insights on the values that guide not just what we build, but how we build it.

You will read about the importance of research integrity and why doing science the right way matters as much as the results themselves. We also explore how mentorship and collaboration help nurture ethical academic relationships, and we ask a thought-provoking question: can supervisors and students be friends while maintaining professional boundaries? These reflections remind us that engineering integrity is not only about technical rigour, but also about responsibility to society, colleagues, and the next generation.

Whether you are a graduate researcher, an academic, or a professional engineer, we hope this issue inspires you to view integrity as more than a principle, it is a practice that shapes the quality of our work and the trust it earns.

As always, the editorial team extends sincere thanks to our contributors and readers. Your continued support and engagement keep SYNC thriving. We welcome your feedback and suggestions via our Google form as we work together to strengthen our culture of collaboration and integrity.

SYNC – Together, let's keep building a culture of collaboration and integrity.

Warmly,
Abdulwaheed Tella
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SYNC FEEDBACK

>>>IN THIS ISSUE

NAVIGATING ETHICAL BOUNDARIES IN

ENGINEERING RESEARCH

In today's fast-changing research and engineering landscape, integrity stands as the foundation of meaningful and lasting impact. Upholding ethical standards ensures that discoveries are credible, collaborations are respectful, and innovations serve society responsibly. This feature brings together reflections on research integrity, mentorship and collaboration, and the role of leadership in shaping a culture that supports integrity, reminding us that great work is not only defined by results, but by the values that guide the process.

Part 1: Research Integrity – Doing Science the Right Way

Prof. Ir. Dr. Chai Siang Piao, Professor of Chemical Engineering and Deputy Head of School (Research), is a leading researcher in heterogeneous catalysis, photocatalysis, reaction engineering, and advanced functional materials. With over 150 ISI-indexed publications and more than 10,000 citations, he has been recognised as a Global Highly Cited Researcher and recipient of multiple national awards. His work focuses on developing advanced photocatalytic materials for environmental and sustainable energy applications, and he also serves on the editorial boards of several international journals. Drawing from his experience as both a researcher and mentor, he reflects on what it truly means to uphold integrity in engineering research.

Ir. Dr. Oon Cheen Sean, PhD, PEng, CEng (UK), MIMechE, AFHEA, is a Senior Lecturer in Mechanical Engineering at Monash University Malaysia. A Professional Engineer registered with BEM and a Chartered Engineer with IMechE, he holds a Dual PhD jointly awarded by Liverpool John Moores University, UK, and the University of Malaya. His research covers heat transfer, fluid mechanics, nanomaterials, fouling, and computational fluid dynamics (CFD), with recent work focused on enhancing heat transfer media for improved turbulent convective performance. He has published widely, filed a patent, and earned recognition including a Gold Medal Award at the Malaysia Technology Expo.

Understanding Research Integrity

According to Prof Chai Siang Piao, upholding integrity in engineering research means conducting work ethically, reporting results honestly, and maintaining transparency throughout the process. Integrity, he emphasises, is what builds public and funder confidence, forming the foundation of a researcher's credibility. Within his team, he encourages honesty and meticulousness in data collection and reporting, while setting reasonable expectations so they can pursue high-quality work without undue pressure.

Adding to this perspective, Dr Oon shared his thoughts on what it means to uphold high ethical standards in engineering research. According to Dr Oon, integrity begins with being fully aware of codes of conduct and the guidelines set out in Monash's research ethics and integrity module. He emphasised that every student must complete this training before starting their work, particularly when live test subjects are involved. Clear and consistent communication between supervisors, technicians, and all parties is also key to maintaining integrity throughout the research process.

Authorship and Fair Recognition

Regarding authorship, Prof Chai explained that credit is given based on meaningful contributions. The first author is typically the individual who conducts most of the experiments and prepares the manuscript draft, while co-authors are listed according to their level of involvement. The supervising academic or project leader usually holds the final and corresponding authorship. To avoid disputes, authorship arrangements are discussed as early as possible in a project.

For early-career researchers and PhD students, Prof. Chai highlights the importance of navigating authorship with integrity. He cautions against the pursuit of quantity over quality in publications, noting that chasing numbers at the expense of data integrity undermines research credibility. It is equally important to create an environment that allows for the free discussion of recognition, authorship, and ethical concerns. He has often engaged in informal coffee chats with his students, treating them as colleagues and respecting their input, an approach that encourages openness and mutual respect.

On a similar note, Dr Oon acknowledged that authorship can sometimes be a grey area. He explained that, in principle, the main researcher who leads the project is expected to hold first authorship, while collaborators and contributors should have their roles clarified based on their specific input. He noted that at Monash, the primary researcher automatically assumes the role of first author.

To help early-career researchers and PhD students navigate the ethics of authorship, Dr Oon stressed the importance of developing a strong understanding of the project, conducting thorough literature reviews, and working collaboratively in groups. This, he explained, provides both moral support and practical guidance. "The main researcher deserves the most credit for the work," he said, "but collaboration ensures no one feels alone in the process."

Collaboration and Grant Projects

In grant proposals and funded projects, recognition of all contributions is essential. Prof Chai notes that successful collaborations are built on trust and respect, which means ensuring that the efforts of junior researchers are properly acknowledged.

Echoing this emphasis on fairness, Dr Oon highlighted that junior researchers, such as postdoctoral fellows, are usually placed as co-applicants, while graduate research students must always be properly acknowledged for their contributions. He added that researchers should strictly adhere to the grant's objectives, timelines, and deliverables to ensure fairness in recognition.

Creating an environment where team members feel comfortable discussing authorship or ethical concerns, according to Dr Oon, requires multiple open channels of communication. Face-to-face meetings, group discussions, and gatherings all play a role, as do regular reminders of safety and ethical guidelines.

Emerging Challenges: AI and Integrity

With the increasing use of AI and data-driven tools, Prof. Chai believes ethical responsibility must remain central. AI, he explains, should serve as a support tool rather than a substitute for intellectual contribution. Original ideas and critical thinking must come from researchers themselves to ensure they receive proper recognition for their work.

Expanding on this, Dr Oon pointed out that ethical and responsible use of AI is essential. He reminded researchers that AI policies are constantly evolving and that proper acknowledgement of AI use is crucial. "AI should never be used to generate data," he cautioned, "and its outputs must always be carefully checked to avoid misinterpretation or misleading results."

For PhD students learning to use AI tools, Dr Oon recommended ongoing training to stay up to date with evolving policies. Since no tool can fully detect AI-generated work, students must ensure that the data is both accurate and reflective of their own research perspective.

Reflecting on his own practices, Dr Oon noted that transparency and accountability require vigilance. He advised researchers to revisit the raw data if the results appear unrealistic. Frequent group meetings and brainstorming sessions help maintain clarity and prevent errors.

Institutional Role and Advice for Young Researchers

Institutions also have a key role in shaping research culture. At Monash, Prof Chai points to the importance of training programs on integrity, authorship, and responsible practices. Beyond training, institutional recognition through promotions and awards that value quality over quantity reinforces a culture that prioritises excellence and impact.

Finally, his advice to young researchers is clear: focus on meaningful, high-quality research, never compromise integrity, and remember that ethical conduct and rigour will ultimately define a researcher's reputation. "In the long run," he notes, "trust, respect, and credibility are the real measures of excellence."

In agreement, Dr Oon also underscored the importance of institutional support for ethical research cultures. He called for transparent policies, equal opportunities such as publication awards, and regular ethics training provided by the School of Engineering.

Finally, Dr Oon offered advice to young researchers: never take shortcuts. He stressed that if a human or living test subject is involved in the experiment, every step from obtaining approvals to following safety protocols must be respected. In chemical research, he emphasised the importance of proper safety measures, controlled laboratory environments, and avoiding overtime work without clearance to ensure both safety and accountability.

Part 2: Mentorship & Collaboration – Nurturing Ethical Relationships

Assoc. Prof. Arshad Salema is an Associate Professor and Course Director (Master of Applied Engineering, MAppE) in the Department of Mechanical Engineering, specialising in clean and renewable energy, microwave processing, and advanced materials for energy and health applications. Alongside his research, he is passionate about mentoring students and fostering collaborative, ethical research environments. In sharing his perspective, Prof. Arshad reflects on what it takes to nurture healthy and ethical supervisor–student relationships, grounded in respect, transparency, and trust:

Building Respectful and Supportive Relationships

Prof. Arshad describes a healthy and productive supervisor–PhD candidate relationship as one built on mutual respect and trust, clear expectations, constructive feedback, open communication, intellectual freedom, and professional growth. Regular meetings, continual feedback, and open-ended support help create a sense of ownership so that students see their PhD as a meaningful project rather than just a requirement for graduation.

Open, respectful communication comes from treating students as colleagues, not subordinates. Clear expectations, a positive environment, and attention to well-being are central. Celebrating milestones, offering kind feedback, and being approachable help students feel comfortable and valued.

Balancing Expectations, Trust, and Institutional Support

Timelines and workloads are mapped out early, with projects broken into phases and clear goals. Expectations are clarified, but flexibility is given when challenges arise. Accountability is balanced with freedom, supporting both progress and well-being.

Aligning expectations at the start is critical: supervision style, meeting frequency, working hours, authorship, milestones, and career development are all discussed openly. Guidance is tailored to individual needs, some students require close supervision; others thrive independently. Recognising effort, rewarding outstanding work, and encouraging participation in training and conferences reinforces growth.

For supervisors, building trust means avoiding micromanagement, respecting individuality, and nurturing long-term relationships beyond graduation. For candidates, being proactive, professional, and honest while maintaining integrity is essential. “Projects and theses will end, but the relationship is forever,” notes Prof. Arshad.

Institutions can strengthen these relationships by providing clear guidelines, training, onboarding tools, well-being support, conflict resolution, and recognition for diverse contributions.

To monitor the health of the relationship, Prof. Arshad uses periodic check-ins, both formal and informal, to ensure students are focused, supported, and responsive to feedback. He also reflects on progress and adapts expectations when needed.

Roles and responsibilities are clarified from the outset, who does what, when deadlines are due, and how contributions are recognised. While freedom is given based on working hours and approaches, expectations are adjusted if progress slows. Students are encouraged to lead their projects and develop into independent researchers.

Mentorship, Integrity, and Lasting Impact

Mentorship plays a central role in shaping confidence and research integrity. By acknowledging progress, celebrating small wins, sharing personal experiences, and modelling ethical practices, Prof. Arshad seeks to empower students to succeed well beyond the PhD. His advice to future researchers and supervisors is to remain transparent, fair, and respectful, while avoiding negativity and power imbalances. Trust, once broken, is difficult to regain, so maintaining open dialogue and a culture of learning is vital. “I learn from my students too, and I value that exchange,” reflects Prof Arshad.

OPINION CORNER

OPINION CORNER . . .

Beyond the Lab: Can Supervisors and Students Be Friends?

Dr. Izni Zahidi is a Senior Lecturer in the Department of Civil Engineering at Monash University Malaysia. With nine years of industry experience, she specialises in remote sensing, Geographic Information Systems (GIS), and modelling to support sustainable and climate-resilient communities. Beyond her research, she has successfully supervised PhD students and continues to guide graduate researchers, drawing on both her academic expertise and practical industry background. Dr. Izni also contributes actively to the university community as Chairperson of the Student Experience Committee and advisor to the ICE Student Club.

Dr. Vivi Anggraini is a Senior Lecturer in Geomechanics in the Department of Civil Engineering at Monash University Malaysia, with more than 15 years of teaching and research experience. Her expertise spans geomaterials, geosynthetics, sustainable soil liners, and ground improvement, and she has led projects supported by Monash University, industry partners, and the Ministry of Higher Education Malaysia. She has published extensively, including over 36 research papers, book chapters, and a book on ground improvement, and currently serves as President of the International Geosynthetics Society Malaysian Chapter (MyIGS).

Q1: What does a healthy supervisor–student relationship look like to you, and where do you think the line between professional and personal should be drawn?

Dr Izni: To me, a healthy supervisor–student relationship evolves over time. It normally begins as a mutually beneficial partnership, focused on achieving specific academic goals. With a dedicated and capable student, this relationship can naturally grow into a collegial collaboration way beyond a single research project. However, the line between professional and personal should be drawn when either party begins to take advantage of the other or seeks support beyond appropriate academic or professional matters. While supervisors can guide students to appropriate resources for personal issues, they should refrain from direct involvement in their personal lives.

Dr Vivi: In my view, a healthy relationship acknowledges cultural backgrounds and different communication styles. For some students, a bit of personal warmth can make a big difference in trust-building. However, the core should always be professional, respecting roles, responsibilities, and ethical boundaries. Sharing personal experiences can sometimes help normalize struggles, but it should never become emotionally dependent or overly familiar.

Q2: Can friendship and mentorship coexist in academia without compromising professional boundaries? Why or why not?

Dr Izni: Yes, I believe so. Building trust as a mentor requires a meaningful connection. At times, especially when the age gap is small and there are shared interests, this connection may naturally develop into a friendship. This relationship need not compromise professional boundaries as long as mutual respect is maintained.

Dr Vivi: Yes, friendship and mentorship can coexist in academia, but it requires self-awareness, mutual respect, and clearly defined boundaries. A friendly relationship can foster open communication, trust, and psychological safety, factors that are essential for a productive academic environment. When students feel supported and understood, they are often more confident and motivated in their research journey.

However, the line must be carefully maintained to avoid conflicts of interest, favoritism, or blurred roles. Friendship should never compromise academic integrity, objective assessment, or professionalism. It's important that both supervisor and student remain mindful of their responsibilities and power dynamics.

Q3: How can supervisors maintain approachability and empathy while still preserving structure and accountability in the relationship?

Dr Izni: It is important to be approachable, but equally important to maintain boundaries. For instance, while keeping communication channels open is essential, expectations should be managed, such as not responding to messages outside working hours unless it is an urgent matter. Consultations should be scheduled rather than conducted informally. Being attentive in every interaction and honouring commitments made are also essential to building mutual trust and accountability.

Dr Vivi: Supervisors can maintain approachability and empathy by fostering an open and respectful environment where students feel comfortable expressing their thoughts, challenges, and aspirations. Active listening, timely feedback, and genuine interest in the student's well-being help build trust and rapport.

At the same time, it is important to establish clear expectations, milestones, and responsibilities early in the relationship. Regular progress meetings, documented goals, and constructive feedback can help preserve structure and accountability without making the environment feel rigid.

By balancing empathy with professionalism, supervisors can support students both personally and academically while ensuring steady progress and mutual respect throughout the journey.

Q4: What are some risks or misunderstandings that might arise when supervisor–student relationships become too informal or blurred?

Dr Izni: When supervisor–student relationships become too informal or blurred, several risks and misunderstandings may arise. One key concern is the difficulty in maintaining objectivity when providing evaluations or feedback. Additionally, as it becomes harder to say no, there is a greater risk that one party may take advantage of the other.

Dr Vivi: When supervisor-student relationships become too informal or the boundaries are blurred, several risks or misunderstandings may arise. For instance, it may lead to perceptions of favoritism, which can affect group dynamics and create discomfort among peers. Informality can also make it challenging to provide or receive critical feedback, potentially hindering academic progress and accountability.

Moreover, blurred boundaries may complicate decision-making, especially in areas involving assessment, authorship, or conflict resolution. Both parties might struggle to separate personal rapport from professional responsibilities, which can lead to miscommunication, unmet expectations, or even ethical concerns. Therefore, while a warm and supportive relationship is valuable, maintaining clear professional boundaries ensures fairness, clarity, and mutual respect in the academic setting.

Q5: What practical steps can both students and supervisors take to build respectful, supportive relationships that balance professionalism with humanity?

Dr Izni: Regular meetings and consistent follow-ups/updates not only track academic progress but also help strengthen the relationship between supervisor and student. However, it is important to view each other not merely as a means to achieve research outputs, but as individuals whose well-being matters. Allow some space, downtime, and honest mistakes.

Dr Vivi:

(1) Set clear expectations from the outset regarding communication, timelines, and responsibilities.

(2) Be approachable and empathetic, taking time to understand students' challenges and backgrounds.

(3) Provide constructive, timely feedback that supports growth while maintaining high standards.

(4) Foster open dialogue, encouraging students to voice concerns or ideas without fear of judgment.

Favouritism vs. Ability: Do Friendships Skew Collaboration Choices?

Assoc. Prof. Lau Ee Von is the Head of Common Engineering and a Senior Lecturer in Mechanical Engineering at Monash University Malaysia. Her research focuses on flotation technology and heat transfer, with applications ranging from wastewater remediation and oil-contaminated soil treatment to microalgae extraction and alternative heat transfer methods. She has secured competitive funding, published extensively in ISI-indexed journals, and was a recipient of the prestigious Australia-APEC Women in Research Fellowship. Alongside her research, she has been recognised for her excellence in teaching with multiple university awards and contributes to the engineering community as Honorary Secretary of the Institution of Mechanical Engineers (IMechE) Malaysia.

Q1: In your view, how can researchers ensure that collaboration decisions are based on ability and fit, rather than personal connections or friendships?

Assoc. Prof. Lau Ee Von : In my opinion, while it is important to be friendly and approachable, we should also maintain a professional boundary. This helps ensure that collaboration decisions can be made based on ability and fit, not just on the person who we know personally. It is occasionally easier to have open communications during the decision-making process when there is this professional boundary.

Q2: What advice would you give to students or early-career researchers who feel overlooked in project opportunities despite their capabilities?

Assoc. Prof. Lau Ee Von : My advice is don't wait to be picked, put yourself forward and don't be afraid of rejection. Sometimes opportunities are about timing, so even if you get overlooked now, there may be something better later (I believe that when one door shuts, another opens). The important thing is not to feel demotivated and keep trying. Get feedback to understand what you can improve on so that you are ready for the next opportunity.

Q3: How can supervisors and research leaders create fair, transparent processes when selecting team members for collaborations?

Assoc. Prof. Lau Ee Von : While having transparent processes is very important, the opportunities available should also be made visible to everyone, not just to people we already know. There should also be clear selection criteria, and providing feedback to those not selected is essential, as it allows them to improve and be better prepared for future opportunities.

Q4: What role does unconscious bias play in collaboration choices, and how can we become more aware of it in academic settings?

Assoc. Prof. Lau Ee Von : Bias is tricky because we often don't even realise it. I guess, the challenge is really becoming aware of it and inviting more peer input. Just as important is being open to that feedback from peer input, so that we can reflect and make fairer decisions.

Q5: How can institutions support a culture where collaborative decisions consistently reflect fairness, inclusiveness, and merit?

Assoc. Prof. Lau Ee Von : Awareness can be cultivated through workshops and trainings that foster inclusiveness and how to overcome unconscious bias. Additionally, institutions can also develop and promote collaboration schemes that encourage inclusiveness, such as giving priority to early-career researchers, female researchers, etc.


SPOTLIGHT
NEW RESEARCH HUBS IN MONASH

Shaping Resilient Cities – Dr. Tan Wen Shan on Sustainable Urban Renewal

Earlier on 10 June, a collaborative forum of six establishments, led by the Real Estate and Housing Developers' Association (REHDA) Institute, was held to discuss urban renewal and the future of urban planning in Malaysia.

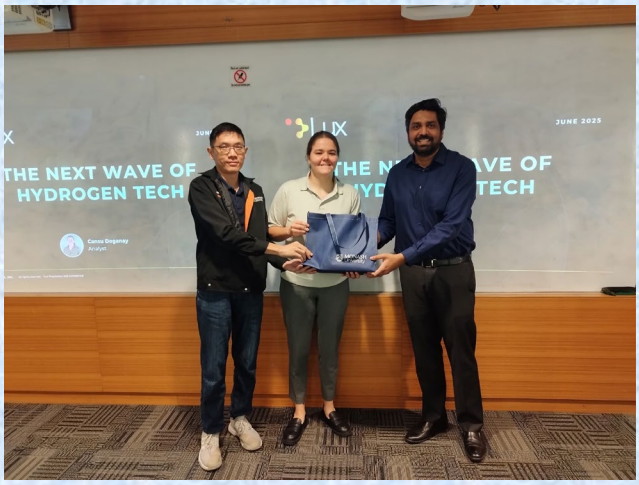
SCAN ME

The 'Resilient Cities, Sustainable Futures: Transforming Urban Landscapes through Sustainable Renewal' forum featured various experts on the topic, and among the panelists was Dr Tan Wen Shan. The panelists addressed concerns about the country's increasing urbanisation and the infrastructure's inability to adapt to the changing climate. To ensure reliable support for both citizens and the environment, a long-term plan within a sustainable framework is necessary.

First announced back in 2023 by the Prime Minister of Malaysia, YAB Dato' Seri Anwar Bin Ibrahim, the newly enacted Urban Renewal Act aims to redevelop, regenerate, and revitalise ageing buildings and neighbourhoods in Peninsular Malaysia and the Federal Territories of Kuala Lumpur, Putrajaya, and Labuan and excludes any areas listed as protected conservation lands. The main targets are buildings aged 30 and above that have left their residents to deal with poorly maintained units and unsafe living conditions, all while ensuring that the residents of these projects are compensated during the renewal phase and kept in the loop about the progress. Reliability, inclusivity, and sustainability are all goals that perfectly align with the UN's Sustainable Development Goal 11, as pointed out by Dr Tan, the theme leader of the Sustainable Urban Energy Solutions team of the CNZT.

While discussing the strategies and initiatives to be undertaken, the panelists stressed the importance of cooperation among all stakeholders, both verbally and through their diverse backgrounds. The timely preparation of the country's urban landscape depends on addressing these issues.

In Focus: Hydrogen's Next Generation – CNZT Session Highlights



The Asia Pacific branch of Lux Research presented its firm's activities and collaborations in the 'The Next Wave of Hydrogen Tech - Next-Gen Low-Carbon Hydrogen Production' session held in late June, providing valuable insights from research companies.

SCAN ME

Chaired by Dr Ng Wen Cai, a research fellow under the CNZT's Advanced Energy Materials theme, and attended by the rest of the researchers, the session featured Mr Mohammed Ali and Ms Cansu Doganay, the managing director and an analyst of the firm, respectively.

The current hydrogen and electrochemical lead analyst at Lux Research, Cansu Doganay, delivered a detailed presentation on the different generations of hydrogen technologies and their uptake, breaking down the progress of the hydrogen economy by regions and technology and even by investments, highlighting the projects that were cancelled and hydrogen tech companies that have had to file for bankruptcy.

She presented the generations of hydrogen tech as follows: Generation 1 involved the use of electricity to split water, the bread and butter of green hydrogen, but has seen investments taper off since 2023. Generation 2 partially replaced the electricity needed, which was one of the main challenges of Gen 1 tech, with sources such as heat and microbes. Generation 3 tech is fully reliant on non-electric energy sources and nets a 79% saving in electricity usage compared to Gen 1, with tech such as thermochemical and photocatalytic water splitting. While electrolytic hydrogen is estimated to still be the dominant technology in the near future, the continuous progress and push for next-generation technologies highlight the importance of hydrogen's role in decarbonisation efforts.

Ms Doganay also covered the key aspects to focus on when aiming for commercial off-take of new tech, and these are mainly time, costs, scale, and rarity of materials. It's essential to consider the intended end-use and sector of the tech in mind for a successful and sustained launch. Given the role of the CNZT in innovative and meaningful strategies for a net-zero future, this was a highly valuable and opportune session.

GRS Feature

Manoj KUMAR (Civil Engineering)

With over eight years of experience in academia, my journey has been driven by an enduring curiosity and passion for research. Currently in the third year of my PhD, I remain fascinated by the evolving landscape of science and engineering. Each day brings opportunities to grow intellectually and socially—through collaboration, experimentation, and critical thinking. My long-term goal is to remain in academia, where I can continue exploring complex research questions while also contributing to teaching and mentoring. I believe academia provides a unique platform to shape knowledge, inspire innovation, and make a lasting impact on both science and society.

Haoxuan YU (Civil Engineering)

Following my PSS, I plan to sit the national civil service examination and pursue a career in public administration. My PhD research on climate, environment, air quality and public health strengthened my belief that rigorous evidence must guide policy. I hope to serve in roles that translate research into programs that protect health, support sustainable development and climate justice, and improve data-driven decision-making. I will continue collaborating with universities and UN partners on capacity building and public communication.

Wen Jian TAN (Mechanical Engineering)

After two years of research experience, I've become motivated to continue my research journey. I used to doubt my abilities, but now I feel confident in sharing my work through open presentations. I've learned that research isn't just about lab work; it's also about sharing and networking. Working collaboratively can lead to greater achievements, as one person can only accomplish so much alone. As Helen Keller said, "Alone we can do so little; together we can do so much." I am reflecting on my next steps and considering the career path that will best suit me.

GRS FEATURE

Global Mobility

MONASH AIRLINES

FROM **KUL** KUALA LUMPUR

TO **GBR** UNITED KINGDOM

COUNTRY: UNITED KINGDOM

PASSENGER: AFNAN AHMAD

DEPARTMENT: CIVIL ENGINEERING

UNIVERSITY: WARWICK UNIVERSITY

From April to July 2025, I had the incredible opportunity to spend three months at the University of Warwick, UK, as part of the PhD Global Mobility Program. Under the guidance of Dr. Mohammad Rezania, I worked on an exciting project exploring how Coal Mining Waste from Wałbrzych, Poland, could be used to stabilize soft soils. Stepping into Warwick's advanced geotechnical lab was like opening a new chapter in my PhD journey—I finally got hands-on with advanced equipment, which gave me a deeper understanding of how treated soils behave under pressure. The experience was challenging, eye-opening, and exactly what I needed to broaden my perspective on sustainable geotechnics. What excites me most is that the collaboration with Dr. Rezania and his team will continue beyond this program, paving the way for future joint research.

But this journey wasn't just about research. Living in the UK during spring and summer was truly unforgettable. Between lab sessions, I found time to explore—from the historic streets of Oxford and London to the buzzing energy of Birmingham, and even as far north as the stunning cities of Edinburgh and Glasgow.

I also had the chance to spend a week in the breathtaking city of Istanbul, where I fell in love with its rich culture, vibrant food scene, and incredible landmarks such as the Hagia Sophia, Blue Mosque, and Galata Tower. Each place I visited offered new memories, cultural insights, and a deeper appreciation for the diversity around me. Looking back, this mobility program wasn't only about advancing my PhD—it was about growth, connection, and discovery. I return to Monash with new skills, fresh ideas, and a renewed passion for driving sustainable solutions in geotechnical engineering.

Global Mobility

MONASH AIRLINES

FROM **KUL** KUALA LUMPUR

TO **CHN** CHINA

COUNTRY: CHINA

PASSENGER: Wen Jian Tan

DEPARTMENT: MECHANICAL ENGINEERING

UNIVERSITY: HKUST(GZ)

As a PhD student who participated in the mobility program at The Hong Kong University of Science and Technology (Guangzhou), funded by Monash University Malaysia, I was fortunate to immerse myself in a world-class research environment. My research focused on the cooling of electronic devices, a critical area in semiconductor technology, and HKUST-GZ is renowned for its cutting-edge fabrication facilities, which greatly benefitted my project.

Beyond the confines of my research, this mobility program provided me with invaluable opportunities to collaborate with esteemed faculty at the Monash University Malaysia School of Engineering. I had the privilege of working closely with leaders such as Prof. Anthony, the Head of the School, along with my main supervisor, Prof. Hung Yew Mun, and co-supervisor A/Prof Wang Xin. Together, we shared our expertise across three secondary schools and five universities in Hunan, China, fostering a culture of innovation and collaboration in engineering education.

Additionally, I was honoured to represent HKUST-GZ at the SINO-EUROPEAN HIGHER EDUCATION FORUM ON TECHNOLOGIES & ARTS in Belgium. Attending this forum alongside the ex-President of Belgium and President of HKUST-GZ offered a unique platform to discuss the theme, "When Algorithms Interlace Traditions: Universities in China and Europe Shaping New Paradigms and Practices." This theme sparked engaging conversations about how technology and cultural traditions can coexist and influence the future of higher education.

In conclusion, my mobility experience was transformative, allowing me to grow both personally and professionally. I am excited to share these insights and encourage others to consider similar opportunities for their academic journeys.

Events

EVENT HIGHLIGHTS

a lookback on the latest events

Department of Mechanical Engineering hosted **MechXplore**

The Department of Mechanical Engineering recently hosted MechXplore, a vibrant event that brought together students, faculty, alumni, and industry professionals to celebrate the diversity and impact of mechanical engineering.

The day began with a poster competition, where students from Monash University Malaysia, TAR UMT, and the University of Malaya (UM) showcased their research. The engaging presentations sparked lively discussions, curiosity, and insightful questions, reflecting the breadth and depth of the discipline.

A highlight of the event was the panel discussion, “Research Perspectives: Insights and Perks from Academia, Industry & Alumni.” The panel featured voices from across the spectrum, academia, industry, postgraduate research, and alumni, who shared their experiences and reflections on the value of research. They emphasised that pursuing a PhD is not only a pathway toward an academic career but also excellent preparation for tackling complex industry challenges, as it cultivates adaptability, critical thinking, and problem-solving skills that are highly transferable.

The event concluded with a tour of the newly launched Biocentrics Laboratories, led by the Department of Mechanical Engineering. The hands-on demonstrations and conversations provided an inspiring bridge between theory and real-world application.

Congratulations to the department for successfully hosting an event that truly ignited innovation and advanced collaboration!

Ir. Ts Chow Chee Choy,
PhD candidate, Mechanical Engineering

EVENT HIGHLIGHTS

a lookback on the latest events

Exploring Automated Waste Collection Systems for Sustainable Urban Futures

At Monash University Malaysia, a recent collaborative forum convened academics, industry practitioners, and representatives from the Institution of Mechanical Engineers (IMechE) Malaysia to critically examine the potential of Automated Waste Collection Systems (AWCS) as a transformative element in sustainable urban development.

The discussion highlighted AWCS as a complex solution that can improve cleanliness by limiting human contact with waste and bettering indoor air quality, making collection processes more efficient through automation, and helping meet sustainability goals by reducing greenhouse gas emissions and supporting smart-city technologies. Participants also considered how adopting AWCS impacts city planning, infrastructure investment, and policymaking, recognising that it requires teamwork among engineers, city officials, and community members. The event showcased current technological advancements and reinforced the role of interdisciplinary collaboration in achieving infrastructure systems that respond effectively to environmental, public health, and societal demands.

EVENT HIGHLIGHTS

a lookback on the latest events

"Am-I AI Savv-I": Clinicians Explore the Promise of Artificial Intelligence

The Clinical Dialogue "Am-I AI Savv-I" at Hospital Kuala Lumpur gathered clinicians and specialists curious about how Artificial Intelligence (AI) could support their work. I joined as one of the panelists and had a lively conversation with the moderator, Dr Ahmad Rithauddin Mohamed, a Paediatric Neurologist, where I shared my views on AI and highlighted its role in my Parkinson's disease tremor research, particularly in tremor differentiation.

Other panellists, Mr Mohd Rashdan Ramlee, Dr Chandramalar T. Santhirathelagan, and Dr Jenny Yek Xin Yee, added their perspectives, illustrating how AI is being integrated into medicine, business, and even everyday routines. The audience engaged with enthusiasm, asking how AI might help simplify procedures and reduce the weight of daily clinical tasks.

The session proved to be highly engaging, igniting conversations that extended beyond the dialogue and paved the way for potential future collaborations. Kudos to Hospital Kuala Lumpur for hosting such an inspiring dialogue

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BREAKZONE

(1) What is Research Integrity?

SCAN ME

(2) MONASH Research Ethics & Integrity

SCAN ME

(3) 20 Inventions that will change the World

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