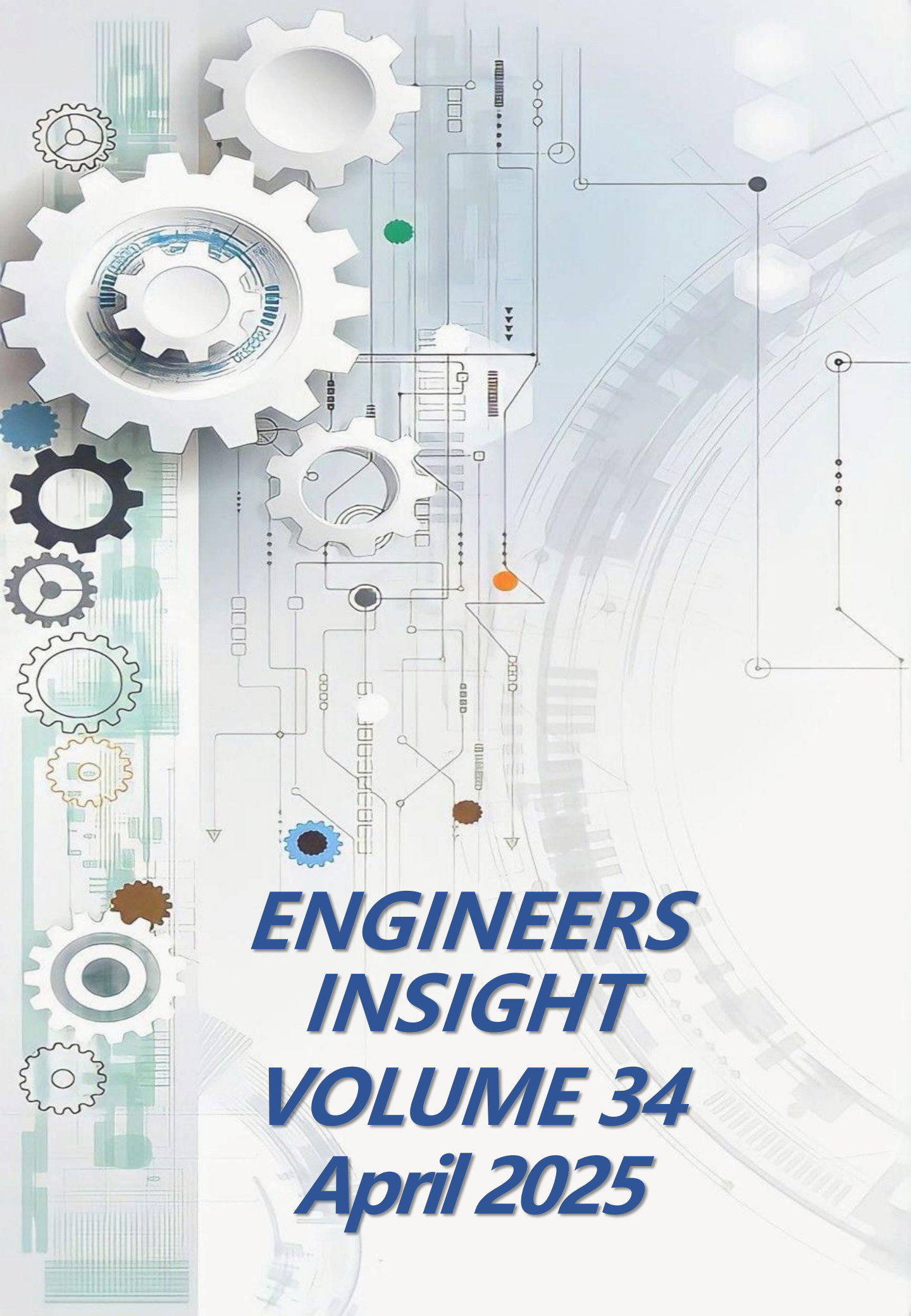

ENGINEERS INSIGHT VOLUME 34 April 2025

Engineers Insight Editorial Board

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Prof Ir EUR ING Ts Dr Vinesh Thiruchelvam

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Assist. Prof Ts Dr Arun Seeralan Balakrishnan

Ir Dr Wong Siew Fan

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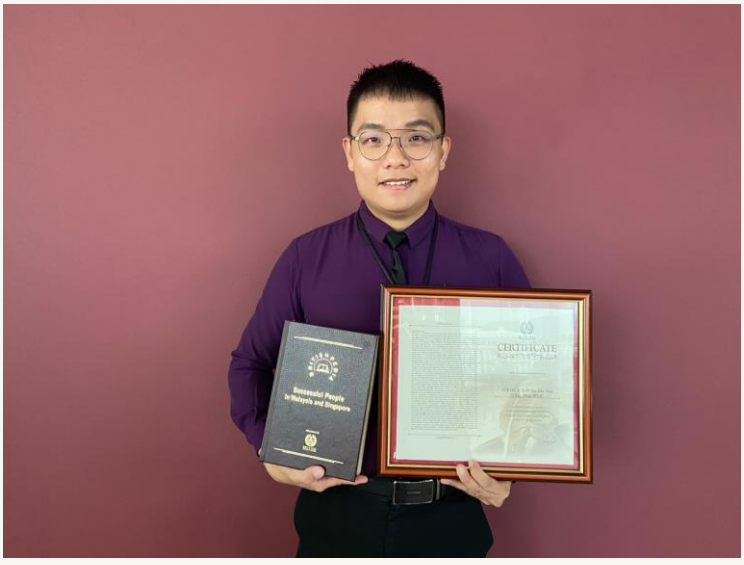
AWARDS & ACHIEVEMENTS

Rising Malaysian Academic Star: Asst Prof Ir EUR ING Ts Dr Lau Chee Yong in “Successful People in Malaysia and Singapore”

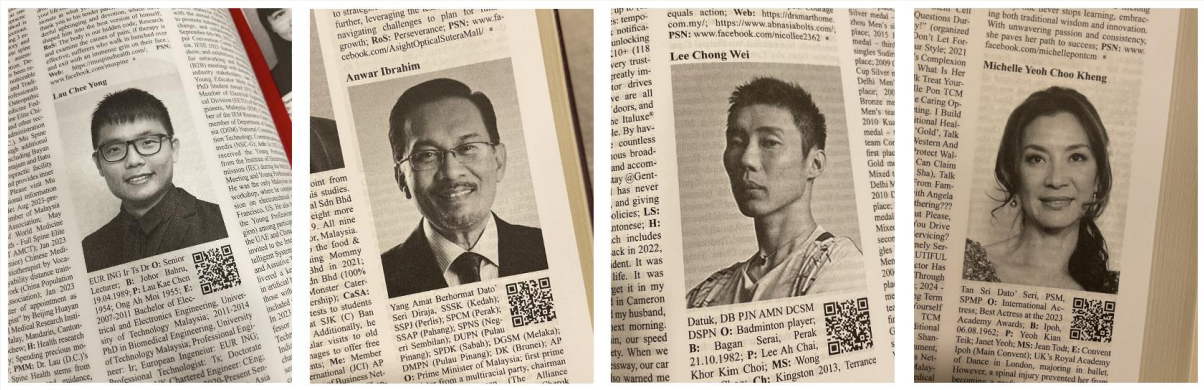
In a remarkable testament to Malaysian excellence in academia and engineering, **Asst Prof Ir EUR ING Ts Dr Lau Chee Yong** has been featured in the prestigious "**Successful People in Malaysia and Singapore**" publication by the British Publishing House. This recognition places him alongside national icons such as Prime Minister Datuk Seri Anwar Ibrahim, sports legend Lee Chong Wei, and Oscar-winning actress Michelle Yeoh.



Dr. Lau's journey of excellence began early in his academic career. During his primary education, he demonstrated exceptional intellectual capabilities by successfully passing the PTS test, enabling him to skip Primary 4 and advance directly from Primary 3 to Primary 5. This early indication of his academic prowess would foreshadow his future achievements.

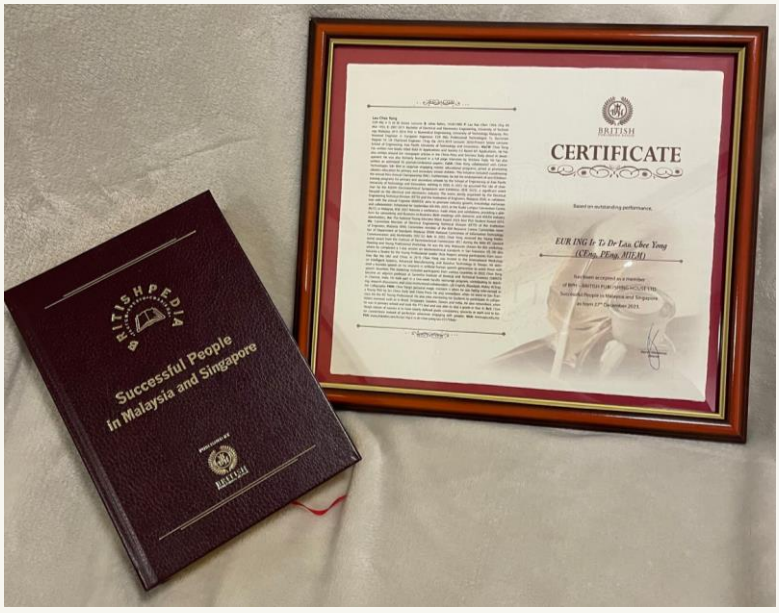
His pursuit of knowledge culminated in a notable milestone when he became the youngest PhD graduate of his cohort, setting a precedent for academic achievement. This accomplishment reflects not only his intellectual capacity but also his dedication to pushing the boundaries of academic excellence.

In 2022, Dr. Lau achieved international recognition when he was selected by the **Department of Standards Malaysia (DSM)** to represent the nation at the **International Electrotechnical Commission (IEC) Young Professional Programme in San Francisco, USA**. His contributions and potential were acknowledged with the prestigious **IEC Young Professional award**, highlighting Malaysia's growing influence in international engineering standards.



His rising prominence in the academic and engineering communities caught media attention, leading to a featured full-page interview in SinChew Daily in 2023. This media coverage helped showcase his achievements to a broader audience and inspired young Malaysians to pursue excellence in their chosen fields.

The inclusion of Dr. Lau's profile in the British Publishing House's encyclopaedia, which will be housed in the Malaysia National Library and all State Libraries, represents a significant milestone in documenting Malaysian achievement. His presence in this publication, alongside some of the nation's most celebrated figures, underscores his impact on Malaysia's academic and professional landscape.



Dr. Lau's accomplishments serve as an inspiration to young academics and professionals, demonstrating that with dedication, talent, and perseverance, it is possible to achieve international recognition while contributing to national development. His story continues to inspire the next generation of Malaysian scholars and leaders.

APU Students Shine at IEM's IDP Short Video Competition with Groundbreaking Engineering Solutions

In a remarkable showcase of engineering ingenuity and innovation, students from Asia Pacific University (APU) have secured multiple prestigious awards at **the IDP Short Video Competition** organized by the **Institute of Engineers Malaysia (IEM).** The competition highlighted the extraordinary talent and forward-thinking approach of APU's engineering students, who developed cutting-edge solutions to address real-world challenges.

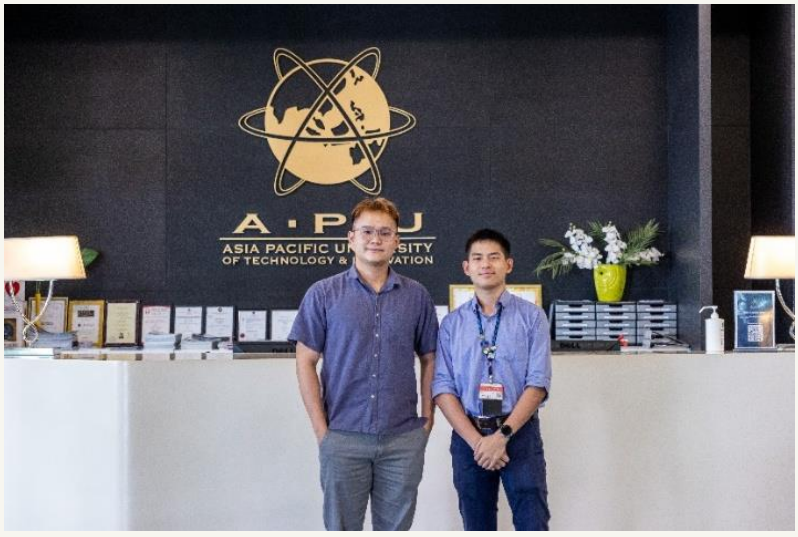
2nd Prize - Best Collaboration: Tackling Marine Pollution with Swarm Intelligence

The award for Best Collaboration went to **Chung Yu Qin, Ong Ji Lik, Loke Kun Ming**, and **Tey Yi Xian** for their Innovative Autonomous Seabin project—a testament to effective teamwork in creating an environmental solution with global implications.

Their project introduces a swarm-based system featuring multiple autonomous catamaran-style boats designed to collect marine plastic waste. The sophisticated coordination between boats, enabled by wireless communication modules and swarm intelligence, allows for efficient coverage of marine environments.

The team demonstrated exceptional collaborative skill in integrating various technologies—GPS navigation, water jet propulsion, microplastic collection mechanisms, and a custom Python GUI for real-time tracking. Their solution can collect particles as small as 2.5mm and potentially increase waste collection efficiency by 50% compared to traditional methods.

The judges particularly noted how the team members leveraged their diverse expertise to address multiple aspects of the challenge, from hydrodynamic design to environmental sustainability considerations, including the use of recyclable PETG materials and potential solar charging capabilities.



Right to left: Ong Ji Lik, and Chung Yu Qin

1st Prize - Most Innovative Approach: Enhancing Motorcycle Safety with Blind Spot Detection

Taking home the highest honour for Most Innovative Approach was Ronak Robert Vijai Anand with **The Guardian Defense Unit** of with their groundbreaking motorcycle blind spot detection system. Inspired by the alarming rise in motorcycle accidents caused by blind spots, the team developed a sophisticated safety solution for riders.

Their innovative system utilizes 2D LiDAR technology to detect objects approaching from a rider's blind spots and alerts them based on carefully calibrated thresholds. This elegant yet powerful solution addresses a critical safety issue that affects millions of motorcycle riders globally.

The team's success stemmed from a combination of technical proficiency and outstanding collaboration, with each member contributing unique skills and perspectives to the project. Their achievement represents not only recognition of their hard work but also a validation of their commitment to addressing real-world problems through innovative engineering solutions.

He expressed their gratitude to Dr. Lau Chee Yong for his invaluable guidance throughout the development process, acknowledging how his mentorship helped transform their concept into an award-winning prototype.

Left to Right: Ronak Robert Vijai Anand, and Dr. Lau Chee Yong

2nd Prize - Most Innovative Approach: Revolutionizing Cargo Delivery with Autonomous Technology

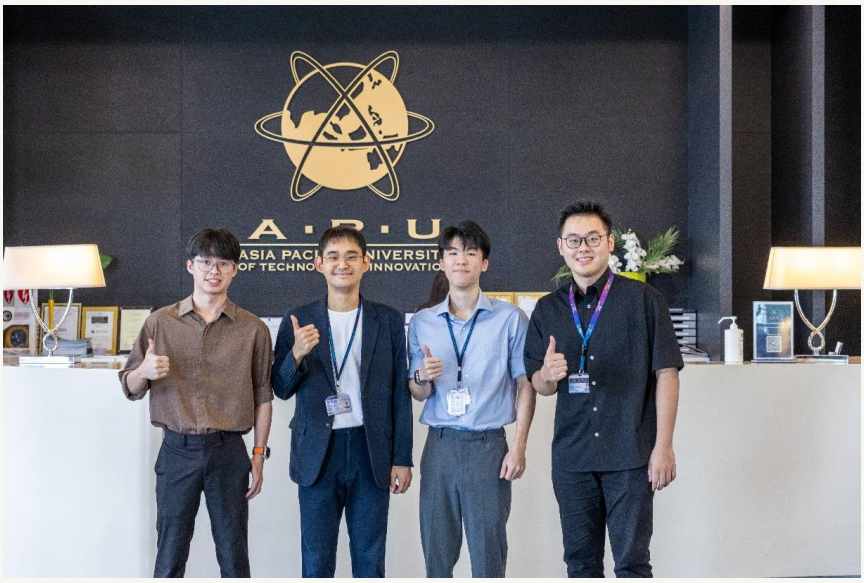
The team consisting of Muhammad Kemal Hasan Benisaput, Danny Binian, Arvin A/L Ravindran, Jacques Juicy Patureau Ravina, and Muhammad Safin Bin Muhammad Fazri impressed the judges with their groundbreaking Outdoor Cargo Drone. Their innovation stands apart from conventional **Autonomous Roadside Delivery Robots (ARDRs)** by addressing critical limitations in current technology.

The team's solution features a robust quadrupedal robot design with motorized rear wheels and swivel front wheels capable of traversing rough terrain—a significant advancement over existing delivery drones limited to smooth surfaces. The drone incorporates **Ultra-Wideband (UWB) localization** technology that achieves positioning accuracy within millimetres, even in GPS-denied environments, using sophisticated triangulation techniques.

Perhaps most impressive is the drone's intelligent navigation system, powered by a Hybrid A* algorithm that dynamically recalculates optimal paths when encountering obstacles. Combined with real-time object detection via TensorFlow and Time-of-Flight laser sensing, the drone can identify and navigate around both static and dynamic obstacles with remarkable precision.

The team's comprehensive solution also includes a user-friendly mobile application built with Flutter and VIAM, allowing for remote monitoring and control. This multifaceted approach to autonomous cargo delivery demonstrates exceptional innovation in addressing real-world logistics challenges.

Right to left: Muhammad Kemal Hasan Benisaput, Arvin A/L Ravindran, and Muhammad Safin Bin Muhammad Fazri.



Right to left Yeap Jing Xian, Chung Woo Jin, Chan Shing Yung, and Chia Yew Kit.

Behind the Success: Mentorship and Support

The achievements of these talented students were made possible through the dedicated mentorship of Assistant **Prof.Dipl-Ing.Inv.Ir. Narendran Ramasenderan** and **Mr. Krishna Ravinchandra** from APU's IoT Research Center, under the leadership of **Prof. Ir. Eur. Ing. Ts. Dr. Vinesh Thiruchelvam,** Chief Innovation & Enterprise Officer. Their guidance, combined with support from APU's distinguished School of Engineering faculty, provided the students with the knowledge and encouragement needed to transform innovative concepts into functional prototypes.

Prof. Ir. Eur. Ing. Ts. Dr. Vinesh Thiruchelvam shared his perspective on the significance of these achievements: "***These awards reflect our commitment to developing Malaysia's talent pipeline in alignment with the nation's vision for technological advancement and innovation leadership.***

At APU, we're focused on nurturing engineering students who can think critically and devise solutions that address real-world challenges. The success of our students at the IEM competition demonstrates how our educational approach is creating industry-ready graduates who will contribute meaningfully to Malaysia's economic transformation and technological self-reliance."

The supportive academic environment created by faculty members including **Assoc. Prof. Ir. Dr. Siva Kumar Sivanesan, Ir. Ts. Dr. Denesh Sooriamoorthy, Ir. Ts. Dr. Yvette Shaan-Li Susiapan, Assoc. Prof. Ts. Dr. Sathish Kumar Selva Perumal, Ir. Dr. Hafizul Azizi Ismail, Assistant Prof. Ir. Ts. Dr. Alexander Chee Hon Cheong, and Assistant Prof. Ir. Eur. Ing. Ts. Dr. Lau Chee Yong** has been instrumental in fostering the next generation of innovative engineers.

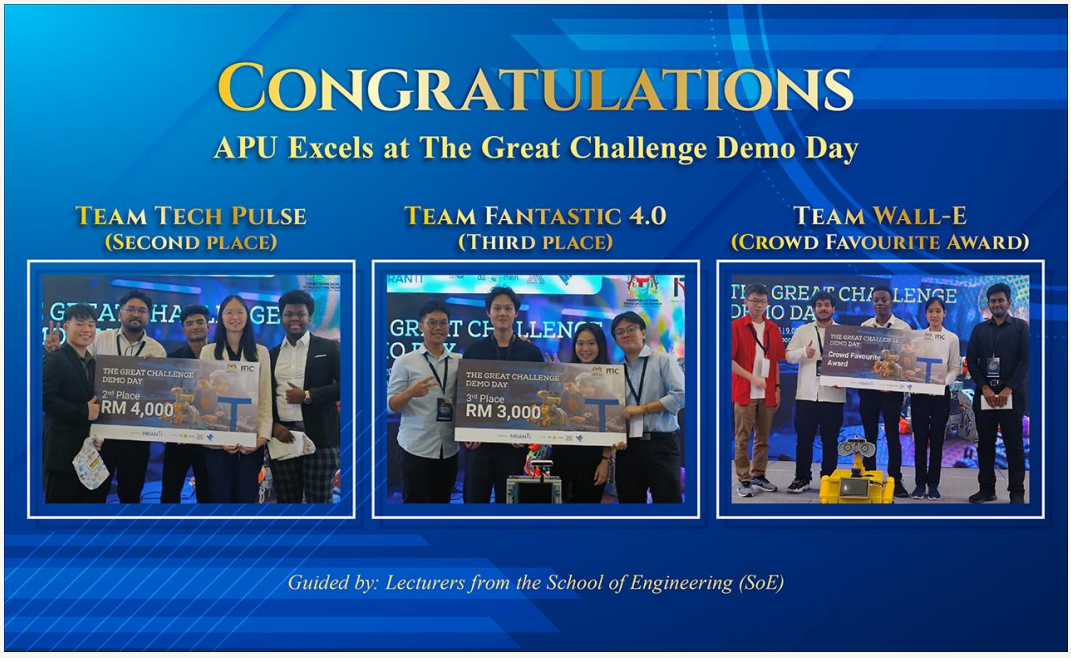
Engineering Tomorrow's Solutions Today

The success of APU's students at the IEM competition represents more than just academic achievement—it demonstrates their ability to identify real-world problems and apply engineering principles to develop practical, forward-thinking solutions.

These innovations in motorcycle safety systems, autonomous delivery, environmental cleanup, and industrial safety highlight how engineering excellence can address pressing societal challenges. As these talented students continue their academic and professional journeys, their creative approaches and technical skills promise to shape the future of engineering innovation.

The recognition from IEM, a respected professional engineering organization, validates the quality and relevance of the education provided at APU, reinforcing the university's commitment to preparing students for leadership roles in an increasingly complex technological landscape.

APU Excels at The Great Challenge Demo Day



Asia Pacific University of Technology & Innovation (APU) has achieved remarkable success at The Great Challenge Demo Day, securing **Second** and **Third** place, and the **Crowd Favourite Award**.

The Great Challenge Demo Day took place under the **Industrial Technology Innovation Centre (ITIC)** and was managed by **Malaysian Research Accelerator for Technology (MRANTI)**, with support from the **Ministry of Science, Technology & Innovation (MOSTI).**

The competition brought together the brightest minds from Malaysia's top universities, providing them with a platform to showcase their expertise in robotics, engineering, and innovative problem-solving.

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Under the guidance of **Ir Ts Dr Denesh Sooriamoorthy** (Senior Lecturer, School of Engineering at APU), **Assoc Prof Ts Dr Sathish Kumar Selva Perumal** (Associate Professor, School of Engineering at APU), **Ir Narendran Ramasenderan** (Assistant Professor, School of Engineering at APU), **Ir Ts Dr Alexander Chee Hon Cheong** (Assistant Professor, School of Engineering at APU), **Ts Suresh Gobee** (Senior Lecturer, School of Engineering at APU), **Dr Chandrasekharan Nataraj** (Senior Lecturer, School of Engineering at APU), and **Ir Ts Dr Yvette Shaan-Li Susiapan** (Senior Lecturer, School of Engineering at APU), this achievement not only demonstrates a strong commitment to innovation but also highlights leadership in developing pioneering solutions that bridge technology with practical applications.

Celebrating APU's Winning Teams

Recognition	Team Name	Project	Team Members	Project Description
Second place	Team Tech Pulse	Sapsense	Thanigai, Kiew Zheng, Kevin, Chilinda, and Wong Yu Qin	Sapsense is a fully autonomous robot engineered for rubber tapping and latex collection, designed to address labor shortages while maximizing latex yield.

Third place	**Team Fantastic 4.0**	**SecurePath AGV Rover**	**Goh Chuk Fun, Samantha Koay, Chong Chan Heng, and Pang Cheng Hsiang**	**SecurePath AGV Rover is an intelligent security robot designed to patrol, monitor, and respond to emergencies, providing reliable safety anytime, anywhere.**
Crowd Favourite Award	Team Wall-E	CareBot	Kundai, Abdulrahman Hany, Mohamed Yazdan, Chan Teah Hong, and Megan Yap	CareBot is an autonomous pediatric healthcare robot designed for child supervision and support in hospitals, featuring voice control and an interactive smart display for enhanced patient engagement.

Path to Success

Dr Denesh expressed his immense pride for the students' achievement, emphasising APU's dedication to fostering innovation and excellence in engineering and technology.

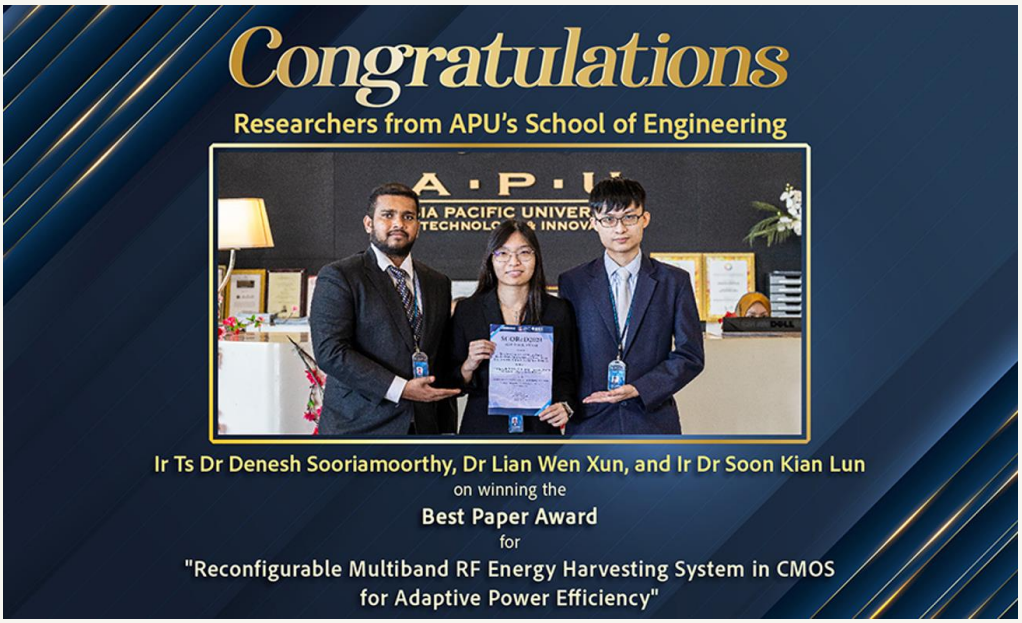
*"**This accomplishment is a testament to the hard work, creativity, and perseverance of our students.***

"*This success not only adds to APU's growing list of accolades, but also reaffirms our commitment to pushing the boundaries of technological innovation*," he said.

In contrast, **Assoc Prof Ir Dr Siva Kumar Sivanesan** (Head, School of Engineering at APU) highlighted that this achievement not only marks a significant milestone for APU but also underscores its ability to innovate in alignment with industry demands.

"***On top of that, achievements like this not only enhance the students' appeal to tech employers in Malaysia, positioning them as highly sought-after professionals in their respective fields, but also solidifies APU's reputation as a frontrunner in nurturing graduates with practical skills tailored to meet the ever-evolving demands of the tech industry***," he said.

APU SoE Researchers Secure Prestigious Best Paper Award at IEEE SCOReD 2024



In an outstanding testament to the School of Engineering's (SoE) commitment to innovation and academic excellence, the research paper titled "***Reconfigurable Multiband RF Energy Harvesting System in CMOS for Adaptive Power Efficiency***" has been honored with the coveted **Best Paper Award** at the **2024 IEEE 22nd Student Conference on Research and Development (SCOReD)**.

Authored by **Dr Lian Wen Xun**, **Ir Ts Dr Denesh Sooriamoorthy**, and **Ir Dr Soon Kian Lun**, in collaboration with the UM Analog, Digital, and RF Research Group, this pioneering research explores cutting-edge solutions in energy harvesting systems, offering impactful contributions to sustainable technological progress.

The award ceremony took place during the **SCOReD 2024 Gala Night**, held as part of the conference on 19-20 December 2024 at Universiti Teknologi MARA (UiTM), Shah Alam, Selangor. The prestigious event brought together over 200 participants from academia and industry worldwide, offering an invaluable platform for knowledge-sharing, collaboration, and showcasing technological advancements.

Dr Lian Wen Xun (left) and Ir Ts Dr Denesh Sooriamoorthy proudly received the Best Paper Award at the 2024 IEEE 22nd Student Conference on Research and Development (SCOReD).

Dr Denesh and Dr Lian proudly received the award on behalf of the research team. Their success not only marks a significant milestone in their academic journey but also highlights the critical role of collaborative research in addressing real-world challenges through innovative solutions.

Organised by the IEEE Malaysia Section in collaboration with the UiTM IEEE Student Branch, SCOReD 2024 showcased groundbreaking advancements across technology, engineering, and computing.

Accepted and presented papers, including the award-winning research, will be published in IEEE Xplore, a Scopus-indexed platform, amplifying the global impact of these contributions.

Reflecting on the achievement, **Associate Professor Ir Dr Siva Kumar Sivanesan**, Head of the School of Engineering, praised his colleagues, stating, "***This remarkable recognition not only underscores the brilliance of our researchers but also demonstrates the School of Engineering's unwavering dedication to driving academic and technological advancements. I am immensely proud of our team's success and their impactful contributions to the global engineering community***."

This milestone reinforces SoE's leading role in fostering innovation and sustainability in the ever-evolving field of engineering.

Victory at IPTC 2025 under MUNOGPC Competition

Malaysian Universities National Oil & Gas Paper Competition (MUNOGPC) was an event under the banner of **International Petroleum Technology Conference (IPTC)** where students from all around Malaysia participated. MUNOGPC competition had a few tracks as follow:

1. Reservoir Engineering & Management
2. Production Enhancement
3. Drilling Operation & Optimization
4. Petroleum Exploration & Development (Geoscience)
5. Integrating IOR/EOR with current energy transition landscape
6. Carbon capture, utilization and storage focusing on upstream energy sector

2 APU students, **Mahishkumar A/L Ganeson** and **Lucas Chiong Ju Wynne**, under the supervision of **Ir. Juhairi Aris Bin Muhamad Shuhili** had won 3 awards namely, **2nd runner up for Reservoir Engineering** & **Management** by Mahish and the **first place** by Lucas in Geoscience. Mahish also won the **best presenter award** for the overall MUNOGPC defeating students from at least 4 other Malaysian universities while soaring APU name at a national level. The hard work pulled off by the team came to fruition.

Robodex Visionaries: APU's Aspiring Student Start-Up Triumphs at Malaysia Grand Invention Expo (MaGIEx)

Tanaya Gadkari (left), Ir. Ts. Dr. Reena Sri Selvarajan (center), and Saarvin Mohan (right), proudly holding their awards.

Robodex Visionaries: An aspiring student-based start-up, founded by **Tanaya Gadkari** and **Saarvin Mohan**, with **Ir. Ts. Dr. Reena Sri Selvarajan** from the School of Engineering as the Technical Mentor for the start-up has once again demonstrated excellence in the field of robotics. Under the expert mentorship of Dr. Reena, the team secured a **Silver Medal at MaGIEx 2024** for their pioneering work on **Dexterover**—an intelligent robotic arm designed to empower paraplegic individuals.

Their success story began in **Year 2 during the *Digital Electronics* module,** where, under Dr. Reena's guidance, they built a prototype addressing real-world challenges.

The project gained momentum, evolving into an award-winning innovation. Competing at the **World Young Inventors Category, *WYIE-ITEX 2024***, they refined their design and triumphed with a ***Gold Medal*.** Their unwavering commitment led them to **International Innovation Awards and Expo, (***MTE 2024*) where their enhanced prototype earned them a ***Silver Award*.** Now, with their *MaGIEx* victory, they continue to push the boundaries of assistive robotics. Dexterover integrates advanced technologies such as vacuum gripping, smart sensing for natural hand movement replication, crawler-based mobility, dual control (voice and manual), and anti-collision sensors—positioning it as a game-changer in rehabilitation and healthcare.

Dr. Reena's mentorship has played a pivotal role in shaping the students' entrepreneurial mindset, instilling in them the vision to transform ideas into impactful solutions. Through her guidance in biosensing technology and robotics, the team has not only developed cutting-edge innovations but has also embraced an entrepreneurial spirit, proving that young engineers can drive meaningful change. Dr. Reena also acknowledged the **continuous support** of **Assoc. Prof. Ir. Dr. Sivakumar Sivanesan**, Head of the **School of Engineering**, and **Mr. Narendran**, Head of **CREDIT**, in fostering this innovation journey.

This journey stands as a testament to the power of perseverance, mentorship, and innovation. The success of *Robodex Visioneries* proves that **engineering is not just about technology—it's about making a difference**. Their story serves as a **beacon of inspiration** for students, encouraging them to embrace **innovation, entrepreneurship, and knowledge** to create a lasting impact on humanity.

IADC Wellsharp University Accreditation

Asia Pacific University of Technology and Innovation (APU/APIIT) had become the **first accredited training provider** in the world for **International Association of Drilling Contractors (IADC) Wellsharp University (WSU)** program. This accreditation enabled APU to deliver the training, conduct the exam, and participants who take place in the program shall receive IADC WSU certificate issued by IADC international.

The ability to secure such accreditation clearly proved the prowess and strength of **APU-Petroleum Engineering Program** by constructing such a robust and technical program and being accredited by a renowned global body in oil and gas, IADC International. We had officially received the result back in January 2025 after months of hard work in preparing materials and meeting all the requirements.

This program was championed by **Ir. Juhairi Aris Bin Muhamad Shuhili, Asst. Prof. Ir. Eur. Ing. Ts DDr. Harvin Kaur,** and **Muhammad Safri Basruddin** and was overseen by the head of school, **Assoc Prof Ir Ts Dr Sivakumar Sivanesan** who had supported the accreditation from the very beginning and ensured the accreditation went through.

A special shoutout to **RelyOn Asia** who had shared ample amount of technical help to deal with the accreditation. A notable mention to **Mr. Mike Thompson** who had been extremely supportive of the idea from technical and administrative aspect, **Mr. Ahmad Radzi Shahari** who always provided technical support whenever needed, **Mr. Mohd Damaq Anuar** and **Mr. Syed Muzakir Aljoofre** who had always guided us from business point of view.

Empowering Engineering Leadership: APU's School of Engineering Celebrates Re-election of Two Academicians to IMechE Malaysia Branch Committee

The School of Engineering (SoE) at Asia Pacific University of Technology & Innovation (APU) proudly announces the re-election of two of its distinguished faculty members, **Ir. Ts. Dr. Alexander Chee Hon Cheong** and **Ir. Ts. Dr. Yvette Shaan-Li Susiapan**, to the **Institution of Mechanical Engineers (IMechE) Malaysia Branch Committee** for the 2025/2026 term.

This significant achievement underscores APU's unwavering commitment to excellence in engineering education and its pivotal role in shaping the future of the profession in Malaysia.

Leadership in Engineering Education

Dr. Alexander Chee, serving as the Programme Leader for the Bachelor of Mechanical Engineering at APU, has been instrumental in integrating advanced technologies into the curriculum. His leadership has fostered industry collaborations and mentorship programs, enhancing the practical skills and employability of engineering graduates. His re-election to the IMechE committee reflects his dedication to advancing mechanical engineering practices and education standards.

Dr. Yvette Shaan-Li Susiapan, leading APU's Transnational Education Programs and the Bachelor's Programme in Mechatronic Engineering, has significantly contributed to the internationalization of APU's engineering education. Her efforts in promoting academic innovation and global collaborations have enriched the learning experiences of students and expanded APU's global footprint in engineering education.

Advancing APU's Vision

APU's School of Engineering is dedicated to producing industry-ready graduates equipped with the skills and knowledge to excel in the rapidly evolving engineering landscape. The re-election of Dr. Chee and Dr. Susiapan aligns with APU's vision of fostering academic excellence, innovation, and global engagement.

Their achievements not only enhance APU's reputation in engineering education but also contribute to the broader goal of advancing Malaysia's position in the global engineering arena.

Impact on the Engineering Community

The re-election of Dr. Chee and Dr. Susiapan to the IMechE Malaysia Branch Committee is a testament to their exceptional contributions to the engineering field. Their continued involvement in IMechE will facilitate the exchange of knowledge between academia and industry, promote professional development, and inspire innovation within the engineering community.

Their leadership roles within IMechE will also provide APU students with increased opportunities to engage with professional networks, participate in engineering events, and gain insights into the latest industry trends and practices.

Conclusion

The School of Engineering at APU extends its heartfelt congratulations to **Ir. Ts. Dr. Alexander Chee Hon Cheong** and **Ir. Ts. Dr. Yvette Shaan-Li Susiapan** on their re-election to the IMechE Malaysia Branch Committee.

Their continued leadership and dedication will undoubtedly inspire the next generation of engineers and contribute significantly to the advancement of the engineering profession in Malaysia and beyond.

Asia Pacific University (APU) Triumphs at International AI Hackathon

The Crude Intelligence Team from **Asia Pacific University of Technology & Innovation (APU), Malaysia,** emerged as the **1st Place Winner** at the **AI Hackathon II,** at GOTECH 2025, held on 23rd April 2025 at the **Dubai World Trade Centre, United Arab Emirates.**

GOTECH (Gulf Oil and Gas Technology Exhibition and Conference) is hosted by Dragon Oil in association with the **Society of Petroleum Engineers (SPE)** International, and sponsored by leading organizations including OilServ, Schlumberger, SGM, Enersol and many more. The AI Hackathon II assembled international talents to demonstrate innovation in applying artificial intelligence to upstream energy challenges. The competition was open not only to students and academics but also to industry professionals, fostering a highly competitive and diverse environment. A total of 122 submissions were received from more than 20 countries.

Team Crude Intelligence, comprising **Hazem Saeed Ali Hasyan, Muhammad Noman Kayani** and **Mr. Muhammad Syahmi Afif bin Mokhtar Yazid** from the **Petroleum Engineering** Program under the School of Engineering at Asia Pacific University of Technology & Innovation, competed with their project entitled ***"AI Surface Network Production Flow Behaviour Prediction and Optimization."***

Prof Ho and Prof Ts Dr Murali celebrated the winning team

The project aimed to predict the production of oil, gas, and water production based on historical surface network data, enhancing predictive capabilities for production optimization through advanced machine learning models.

The award ceremony on 23rd April 2025 saw **Mr. Syahmi** receiving the award on behalf of his team from senior leadership of Dragon Oil, namely Fareed Al Hashmi (Chief Operating Officer), Hesham Zubari (Chief AI and Innovation Officer), and Omar Alfarisi (Senior AI Technology Advisor).

Mr Syahmi collecting the reward on behalf of Team Crude Intelligence

In addition to his role with Crude Intelligence, Mr Syahmi also supervised another participating team, Team Drilluminati, comprising students **Graham Herbert Bagley and Colin Xavier A/L N. Francis Xavier**, who also performed commendably and won **8th place** in this competition.

Mr Syahmi with Graham Herbert and Colin Xavier representing Team Drilluminati

Both team's success signifies Asia Pacific University's commitment to producing industry-ready graduates and advancing research at the intersection of artificial intelligence and petroleum engineering. It highlights APU's strength in applying computational innovation to critical challenges within the energy sector.

Mr. Syahmi highlighted that competitions such as **GOTECH AI Hackathon** serve as a catalyst to encourage more petroleum engineering students to explore artificial intelligence and machine learning. ***"As the energy industry increasingly demands data-driven and digital competencies, it is crucial for future graduates to acquire these skills to remain competitive and industry-ready."***

Following their return to Malaysia, the achievement was celebrated with the presence of **Professor Dr. Ho Chin Kuan** (Vice Chancellor) and **Professor Ts. Dr. Murali Raman** (Deputy Vice Chancellor for Academic Development and Strategy), highlighting the university's commitment to producing industry-ready, innovative graduates for the global energy challenges.

APU Vice Chancellor Professor Dr. Ho Chin Kuan stated, "APU continues to lead through innovation and global engagement. This success at GOTECH 2025 reflects the strength of our academic and research excellence.“

Special thanks are extended **to Ir. Eur. Ing. Ts. Harvin Kaur Gurchran Singh,** Program Leader for the Petroleum Engineering program, **Assoc. Prof. Ir. Dr. Siva Kumar Sivanesan**, Head of the School of Engineering, and **Mr. Izwan Adnan**, Industry Advisory Panel for Petroleum Engineering program, for their guidance, support, and facilitation in enabling our participation in the GOTECH AI Hackathon. Their contributions were instrumental to our success.

WORKSHOP

IWCF Combined Level 3 & 4 Training, RelyOn Asia

From 13 to 17th January 2025, three lecturers from APU led by **Ir. Juhairi Aris Bin Muhamad Shuhili, Muhammad Safri Bin Basruddin, and Ir. Dr. Harvin Kaur** attended **IWCF Combined Level 3 & 4 Training** hosted by **RelyOn Asia**. The training exposed the lecturers with the industry practice on dealing with well control situation starting from the fundamental contents to sophisticated equipment used in the situation. This was indeed a very good training since it strengthened and instilled industry operation into academic syllabus and the handlers and concurrent to IADC WSU Accreditation secured by APU, adding in more prowess to APU in delivering the program. The training covered different aspects of IWCF certification where the first 3 days focussed on theories and the last day was the simulation practise where the lectures had the opportunity to have a hands-on experience working on the drilling simulators.

A special thanks to **RelyOn Asia** for hosting us and to **Mr. Mike Thompson** who had been very supportive of APU delegates from the very beginning. A very special thanks **to Mr. Ahmad Radzi Shahari** and **Dr. Mohd Syazwan Mohd Musa** who provided theoretical and practical training respectively.

FDP Lecture Series Session 1

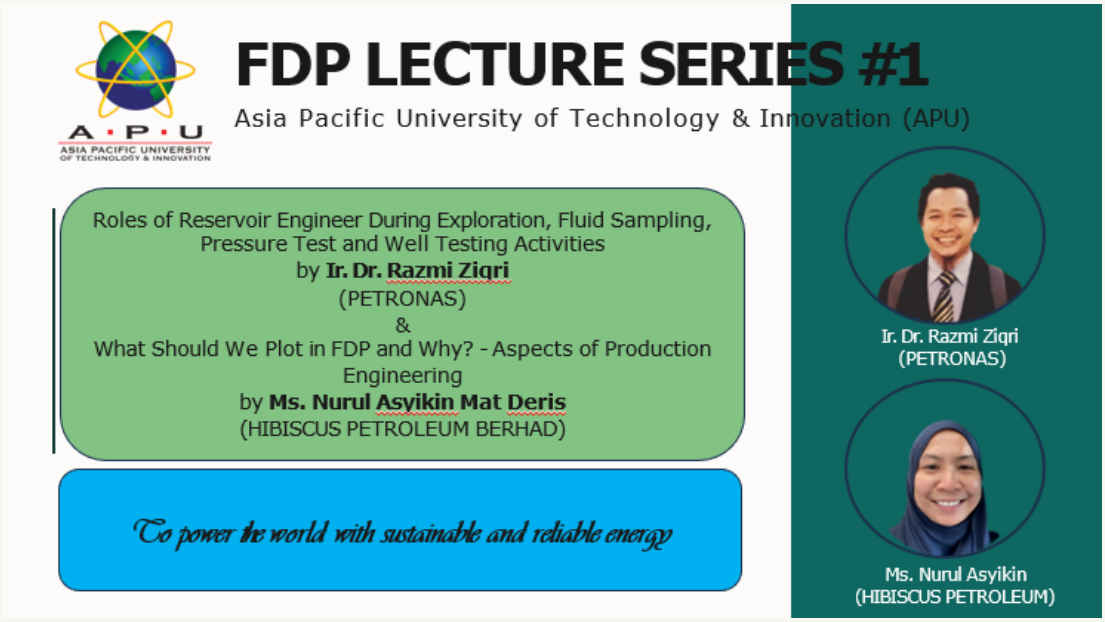
On February 13, 2025, Petroleum Engineering program hosted the FDP Judging Series 1 at APU, from 9 AM to 5 PM in room A-5-3. The event, organized by **Dr. Husna Aini** and **Ms. Fatin Ayuni Mohd Suhaimi** featured distinguished speakers from the oil and gas industry, providing valuable insights into reservoir and production engineering.

Event Highlights:

Roles of Reservoir Engineer During Exploration, Fluid Sampling, Pressure Test, and Well Testing Activities by Ir. Dr. Razmi Ziqri from PETRONAS Berhad discussed the critical role of a Reservoir Engineer during key stages of oil and gas exploration. He emphasized the importance of fluid sampling, pressure testing, and well testing. Dr. Razmi's extensive experience in petroleum engineering offered attendees a deep understanding of optimizing oil and gas production, bridging the gap between theoretical knowledge and practical applications.

Next session title: **What Should We Plot in FDP and Why? - Aspects of Production Engineering** by Ms. Norasyikin Mat Deris from Hibiscus Petroleum Berhad and Mr. Sudeep from Schlumberger shared their expertise in production engineering.

They covered topics such as well performance optimization, reservoir management, and the implementation of innovative technologies to enhance production while ensuring safety and environmental compliance. Their presentations provided real-world examples and strategies to address production challenges and prioritize sustainability.



Relevance and Impact from the event:

Expertise in Reservoir Engineering: The speakers brought extensive practical knowledge and experience, offering valuable insights into the roles and responsibilities of Reservoir and Production Engineers during critical exploration and testing activities.

Bridging Theory and Practice: Their ability to connect theoretical concepts with real-world applications helped students and professionals better understand the practical challenges and strategies involved in optimizing oil and gas production.

Contribution to Sustainable Resource Management: The speakers' work in reservoir management and well testing highlighted the importance of efficient resource utilization and effective reservoir performance, promoting long-term sustainability in the energy sector.

The event was attended by all Petroleum Engineering students and lecturers, reinforcing the theme of enhancing technical expertise in reservoir and production engineering.


FDP LECTURE SERIES

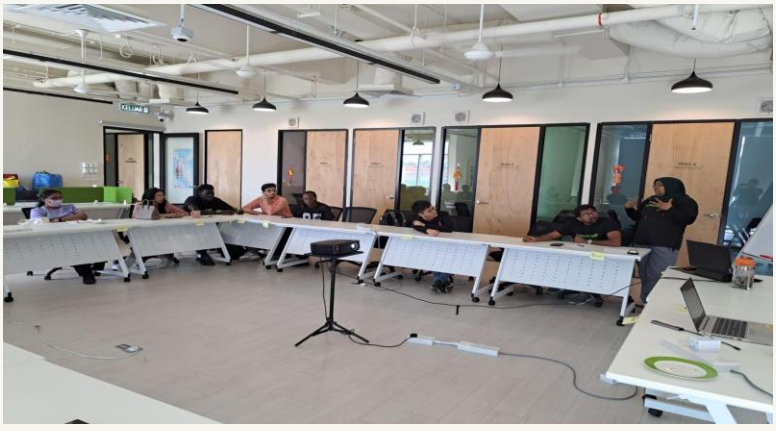
Environmental Issues Training in Greenpeace

On January 25, 2025, 10 participants from the SPE APU Student Chapter, mentored by **Ms Fatin Ayuni Mohd Suhaimi** and **Ir Dr Wong Siew Fan** organized a volunteer training session in collaboration with Greenpeace, a globally recognized environmental organization known for its peaceful activism in addressing ecological challenges. The training aimed to provide students with a deeper understanding of critical environmental issues, including global warming and non-biodegradable waste, while also equipping them with essential skills in conflict resolution and non-violent activism.

This comprehensive, full-day program covered a diverse range of topics, offering students valuable insights into the complexities of environmental advocacy.

The session, held at **Greenpeace Malaysia's** office in Brickfields, provided participants with hands-on learning experiences, fostering a stronger commitment to environmental sustainability and responsible activism.

The training session commenced with an introduction by Hema, a seasoned Greenpeace employee with over five years of experience, alongside Keenah, who has been actively involved with the organization since 2019. They provided an insightful overview of Greenpeace, highlighting its founding principles, key figures, global presence, major achievements, and commitment to peaceful activism. This session offered participants a deeper understanding of the organization's history, impact, and ongoing efforts in environmental advocacy.



Following the introduction, the session proceeded with an induction, followed by a 15-minute break. Throughout the training, Greenpeace ensured a well-paced schedule, allowing participants ample breaks to recharge. Refreshments, including snacks, coffee, tea, and lunch, were generously provided, fostering a comfortable and engaging learning environment.

After the break, the session continued with an exploration of the Non-Violence (NV) Spectrum, where participants studied influential figures who championed non-violent activism. Engaging activities further deepened our understanding of peaceful advocacy and its real-world applications.

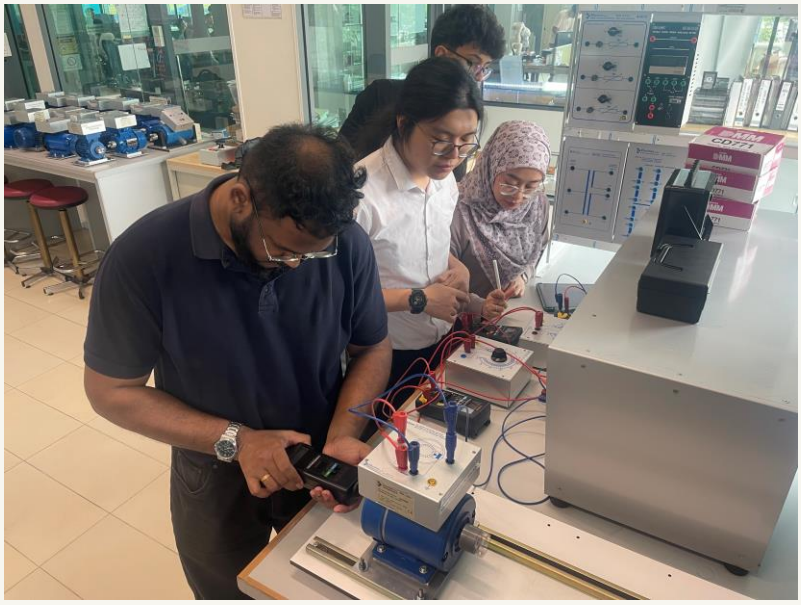
The training concluded with a fieldwork exercise, during which participants split into two groups and visited nearby restaurants to encourage the adoption of alternatives to single-use plastic straws. The initiative proved successful, as two restaurants expressed interest in further discussions on implementing sustainable practices.

As a token of appreciation, Greenpeace presented each participant with a gift bag containing a Greenpeace T-shirt and books about the organization. Overall, the training was an inspiring and impactful experience, reinforcing the importance of positive action and motivating us to actively contribute to our community through meaningful volunteer work.

Electrical Machines Hands-On Workshop

Electrical Machines hands-on Workshop with Topic: Electrical Machines Operations and Handling was held on Date: **27th November 2024**, from 10.30 am to 1.00 pm was conducted physically at B-03-Power Lab by Trainer: **Mr. Ravi Lakshmanan**.

The energy conversion from electrical to mechanical power is done by DC motors and generation of electrical power is done by DC Generators. Electrical machines can be used for different ranges of speed and as a motor particularly in house appliances as well as in industries. Electric machines are essential systems in electric vehicles and are widely used in other applications. DC motors have been extensively employed in industries. Generators are extensively employed in generation of electrical power and for lighting loads. This workshop helps the students to know about the DC Motors and Generators in terms of their operation, working principle, characteristics, and applications.




HIGH
VOLTAGE

Cross-Border Laboratory Engagement for Advanced Analytical Techniques: A Collaborative Technical Immersion between Asia Pacific University and Xiamen University

Introduction

On 18th February 2025, **Mr Muhammad Syahmi Afif bin Mokhtar Yazid**, a lecturer and **Mr Muhammad Safri bin Basruddin**, a Lab Technician, along with 4 Petroleum Engineering students conducted a series of laboratory experiments as part of the Petroleum Geochemistry module, in collaboration with Xiamen University. The primary aim was to provide students with practical exposure to organic geochemical analysis techniques, which are fundamental for understanding hydrocarbon composition, source rock characterisation, and maturity assessment. The experiments focused on **UV-Vis spectroscopy, FTIR spectroscopy,** and **Gas Chromatography (GC).**

Objective

I. To quantify benzene and water in petroleum-related samples using UV-Vis spectroscopy.
II. To identify and classify functional groups within geochemical samples using FTIR.
III. To analyse the composition of alcohol mixtures, simulating light hydrocarbon systems, using Gas Chromatography (GC).
IV. To familiarise students with instrumentation and data interpretation methods relevant to petroleum geochemistry.

Experimental Work

Determination of Benzene and Water using UV-Visible Spectroscopy

For this work, students need to identify and quantify benzene and water content in sample mixtures based on their characteristic absorbance in the ultraviolet-visible region. The outcome is UV-Vis is suitable for detecting aromatic hydrocarbons due to their strong absorbance and interpretation involves Beer-Lambert Law and requires accurate baseline correction.

Measurement of Functional Groups using Fourier Transform Infrared Spectroscopy (FTIR)

From this experiment students able to identify key organic functional groups (e.g., –OH, –CH_3, –COOH) present in petroleum-related samples. From findings, FTIR is a qualitative tool used for source rock and oil typing based on compositional fingerprinting and the presence of hydroxyl, carboxylic acid, and aliphatic hydrocarbon groups was confirmed in various samples.

Determination of Alcohol Mixture Composition using Gas Chromatography (GC)

Based on this laboratory, GC is used to simulate hydrocarbon compositional analysis by separating and quantifying an alcohol mixture. The main output is GC enables precise quantification of light hydrocarbons and components in petroleum systems and proper calibration and sample injection are critical for resolution and reproducibility.

Student Learning Outcomes

I. Hands-on experience with instrument calibration, sample preparation, and data interpretation across three core geochemical techniques.
II. Appreciation of the role of analytical chemistry in petroleum exploration, production, and environmental assessment.
III. Development of technical reporting skills and scientific reasoning.

Conclusion

This laboratory engagement at Xiamen University significantly enhanced the applied geochemistry competencies of the participating students. The experiments bridged theoretical knowledge with analytical practice, supporting the objectives of the Petroleum Geochemistry module. Future collaborations of this nature are recommended to maintain alignment with international best practices and improve practical exposure in petroleum engineering education.

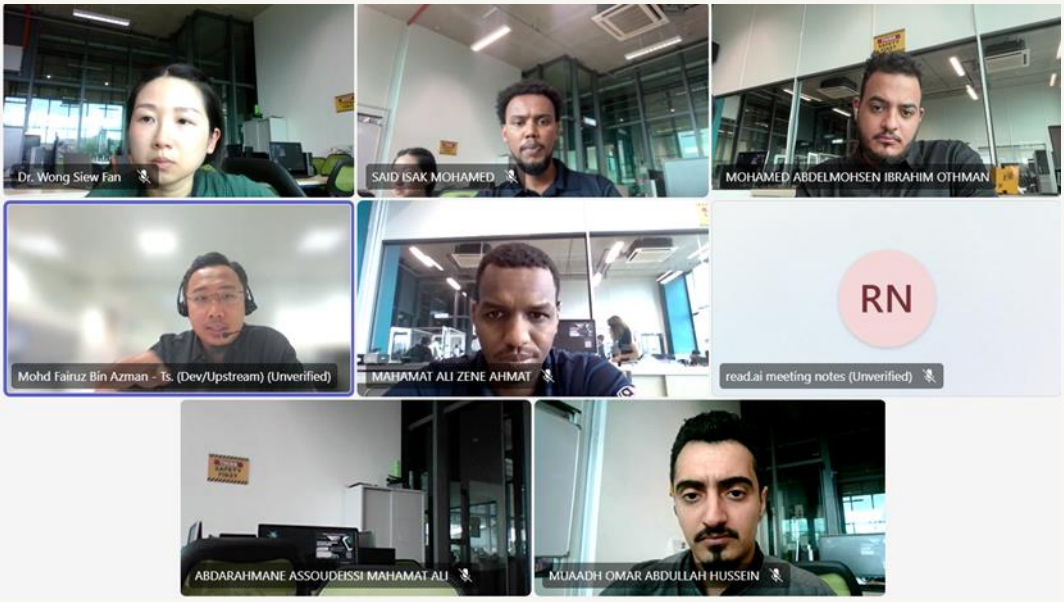
Acknowledgements

We would like to express our appreciation to the faculty and technical staff at Xiamen University for their support and guidance throughout the experimental sessions. Special thanks to Dr Terri Lee for facilitating the laboratory access and instrument use.

From left: Dr Rabiah, Dr Terry, Mahish, Oum, Mr Syahmi, Sammer, Lucas and Mr Lim

Bridging Theory and Practice – Industry Sharing Session by PETRONAS Expert

On 12th March 2025, final-year Petroleum Engineering students had the opportunity to participate in an engaging online sharing session conducted via Microsoft Teams. The session featured **Ts. Mohd Fairuz Bin Azman,** a Staff Reservoir Engineer from PETRONAS, who was specially invited by **Ir. Dr. Wong Siew Fan** to discuss the reservoir engineering aspects of **Field Development Planning (FDP)** — a crucial component for any aspiring petroleum engineer.



Attended by all Year 4, Semester 2 Petroleum Engineering students, the session provided a glimpse into the real-world applications of reservoir engineering, highlighting key considerations in planning and operations.

Mr. Mohd Fairuz shared his industry experience, emphasizing the importance of aligning production profiles with drilling teams and key stakeholders to optimize well placement and ensure timely procurement of equipment.

One of the focal points of the session was the generation of BLP (Back-Pressure) or APR (Absolute Open Flow Potential) curves, which are essential for production forecasting. Mr. Fairuz explained how these curves must be developed with careful attention to well architecture, cost implications, and the overall production strategy. He underscored the necessity for collaboration across disciplines — from drilling to facilities — to create cohesive and economically sound development plans.

A lively discussion followed a query from student Mohamed regarding the complexities of calculating the **Void Replacement Ratio (VRR)**. This led to an in-depth explanation of water injection uncertainties and the critical need for matching injection rates with production outputs to maintain reservoir pressure effectively.

Students also gained insights into the integration of drilling schedules, surface facilities, and reservoir dynamics, as Mr. Fairuz illustrated how aligned planning prevents bottlenecks and enhances recovery.

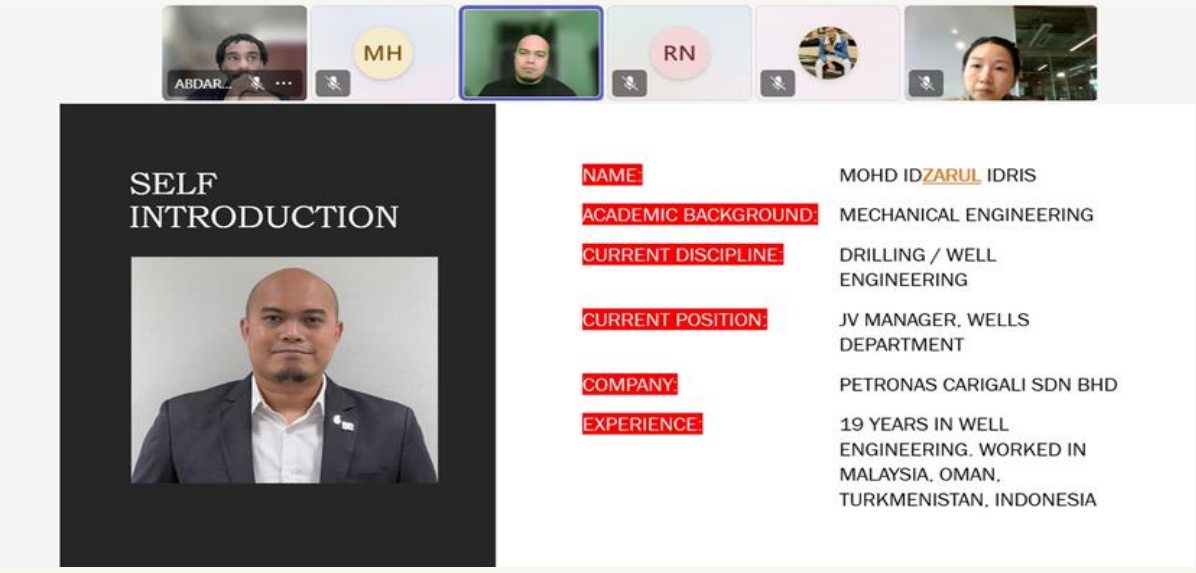
He further engaged the students with a discussion on interpreting reservoir contour maps, emphasizing the strategic placement of wells to maximize oil recovery while minimizing water cut.

This session served as a valuable bridge between academic learning and field application, offering students a clearer understanding of the challenges and best practices in reservoir engineering.

The Petroleum Engineering, School of Engineering extends its sincere appreciation to **Ts. Mohd Fairuz Bin Azman** for his time and knowledge.

Strategic Well Planning– Drilling and Completion Industry Session by PETRONAS Expert

As part of the Petroleum Engineering's ongoing industry engagement efforts, an insightful workshop focusing on Drilling & Completion within the Field Development Plan (FDP) was held on 14th March 2025 via Microsoft Teams. The session featured **Mr. Mohd Idzarul Idris**, **Manager, Well Department** at **PETRONAS Carigali Sdn Bhd**, and was coordinated by **Ir. Dr. Wong Siew Fan**.



Drawing from extensive field experience, Mr. Idzarul delivered a comprehensive and highly technical session to final-year Petroleum Engineering students, emphasizing the role of well planning in efficient and safe hydrocarbon recovery. The workshop served as a bridge between classroom fundamentals and real-world application, offering students a clearer view of what to expect in their professional journeys.

Key Technical Highlights

Mr. Idzarul began by highlighting the crucial role of pore pressure and fracture gradient analysis in well design. He explained how accurate prediction of these parameters using seismic data, well logs, and pressure measurements is essential to defining the mud weight window — the safe operating range for drilling fluid density. Incorrect assessments, he cautioned, can lead to well control incidents, formation damage, or wellbore collapse.

The workshop also covered critical aspects of well trajectory design, explaining the differences between vertical, directional, and horizontal wells, and the technologies used to execute them, including measurement-while-drilling (MWD) and logging-while-drilling (LWD) tools.

Emphasis was placed on how drilling plans must align with reservoir characteristics and economic objectives, linking the drilling and completion program directly to the FDP. Mr. Idzarul discussed completion strategies, comparing cased-hole vs. open-hole, and explained how sand control methods, stimulation design, and zonal isolation are selected based on the geomechanical properties of the formation.

Real-World Decision-Making

Throughout the session, Mr. Idzarul shared practical examples and challenges faced during his career, such as navigating narrow pressure margins, mitigating differential sticking, and optimizing wellbore placement in complex reservoirs.

He underscored the need for collaborative planning between subsurface, drilling, and production teams to ensure that each well drilled contributes effectively to the overall field development strategy.

Students also gained exposure to risk-based planning, including contingency planning, offset well analysis, and the use of digital well engineering tools for trajectory simulation and hydraulics modelling.

Student Takeaway

The session provided a robust foundation for understanding the integration of drilling engineering within FDPs, equipping students with both technical depth and strategic foresight. It enhanced their readiness to participate in multi-disciplinary project teams, capable of contributing to the design and execution of technically sound and economically optimized wells.

The Petroleum Engineering, School of Engineering extends its sincere gratitude to **Mr. Mohd Idzarul Idris** for his valuable insights.

Enhancing Subsurface Strategy – Advanced Reservoir Engineering Session with Ts. Mohd Fairuz Bin Azman

On **17th March 2025**, final-year Petroleum Engineering students gathered in the Reservoir Laboratory for a follow-up session on Field Development Planning (FDP), hosted by **Ts. Mohd Fairuz Bin Azman**, **Staff Reservoir Engineer** at **PETRONAS Carigali Sdn. Bhd.**

The session was made possible through the coordination of **Ir. Dr. Wong Siew Fan** and served as a continuation of the insightful sharing held on 12th March 2025.

This time, the focus shifted to the practical interpretation of reservoir contour maps, emphasizing the strategic placement of wells to enhance hydrocarbon recovery while mitigating early water breakthrough.

The session was attended by all Year 4, Semester 2 Petroleum Engineering students, offering them a hands-on opportunity to translate geological and reservoir data into actionable FDP decisions.

Technical Highlights

Ts. Mohd Fairuz, together with contributing discussions from Saïd Isak, guided students through an in-depth analysis of oil-water contact (OWC) and gas-oil contact (GOC) levels, reinforcing the importance of understanding fluid contacts when planning well trajectories and completions.

Poor placement relative to these contact levels can lead to coning effects, resulting in early water or gas breakthrough that negatively impacts recovery efficiency and operational costs.

The team examined a production profile reflecting a 25% water cut, raising concerns about the reservoir model's initialization. Mr. Fairuz explained the process of validating and tuning static and dynamic models using history matching and material balance methods, ensuring that the simulated behavior of the reservoir closely replicates real-world performance.

Students also participated in evaluating well placement strategies, taking into account structural highs, fault boundaries, and permeability anisotropy. Techniques such as streamline simulation and layer-by-layer analysis were introduced as tools to visualize fluid movement and assess sweep efficiency.

Water Injection & Well Planning

A key part of the session was dedicated to water injection planning, where students explored various injection scenarios to optimize pressure support and displacement efficiency.

Ts. Mohd Fairuz walked the class through critical considerations for injection design, including:

- Voidage Replacement Ratio (VRR) calibration
- Injection pattern configuration (e.g., 5-spot, line drive)
- Injectivity index evaluation
- Reservoir heterogeneity and its impact on breakthrough timing

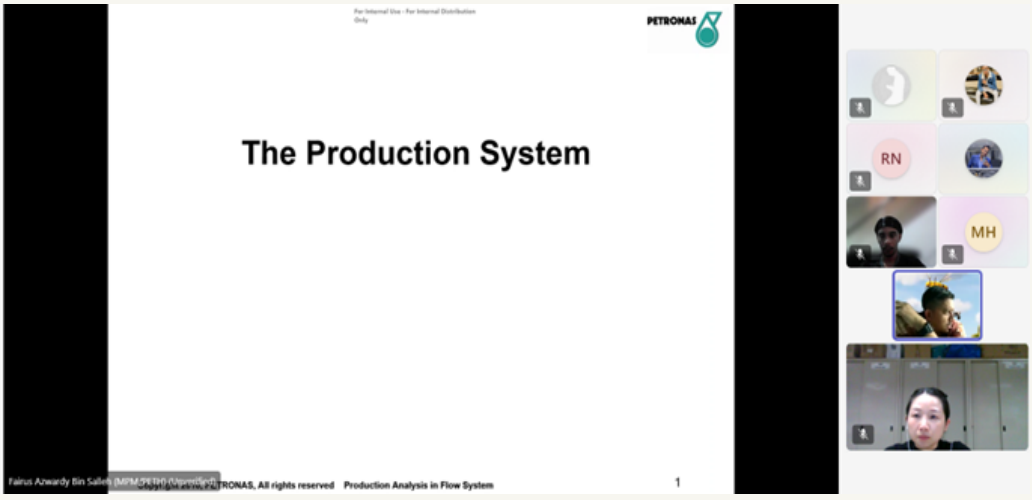
The discussion culminated in a collaborative decision on the optimal number of producers and injectors, balancing CAPEX, expected recovery, and production sustainability. This exercise highlighted the integrated nature of FDP, requiring close coordination between geoscientists, reservoir engineers, and facilities teams.

This physically conducted session allowed for dynamic interaction and critical thinking, where students applied theory to realistic reservoir development challenges. By simulating the reservoir management process from subsurface interpretation to production forecasting, the workshop significantly strengthened their understanding of reservoir dynamics, fluid flow, and well performance optimization.

The Petroleum Engineering, School of Engineering extends its appreciation **to Ts. Mohd Fairuz Bin Azman** for his commitment to student development.

Production Optimization in Focus – FDP Session with Mr Fairuz Azwardy Salleh from Malaysia Petroleum Management (MPM)

On 28th March 2025, final-year Petroleum Engineering students were given a unique opportunity to gain real-world insights into the production engineering aspects of Field Development Planning (FDP) through an engaging session held online via Microsoft Teams. The session was led by **Mr. Fairuz Azwardy Salleh**, **Petroleum Engineering Manager at Malaysia Petroleum Management (MPM)**, and was organized by **Ir. Dr. Wong Siew Fan** as part of a series of industry-academic engagements.



This session, attended by all Year 4, Semester 2 PE students, offered a deep dive into the role of production engineering in maximizing hydrocarbon recovery, reducing downtime, and optimizing surface and subsurface operations across a field's life cycle.

Technical Focus: Production Engineering in FDP

Mr. Fairuz began by contextualizing the role of production engineering within a multidisciplinary FDP team, describing it as the "bridge between reservoir potential and realized output." He highlighted how production engineers are responsible for translating reservoir models into actionable plans to ensure efficient, safe, and sustainable flow from the reservoir to the surface.

Key topics covered included:

Production Forecasting

Students were introduced to nodal analysis as a core tool for forecasting production rates, selecting artificial lift methods, and optimizing well performance. Mr. Fairuz walked through how **inflow performance relationships (IPR)** and **vertical lift performance (VLP) curves** are used in tandem to identify operating points and design production systems that minimize energy losses and pressure drops.

Well Completion and Artificial Lift

The session explored the selection of completion strategies—including tubing sizing, perforation techniques, and sand control methods—based on reservoir properties such as permeability, fluid type, and formation integrity. Additionally, Mr. Fairuz discussed various artificial lift methods (ESP, gas lift, plunger lift, rod pump), emphasizing how lift selection must align with well deliverability and expected production decline.

Surface Network and Facilities Integration

A major part of the discussion centered on the integration of surface facilities and production networks into the FDP. Mr. Fairuz stressed the importance of surface choke design, flowline sizing, separator pressure constraints, and pipeline hydraulics, all of which can significantly affect deliverability and production efficiency.

The students also learned about production system modeling, where software tools like PROSPER, GAP, and PIPESIM are used to simulate complete production networks—from reservoir to processing facilities—and evaluate multiple operational scenarios.

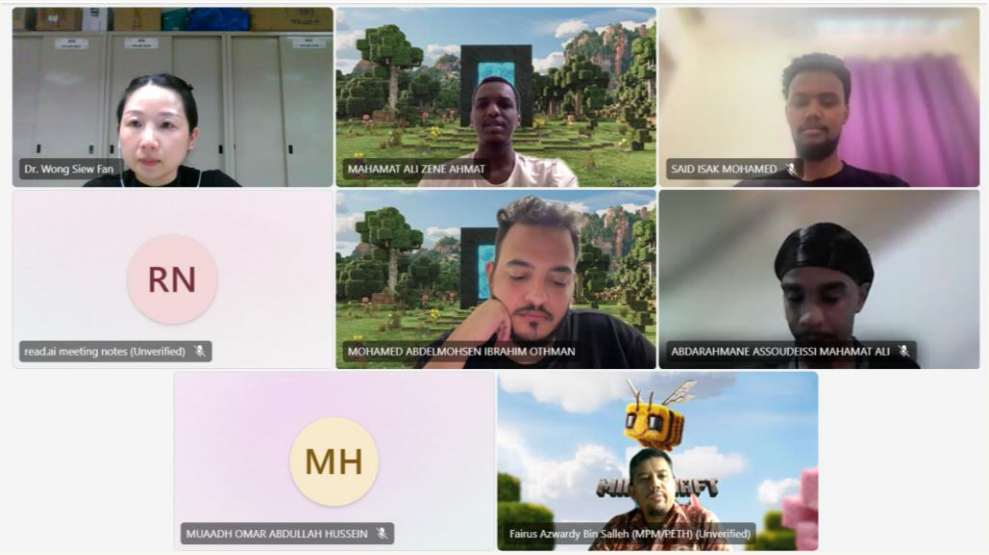
Surveillance, Optimization & Decline Management

The session concluded with insights on production surveillance techniques, including pressure transient analysis, rate transient analysis, and real-time data monitoring, all essential for identifying underperforming wells and opportunities for intervention. Mr. Fairuz also touched on decline curve analysis and how understanding natural production behavior supports long-term planning and reserves estimation.

Student Takeaway

Through this session, students gained a clearer understanding of how production engineers contribute to FDP formulation—from wellbore to separator—ensuring that subsurface potential is translated into stable and sustainable output. The technical depth, combined with real operational examples, gave students an invaluable look at decision-making under uncertainty, optimization trade-offs, and life-cycle production planning.

The Petroleum Engineering, School of Engineering expresses its sincere gratitude to **Mr. Fairuz Azwardy Salleh** for his impactful sharing.



Energy4me Training Workshop at APU – Advancing Energy Education with SPE International

On Friday, 21st February 2025, Asia Pacific University (APU) had the honour of hosting the **Energy4me Training Workshop**, a globally recognized initiative led by **SPE International**. This remarkable event was made possible through the efforts **of Ir. Ts. Dr. Harvin Kaur Gurchran Singh,** who played a pivotal role in bringing **Ms. Lou Jean**, Energy Education Manager for the Eastern Hemisphere at SPE International, to APU. The workshop provided an immersive learning experience, equipping students with internationally recognized training methodologies in energy education.

The event saw enthusiastic participation from 30 students representing various SPE Student Chapters, including SPE APU SC, along with 5-7 industry professionals from SPE Kuala Lumpur section. As the energy industry undergoes rapid transformations driven by technological advancements and sustainability efforts, this workshop aimed to bridge the gap between academia and industry, ensuring that students gain relevant, hands-on experience that aligns with global energy standards.

Bringing Global Energy Education to APU

In today's world, where the demand for sustainable and innovative energy solutions is growing, energy education plays a critical role in shaping the future workforce. Recognizing this, Ir. Ts. Dr. Harvin Kaur took the initiative to bring Ms. Lou Jean to APU, ensuring that students receive first-hand exposure to SPE International's Energy4me program—a global initiative that promotes energy literacy and best practices in energy sustainability.

Ms. Lou Jean, a seasoned expert in energy education and industry engagement, led the workshop with a dynamic and interactive approach, providing students with a deeper understanding of global energy challenges, technological advancements in energy production, and the future of sustainable energy. She also emphasized the importance of integrating digitalization and innovation in the oil and gas sector, preparing students for the evolving energy landscape.

An Interactive Learning Experience

Rather than being a traditional lecture, the Energy4me Training Workshop was structured to be engaging, practical, and collaborative. Students participated in various activities that reinforced key energy concepts through real-world case studies, simulations, and interactive discussions. Some of the highlights included:

- Understanding Global Energy Trends – Students explored the current and future state of the energy industry, including the challenges of balancing energy security, affordability, and sustainability.
- Hands-on Learning & Simulations – The session featured practical exercises and industry case studies, allowing students to apply their knowledge to real-world energy scenarios.
- Bridging Academia & Industry – The workshop emphasized how SPE International standards are applied in real-world energy projects, helping students understand the direct link between their academic learning and industry applications.

- Networking & Knowledge Exchange – With participants from multiple SPE Student Chapters and industry professionals from SPE KL, the workshop provided a valuable platform for networking, mentorship, and collaboration opportunities.

Impact and Future Prospects

The success of this workshop highlighted the importance of hands-on, inquiry-based learning in STEM education. By introducing SPE International's methodologies, students not only gained technical knowledge but also developed problem-solving and critical-thinking skills essential for their careers.

With the energy industry shifting toward sustainability and digital innovation, equipping students with industry-relevant knowledge and exposure to global best practices is more critical than ever. This event also reaffirmed APU's commitment to providing world-class educational opportunities that align with the latest industry trends.

EVENTS

Industrial Visit to UZMA Group & Deleum Berhad

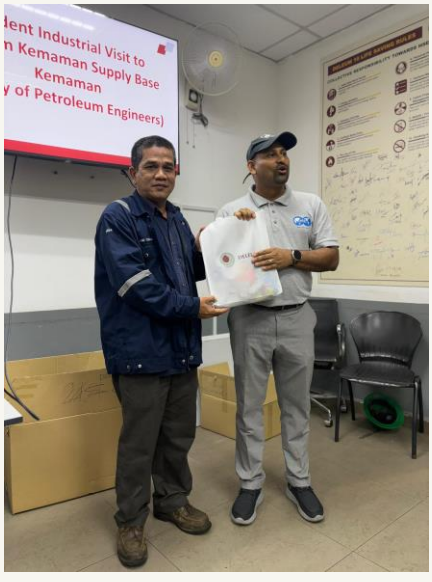
On 12th January 2025, 10 participants from SPE Student Chapters APU, mentored by **Ms Fatin Ayuni Mohd Suhaimi and Ir Dr Wong Siew Fan** in collaboration with SPE KL, SPE Students Chapters from UCSI, UiTM, UM, APU, and UTM, successfully organized an industrial visit to Uzma Groups and Deleum Berhad in Kemaman Supply. This initiative aimed to bridge the gap between universities and industries by providing students with hands-on exposure to cutting-edge technologies and operations, networking opportunities with industry professionals, and insights into career pathways within the oil and gas sector.

The event commenced started at Gombak LRT Station at around 6:15 AM. All participants gathered and short ice breaking session held between the participants from different institute. The journey officially began at 6:30 AM as the participants departed for Uzma Warehouse. The travel time was utilized for engaging discussions on industry trends and expectations, ensuring that students maximized their learning experience throughout the visit.

Upon arrival at 11:00 AM**,** participants were welcomed at the Uzma Warehouse, where they gained firsthand insights into the company's operations, technological advancements, and industry best practices. The visit was structured to provide a comprehensive understanding of how Uzma contributes to the energy sector. After the session, participants had a break for lunch and Zuhr prayer before proceeding to the next destination.

At 2:30 PM, the journey continued from Uzma Warehouse to Deleum Warehouse. Deleum team provided an informative session on their latest technologies, product development, and operational excellence in the oil and gas industry. The visit allowed students to engage in meaningful discussions with industry experts, fostering a deeper understanding of field operations and career prospects.

As the event ended, participants began their return journey at 5:00 PM. The trip back to Terminal Gombak took several hours, with an expected arrival time of 10:30 PM. Throughout the day, students gained valuable insights into real-world petroleum engineering applications, reinforcing their academic knowledge with practical exposure. As this event ends, the representative from the SPE KL, TS. Anwarudin Saidu Mohemed and Deleum Berhad Supervisor, exchange a token of appreciation.



The success of this visit highlights the importance of industry-academia collaborations in preparing students for future careers. SPEKL and its collaborating student chapters extend their appreciation to Uzma and Deleum for their hospitality and willingness to share their expertise. The visit was a remarkable experience, equipping students with the knowledge and connections necessary to navigate the dynamic oil and gas industry effectively.

Zeiss Academic Program (SEA 2024) for APU interns

On March 4, 2025, representatives from ZEISS visited APU to give an insightful talk about their internship opportunities for APU's upcoming internship students. During the session, they provided detailed information about the company's operations in the optical and optoelectronics industries, emphasizing their commitment to service. The speakers highlighted the importance of equipping students excellence and continuous improvement in customer with the necessary skills and knowledge to thrive in real-world environments. They also shared personal experiences and success stories, illustrating how engaging with industry specialists can significantly enhance one's understanding and career prospects.

Following the talk, ZEISS introduced their internship program specifically for APU students. This program aims to provide interns with hands-on experience and professional networking opportunities. By working closely with specialists in the field, interns can enhance their skills and open up new avenues for growth. The internship is designed to help students unlock their potential and prepare for successful careers in their chosen fields.

This internship is a valuable chance for students to gain practical experience and build a strong foundation for their future careers.

Addressing Malaysia's Semiconductor Talent Gap: Insights from the Semiconductor Talent Strategy Lab

On March 25, 2025, **Asst Prof Ir EUR ING Ts Dr Lau Chee Yong and Ir Dr Lian Wen Xun** had the opportunity to participate in the "Semiconductor Talent Strategy Lab" at Zenith Hotel Putrajaya. This strategic gathering brought together experts from government agencies, industry players, academic institutions, and training providers to address the critical talent challenges facing Malaysia's semiconductor sector.

Organized by Talent Corp in collaboration with KESUMA, MITI, and the National Semiconductor Strategy (NSS) team, the event was attended by key academic representatives including **Asst Prof Ir EUR ING Ts Dr Lau Chee Yong** and **Ir Dr Lian Wen Xun**. It provided a structured platform for identifying solutions to talent shortages that could potentially hamper Malaysia's ambitions in the global semiconductor landscape.

The roundtable discussions were particularly insightful, offering a comprehensive view of the talent ecosystem from multiple perspectives. As an academic representative, they contributed insights on how educational institutions can better align their curricula and teaching methodologies with rapidly evolving industry demands. These discussions highlighted the importance of maintaining open channels of communication between academia and industry to ensure graduates possess relevant, up-to-date skills.

One of the most valuable aspects of the lab was gaining first-hand understanding of the challenges faced by different types of industry players. Local companies, SMEs, and multinational corporations each presented unique pain points regarding talent acquisition, retention, and development. The talent strategies discussed ranged from short-term initiatives to address immediate needs to long-term structural reforms aimed at building a sustainable talent pipeline.

Among the notable solutions proposed were industry-led approaches for targeted talent upskilling, micro-credential programs, enhanced internship frameworks, and creative initiatives to attract Malaysian semiconductor talent working overseas. The lab also explored various incentive mechanisms to support local companies in competing for talent against multinational corporations, which often have greater resources at their disposal.

The discussion around creating a centralized platform for talent data and career development was particularly promising, as was the emphasis on specialized training programs to build niche semiconductor expertise. Additionally, there was substantial focus on revising educational curriculum and delivery methods to incorporate emerging technologies and industry-relevant practices.

The collaborative atmosphere of the event underscored the recognition that talent development in the semiconductor space requires coordinated effort across all stakeholders. As Malaysia positions itself as a key player in the global semiconductor value chain, these discussions represent a crucial step toward ensuring the country has the skilled workforce necessary to support industry growth.

We left the event with a deeper appreciation of the complex talent challenges facing the semiconductor industry and a renewed commitment to strengthening academia-industry partnerships. The insights gathered will undoubtedly inform future academic initiatives and, hopefully, contribute to building a more resilient talent ecosystem for Malaysia's semiconductor sector.


Nazrul Aziz
Group Strategy Officer - TalentCorp
Welcoming Remark
DRIVING MALAYSIA'S TALENT STRATEGY


TalentCorp
DRIVING MALAYSIA'S TALENT STRATEGY
OPTIMISE MALAYSIAN TALENT
BUILD NETWORKS OF TOP TALENT
ZENITH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BUILD NETWORKS OF TOP TALENT
ATTRACT & FACILITATE GLOBAL TALENT
ZENITH

APU-KPR International Faculty Exchange: Fostering Global Academic Collaboration Distinguished Engineering Assistant Professor Strengthens International Partnerships

Asst Prof Ir EUR ING Ts Dr Lau Chee Yong from the School of Engineering at Asia Pacific University of Technology and Innovation (APU) Malaysia was invited as a visiting professor by KPR Institute of Engineering and Technology in Coimbatore, India. During his two-week visit, Dr. Lau conducted an extensive knowledge exchange program and participated in research discussions with faculty members at the postgraduate level.

This significant academic exchange represents an ongoing collaboration between APU and KPR Institute, designed to strengthen international cross-institutional partnerships. The initiative received strong endorsement and support from CIEO **Prof Ir EUR ING Ts Dr Vinesh Thiruchelvam,** highlighting APU's commitment to global academic engagement. Dr. Lau's invitation placed APU among an elite group of international institutions, as KPR also hosted professors from the UK, USA, Sweden, Germany, Taiwan, Korea, and France during this exchange program.

Strategic Institutional Dialogue

On the first day of his visit, Dr. Lau engaged in a strategic 30-minute dialogue with Dr. D. Saravanan, Principal of KPR Institute of Engineering and Technology. This high-level meeting focused on exploring potential collaboration opportunities, identifying synergistic research directions, and developing actionable strategies to benefit both institutions. The discussion established a foundation for deeper academic partnership between APU and KPR, with specific focus on engineering education and research innovation.

Industry-Academia Connection: Quantum Knit Visit

As part of the comprehensive exchange program, Dr. Lau was granted exclusive access to visit Quantum Knit, the flagship business of the KPR Group and one of India's largest garment manufacturers. This facility supplies premium garments to major international retail brands including H&M, Decathlon, and Marks & Spencer.

Located in Coimbatore's renowned textile hub, Quantum Knit exemplifies how traditional expertise can be integrated with modern manufacturing processes to compete in global markets. This industrial visit provided Dr. Lau with valuable insights into large-scale manufacturing operations and supply chain management, knowledge that will enhance APU's engineering curriculum and research in industrial applications.

Educational Contribution: Advanced Electronics Workshop

Demonstrating APU's expertise in engineering education, Dr. Lau conducted an intensive Analogue Electronics Workshop for undergraduate Electrical and Electronics Engineering students at KPR. The comprehensive workshop covered critical topics including Bipolar Junction Transistor theory, Multi-Stage Amplifiers, Feedback systems, and practical LTSpice Simulation techniques.

This knowledge-sharing session proved highly beneficial for both students and faculty members, enhancing their technical competencies and exposing them to international teaching methodologies employed at APU. The workshop highlighted the practical, industry-relevant approach to engineering education that distinguishes APU's teaching philosophy.

Corporate Education Model Investigation

During his visit, Dr. Lau studied KPR Mill Limited's innovative educational division, which provides structured pathways for women employees to earn degrees from undergraduate to postgraduate levels. This progressive model arranges classes around work shifts, enabling employees to balance educational advancement with professional responsibilities.

This corporate education initiative has received recognition as an exemplary corporate social responsibility program that simultaneously addresses educational needs and women's empowerment in the manufacturing sector. Dr. Lau's investigation of this model provides valuable insights for potential adaptation within APU's community engagement framework.

Promoting International Education Opportunities

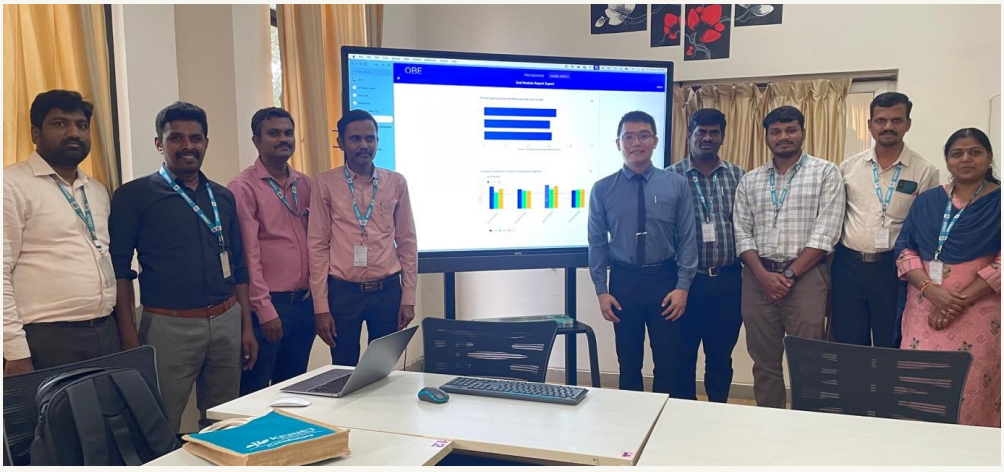
As part of KPR's corporate social responsibility initiatives, Dr. Lau delivered an informative presentation to students at Aurobindo Vidhyalaya Secondary School. The session focused on international education opportunities and the benefits of pursuing tertiary studies abroad.

Dr. Lau specifically highlighted APU's strengths as a premier university that embraces international diversity and multicultural studentship. He positioned APU as an ideal destination for Indian students seeking quality international education, potentially opening new student recruitment channels for the university.

Educational Methodology Exchange

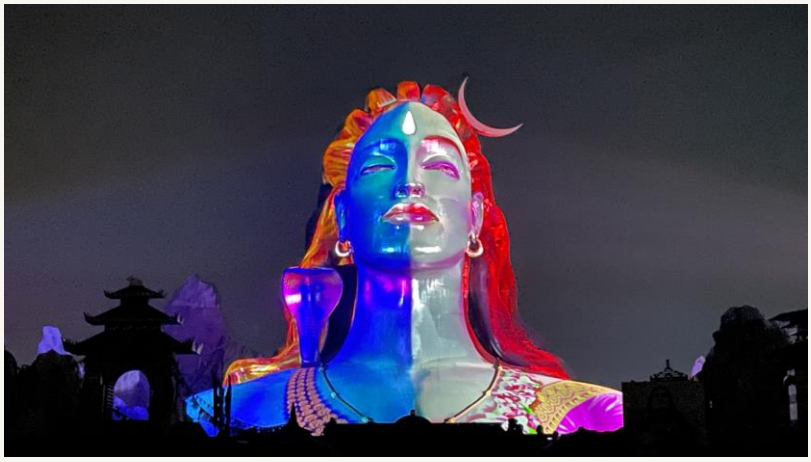
In a specialized academic exchange session, Dr. Lau shared APU's expertise in Outcome-Based Education (OBE) methodologies with KPR's Department of Electrical Engineering. The productive discussions with department head Dr. Mohana and faculty members resulted in valuable knowledge exchange regarding best practices in OBE implementation.

This collaborative dialogue provided both institutions with enhanced strategies to improve their educational frameworks, assessment methodologies, and student learning outcomes. The exchange underscored APU's leadership in implementing advanced educational approaches that prepare graduates for industry success.



Cultural Enrichment

To round out the comprehensive exchange program, Dr. Lau visited the Adiyogi statue at Isha Yoga Foundation, recognized by the Guinness World Records. This cultural experience provided valuable context for understanding India's rich heritage and philosophical traditions.



This strategic international faculty exchange yields significant advantages for Asia Pacific University of Technology and Innovation, positioning it prominently on the global academic stage. Dr. Lau's participation alongside professors from prestigious international universities elevates APU's academic profile while establishing foundations for joint research initiatives that could lead to international publications, grants, and innovation projects. The exchange also creates tangible opportunities for curriculum enhancement through insights gained from KPR's engineering programs, opens new student recruitment channels from India, and provides valuable perspectives for refining APU's teaching and assessment methodologies through the exchange of OBE practices.

The observation of KPR's innovative corporate education initiatives offers valuable blueprints for expanding APU's community engagement programs, while simultaneously enhancing Dr. Lau's international teaching experience and cultural competency – skills that will directly benefit APU's multicultural student body. The established relationship also creates opportunities for future student exchange programs between the institutions, and importantly, documentation of such international collaborations strengthens APU's position during accreditation reviews and international assessments, reinforcing its reputation as a forward-thinking institution committed to globally relevant engineering education.

The successful completion of this faculty exchange initiative demonstrates APU's commitment to international academic excellence and reinforces its position as a forward-thinking institution dedicated to providing globally relevant engineering education.

APU and Dongying Vocational College Forge International Partnership

Asia Pacific University of Technology and Innovation (APU) recently welcomed a delegation from Dongying Vocational College of Science and Technology for the signing of a Memorandum of Understanding (MoU) aimed at fostering collaboration and student exchange between the two institutions.

The significant agreement was officially signed by the Principal of Dongying Vocational College and Dr. Teh Choon Jin, Senior Director of Administration & Human Resources at APU, marking the beginning of a promising international partnership.

The APU delegation was represented by key academic leaders, including **Associate Professor Ir Ts Dr. Siva Kumar Sivanesan**, Head of the School of Engineering, Assistant Professor **Ir Ts Dr. Alexander Chee Hon Cheong,** and **Assistant Professor Ir EUR ING Ts Dr. Lau Chee Yong.**

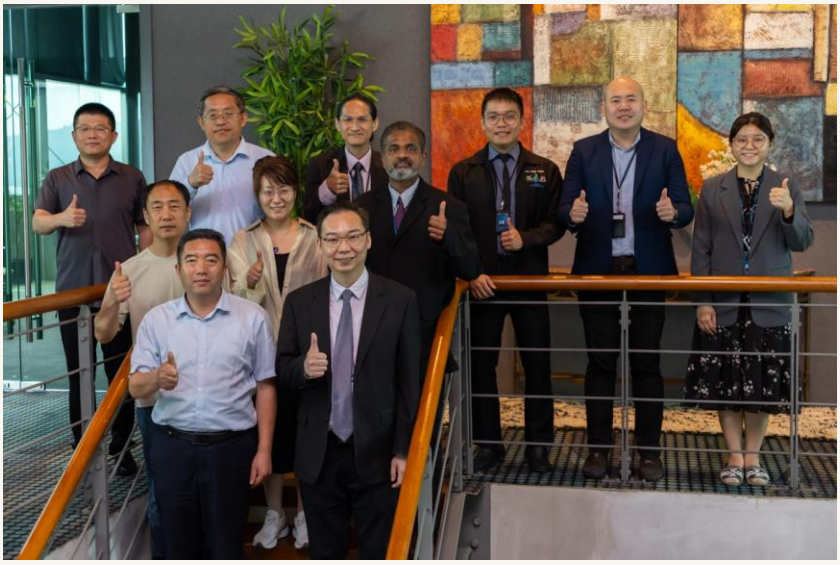
During their visit, the Dongying representatives were given comprehensive tours of APU's state-of-the-art facilities. The delegation explored numerous specialized laboratories, including the Cybersecurity Lab, Applied AI Lab, Power Lab, Fabrication Lab, Siemens PLC Lab, and Petroleum Lab, gaining insights into APU's technological capabilities and educational resources.

The partnership is expected to open new avenues for academic collaboration, research initiatives, and cultural exchange between Malaysia and China. Students from both institutions will benefit from exchange programs designed to enhance their global perspective and professional development.

"This collaboration represents an important step in our internationalization strategy," commented Dr. Teh during the signing ceremony. "By connecting our institutions, we're creating valuable opportunities for students and faculty to engage in cross-cultural learning experiences."

The MoU outlines plans for joint research projects, faculty exchange programs, and curriculum development initiatives that will leverage the strengths of both institutions.

This partnership reflects APU's ongoing commitment to forming strategic international alliances that enhance the quality and global relevance of its educational offerings.




APU & DONGYING VOCATIONAL COLLEGE
MoU Signing Ceremony
26 March 2025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Petroleum Geology Fieldwork

On February 17, 2025, 9 Petroleum students participate in Petroleum Geology Fieldwork for a hands-On Learning Experience. As part of the Petroleum Geology module assessment, a one-day fieldwork was conducted, accounting for 30% of the module's grade. This fieldwork aimed to introduce Petroleum Engineering students to essential geological fieldwork procedures. The Petroleum Geology (PG) module focuses on the geological concepts of petroleum systems, sedimentology, structural geology, and stratigraphy.

The trip was guided by three PE lecturers: **Dr. Husna Aini, Ms. Fatin Ayuni Mohd Suhaimi,** and **Mr. Syahmi,** and involved 9 enthusiastic petroleum students. During the fieldwork, students applied classroom theories to real-world scenarios. They observed various outcrops to understand the rock cycle, analyzed grain size to relate sedimentology and stratigraphy concepts to depositional environments, and used structural geology concepts to study petroleum systems analogies.

The below fieldwork Learning Outcomes were achieved:

- Students were able to apply theoretical knowledge of the rock cycle by observing various outcrops.
- Students were able to analyse grain size to understand sedimentology and stratigraphy in relation to depositional environments.
- Students were able to utilize structural geology concepts to draw analogies with petroleum systems.

The fieldwork commenced at 8 AM, visiting the Kenny Hills Formation to study schist and phyllite, followed by Bukit Permai in Ampang to observe granite formations. The trip concluded with a visit to the Batu Caves, known for its Late Pliocene fossil limestone caves at the Gombak-Hulu Langat Geopark Site. The day ended at 5 PM with a return to APU.

APU-Cytron Train the Trainer Event Bridges Education and Technology

Asia Pacific University of Technology and Innovation (APU) in collaboration with Cytron Technologies Sdn Bhd successfully hosted the Rero Eduteam Train the Trainer event on April 12, 2025. The half-day corporate social responsibility (CSR) initiative took place from 8:30am to 12:00pm, targeting secondary school teachers from the Klang Valley region.

Led by **Assistant Professor Ir EUR ING Ts Dr Lau Chee Yong, Head of Visionary AI Studio** at APU, the event focused on equipping educators with essential skills in "Rero microbit" and "Cyborg challenge" - key components of modern STEM education. This training forms part of the broader RERO Annual Championship (RAC) program, which has been nurturing young talent in robotics since its inception in 2016. This event was also supported by the **Chief Innovation and Enterprise Officer Prof Ir EUR ING Ts Dr Vinesh Thiruchelvam**.

The RERO Annual Championship was established as a beginner-friendly platform to introduce robotics and coding to primary and secondary school students. Organized by rero EDUteam, the education arm of Cytron Technologies, with support from the Malaysian Digital Economy Corporation (MDEC), the program provides comprehensive resources including introductory workshops and complete learning modules to prepare teachers in guiding students who are new to robotics and coding.

"Our vision is to bring robotics and coding to the masses, ensuring every child interested in learning has the opportunity to do so," explained by Cheryl, the Chief Education Officer of Cytron during the opening session. This vision aligns perfectly with Cytron Technology Rero Eduteam's tagline: "Bringing Robotics and Coding to the Masses."

The April 12 training session advances several key objectives of the program: introducing robotics and coding to more students, training teachers to become certified instructors, providing access to robotics education resources, and creating opportunities for students to participate in technology competitions.

A highlight of the event was the story of **Mr. Lum Mun Chak**, a former participant in Cytron's robotics program since 2019. After consistently attending events organized by Cytron and APU, Mr. Lum has now enrolled in APU's Diploma in Mechatronics program. His journey exemplifies the growing community connection between Cytron and APU, as several other students in APU's School of Engineering discovered the university through similar robotics programs and subsequently enrolled.

"We're witnessing the formation of a small but vibrant Cytron-APU community," noted by Prof Vinesh. "This organic growth demonstrates how initiatives like today's teacher training can create lasting educational pathways for students interested in technology and engineering."

The Train the Trainer event represents an important step in strengthening Malaysia's STEM education ecosystem, particularly in robotics and coding. By empowering teachers with specialized knowledge in microbit programming and robotics challenges, APU and Cytron Technologies are laying the groundwork for the next generation of innovators and technologists in Malaysia.

As the morning session concluded, participants received certification and teaching materials to implement their newly acquired knowledge in their respective schools, ensuring the impact of this training extends well beyond the half-day event.

IEM-APU Student Section (IASS) Hand Over Ceremony 2024 to 2025/2026

On 18th April 2025, the **IEM-APU Student Section (IASS)** held its annual Handing Over Ceremony to formally transition leadership from the 2024 committee to the newly appointed 2025/2026 cohort. The event, attended by students and Advisor, **Ir. Ts Subhashini Gopal Krishnan** served as a significant occasion to reflect on past achievements while setting the tone for the future leadership's direction.

The ceremony began with a warm welcome by the Master of Ceremony, **Mr. Mohamed Gamal**, who introduced the event's purpose and acknowledged the attendees.

To engage the audience, he led a short, interactive segment in which both **Ir. Ts Subhashini Gopal Krishnan** and **Ts. Dr. Arun Seeralan** shared spontaneous words of encouragement. Their remarks emphasized the importance of student leadership and conveyed support for the incoming team.

Ir. Ts Subhashini Gopal Krishnan then delivered a formal address, commending the dedication of the 2024 committee and highlighting IASS's mission in promoting leadership, professionalism, and active student involvement. She outlined her aspirations for the new committee, encouraging them to lead with innovation, teamwork, and integrity.

The newly elected Vice Presidents (Kalyana and Dheeraj) and President Jushita Pediredla were subsequently invited to deliver their first official speeches.

They expressed gratitude for the opportunity to serve and outlined their vision for the term ahead, emphasizing plans for industry engagement, event expansion, and member development.

To introduce the full committee, a video was played featuring each member's self-introduction and personal motivation for joining IASS. This visual presentation helped personalize the leadership team and fostered a connection with the audience.

The second half of the event was led by the succeeding Master of Ceremony, **Mr. Vishven,** who reflected on the accomplishments of the 2024 committee. He thanked them for their contributions and highlighted key milestones from their term.

This was followed by a certificate presentation, where Ir. Ts. Subhashini Gopal Krishnan awarded Certificates of Recognition to the outgoing members as a gesture of appreciation for their dedicated service.

The focus then shifted to the formal induction of the 2025/2026 committee. Each member was invited to the stage to receive their official badge of appointment from the Head Supervisor, symbolizing their assumption of responsibility and commitment to lead.

The New Committee of IASS for 2025/2026

The ceremony concluded with a refreshment session, offering attendees the opportunity to network, reflect, and celebrate the leadership transition.

The event was professionally executed, celebrating continuity while ushering in a promising new chapter.

In conclusion, the Handing Over Ceremony succeeded in recognizing the outgoing committee's achievements while empowering the new leadership with vision and purpose. It reinforced IASS's role in developing capable, forward-thinking engineers and student leaders at APU.

Taiwan Semiconductor Job and Study Fair 2025

The Taiwan Semiconductor Job and Study Fair was held on April 14 at **University Putra Malaysia (UPM).** It was a special opportunity for 47 of APU engineering students to meet with leading companies in the semiconductor industry where they had opportunities to connect with the industry representatives through formal interviews and information sessions.

In-house presentations were given by semiconductor companies and academic institutions which discussed current industry topics, technologies and career opportunities for the future.

The main intention for participating in this industrial visit was to acknowledge and practice independent and life-long learning as a component of continuous development in professional engineering practice, in recognition that professional engineers are expected to continually acquire knowledge after the traditional learning takes place in the classroom.

The visit provided a model of what independent and life-long learning can be through face-to-face engagement with representatives from eleven companies, as the students were formally interviewed by the companies present on that day.

Every company provided different career pathways for engineers, which gave important perspectives about how to think about pathways for professional development in the industry.

TSMC describes a advancement paths that have development tracks for responsibility and tracks for moving to management. This unique framework has led TSMC to create mechanics for providing engineers career advancements, but they have the ability to develop their career without moving out of their technical expertise if they choose to.

This "dual ladder" framework illustrates that technical leadership could be found in any engineering organization but leadership in a technical way, through engineering expertise is a different form of leadership and was treated independently as valued in every organization.

Realtek emphasized the general perspective of developing engineers through cross-disciplinary experiences that provided a general approach to progression through product lines. The development pathway is based on depth of technical understanding, and breadth of understanding rather than narrow specialization.

Phison described a project based pathway to development, relying on progression through proving increasing levels of responsibility that are connected to demonstrating positive outcomes during the lifecycle of projects. The difference with Phison is that progression was less reliant on years of experience, and more focused on demonstrated capability of delivering results in complex projects.

Silicon Motion's concept focused on career paths for specialization, however this pathway allowed deep expertise development in select technological domains and openings for engineers to be recognized experts in narrower but technically critical areas.

Overall, all of these perspectives showed very well from an employer's perspective the ways that engineers must frame and plan their independent learning opportunities focused on their working contexts and personal goals.

In conclusion, the 2025 Job and Study Fair with Taiwan Semiconductor at UPM provided the students with invaluable opportunities to engage with TSMC, Realtek, Phison and Silicon Motion for our students' sector engagement.

The four companies, from different parts of the semiconductor value chain, systematically illustrated how complicated the sector can be and how many engineering pathways exist for our students. The industrial visit demonstrated how the rapidly evolving technology in semiconductors will lead engineers to undertake continuous knowledge acquisition.

Overall, it reinforced that independent, continuous learning is not just a supplement to formal education, but a professional obligation. Although these companies have different business models and technological foci, they all conveyed a baseline expectation of their engineers to pursue knowledge currency over the period of one's career, reinforcing uniformly across the four companies as an industry expectation.

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