



# ENGINEERS INSIGHT

VOLUME 29  
DEC 2022

# Engineers Insight Editorial Board



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# IEC YOUNG PROFESSIONAL -TS DR LAU CHEE YONG

November 2022

Ir Eur Ing Ts Dr Lau Chee Yong, Senior Lecturer of the School of Engineering, Asia Pacific University of Technology & Innovation, recently completed the International Electrotechnical Commission (IEC) Young Professional Programme in San Francisco, USA, and was subsequently certified as the IEC Young Professional. Dr Lau is the ONLY candidate in Malaysia nominated by the Department of Standards Malaysia (DSM) to attend this programme, organised in conjunction with the 86th IEC General Meeting which was held from 24th October to 4th November 2022. He was also the finalist for the candidature of Young Professional Leader for Asia & Middle East region. Dr Lau received this recognition from the IEC President-Elect 2022, Mr Jo Cops; and the Chief Executive Officer (CEO) of Suruhanjaya Tenaga (Energy Commission) Malaysia, Ir Ts Razib Dawood.



With this new feather on his cap, Dr Lau will be working closely with DSM, IEC, as well as the Institution of Engineers, Malaysia (IEM), to continue working on achieving the worldwide use of IEC International Standards and Conformity Assessment Systems with the objective of ensuring the safety, efficiency, reliability and interoperability of electrical, electronic and information technologies; so as to enhance international trade, facilitate broad electricity access and enable a more sustainable world.

## Achievements

Each year, the IEC Young Professionals Programme will seek new participants - engineers, managers, and technicians – who are involved in the fields of electricity and electronics from more than 130 countries, to join the YP Programme and to qualify themselves as IEC Young Professionals. Before this, Dr Lau needed to get through the nomination processes in Malaysia. He first passed the assessment conducted by the Electrical Engineering Technical Division (EETD) of the Institution of Engineers, Malaysia (IEM). He was then nominated by DSM for the final selection, which was subject to one's qualifications, experience, and involvement in standardization.

“This is the third year I'm applying to attend the Young Professional Workshop since 2019 and have kept improving myself since then. I obtained more qualifications and also joined as a co-opted member of the National Standard Committee (NSC) Section G: Information Technology, Communication and Multimedia



under the Brain Computer Interface Advisory Group (AG16).

“From there I learned about the process of standardization and conformity assessment, met with representatives from different countries and participated in the meeting together. This indeed is an eye-opening experience, and it is very beneficial in my career path. I believe these initiatives made me qualified to be nominated by DSM this year. I would like to thank Prof Ir Ts Dr Vinesh Thiruchelvam, our Chief

Innovation & Enterprise Officer, for recommending me to join the AG16 working group so I can kickstart the entire journey in standardization works,” said Dr Lau.

At the venue, participants of the YP Programme had a chance to observe IEC management and technical meetings and also took part in interactive breakout sessions related to particular IEC themes where their ideas will be presented to IEC leaders. They also had the opportunity to network with professionals who are assisting in the development of the laws and best practices governing the security, efficiency, and dependability of technology.

# **Advanced Healthcare and Life Sciences International Innovation Awards (AHLIS IIA) Mentor : Ir. Jacqueline Lukose On 24<sup>th</sup> June 2022**

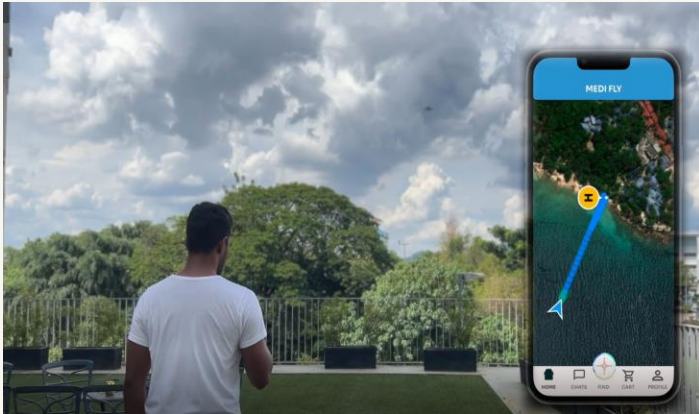
This event was organised by the Malaysia Technology Expo 2022. This annual expo typically attracts innovators, inventors, and investors, both locally and internationally. It is an ideal platform to showcase our students' works. A total of 3 entries was made for this competition. The students' works proposed here were originally completed as Group Assignments in the Group Design Project module. This is considered as a "culminating academic and intellectual experience for students" (EAC Standard, 2020). As part of the module, their works had already been evaluated by a panel of (internal as well as) external, industrial judges and deemed to be "promising" and "with high potential for further development". The individual group compositions has been reshaped to maximise their chances of succeeding. Junior students have been added to 2 of the 3 teams to facilitate knowledge transfer and inculcate a continuity of the spirit of excellence within SOE. All 3 projects were supervised by Ir. Jacqueline Lukose.

Key details of the submitted projects are as follows:

- (i) Assistive Medical Delivery Bot (AMY) - it is an autonomous robot which aims to navigate the floors of the hospital and provide aid with simple but time-consuming tasks. To enable multifunctionality, AMY consists of a fixed base responsible for its navigation and a modular unit which can be interchanged dependent on the use case of the staff's requirements. Autonomous navigation, communication and user-friendly interface are features which have already been developed for the assistant robot.

## Achievements

These features boast state-of-the-art technologies such as artificial intelligence for navigation and object/human recognition and rapid WIFI-enabled communication. With AMY the aim is to support the staff of the medical industries by eradicating monotonous tasks at a hospital and provide a more seamless hospital experience for both staff and patients alike.



MEDI-FLY - Whilst helicopters and road vehicles have been the primary mode of transportation for medical supplies, the consistent battling of navigating through obstacles such as road or landing has been proven difficult. With the intended idea of proposing an app that acts as an online pharmacy for civilians, the mode of transport aims to be one unrestricted by road conditions or the lack of large landing platforms. Therefore, UAV drones were chosen due to their compact size and ability to navigate through heavy traffics. This project is an endeavour to provide the optimal solution by innovatively exploiting other existing technologies like GPS navigation, Disaster



Detection AI, Wireless Charging and replacing fossil fuel sources with electric powered engines. A mobile application was developed to enable users to not only place orders as needed, but also be able to track the real-time location of the delivery and report a disaster manually to notify the drone's AI.

In addition, after the drone receives an order, its integrated system can navigate via GPS navigation, autonomously detect disaster scenes through the camera lens as well as be able to traverse to the nearest wireless docking station for recharging. Thus, enabling long distance journeys.





Smart Hospital Environment (SHE) - During the recent COVID-19 pandemic, the need for minimal physical contact became glaringly apparent due to the high transmissibility of the COVID-19 virus. During the pandemic most medical facilities were overcrowded, and medical frontliners experienced burnout due to excessive demand for treatment. Inadvertently, they were also exposed to the risk of infection themselves while executing their duties. In fact, in line with the prioritisation of frontliners' safety, the WHO even introduced the Health Worker Safety Charter in September 2020. The aim of this project is to develop a Smart Hospital Environment that allows effective delivery of patient care whilst minimising the need for in-person interactions and increasing patient satisfaction. The objectives intended to be reached with this project's execution include remote patient health monitoring by relevant medical professionals while simultaneously allowing occupant control of the hospital room environmental conditions and even place orders for food directly to the kitchen. The methodology involves the use of an IOT circuit connected to a Cloud Database which in turn feeds a GUI using wireless communication. The result is a seamless experience for patients without it coming at the expense of the health and comfort level of frontliners.

All 3 entries performed exceptionally; the awards won by each project were as follows:

AMY – Gold Award and Special Award by Euro Business- Haller,  
Poland

MEDI-FLY – Gold Award and Special Award by Indonesian Invention &  
Innovation Promotion Association (INNOPA)

SHE – Silver Award

**In addition, APU also won the Best Virtual Booth Award. Overall, APU won a whopping 6 awards from this competition!**

### Drone Competition Hosted by ITEX 2022

**Ir. Narendran Ramsendran (SOE)**  
**26<sup>th</sup> & 27<sup>th</sup> May 2022**



APU Team from the credit club has managed to secure yet another gold at the ITEX 2022, since our last Gold award in 2019, which was before the pandemic. The prototype was a drone, that was capable of autonomous flight and could be deployed for firefighting autonomously.

It works in collaboration with the firemen to put out fire using fire extinguisher retardant balls. It incorporates an AI swarm model with cloud analytics of IoT sensor data that coordinates with the ground station and other support drones to maximize its firefighting capability.

Stepping up to the challenge were, Aaron Raj Bhatti Rabah Anakkachery, Sharen Chrisan Fabian Perera, Zifaan Abdulla Ng Joo Kiat, Ryan teo Han J & Cajun Tai Ka Joon, Mechatronics engineering, Electrical and Electronics Engineering & Computer Engineering students from Center of Research in IOT at APU under the guidance of Ir.Narendran Ramasenderan.

APU's Team was picked to receive the GOLD award, because it surpassed the other entries that were present in the exhibition, as their prototype was capable of putting out fire, remotely from a safe distance. It also had autonomous capabilities, and it was able to coordinate the trajectory and approach strategy with firemen. Furthermore, it was able to map big fire incident to coordinate fire fighting efforts between humans and drones.



We also won a silver for our second entry, the self-regulated hydroponic system with mobile application monitoring using internet of things that allows plants to be grown in places with a harsh environment and produce of consistent yield throughout the year. It was the project of our student Lee Zhi Qian under the tutelage of Dr. Chandrasekharan Nataraj.

The project was exhibited at the **33rd International Invention, Innovation & Technology Exhibition (ITEX 2022), Malaysia**

Special Thanks to Krishna Ravinchandra, and Prof Ir Ts Dr Vinesh Thiruchelvam for the guidance and support throughout this project.

# JAMES DYSON AWARD INTERNATIONAL 2022 COMPETITION

**Dr. Satish Kumar Selvaperumal (SOE)**

**30<sup>th</sup> of August 2022**



A recent study by scientists reveals that micro and nano plastics are in every human tissue they sampled . Aware of the global issue of plastic pollution, especially in the world's oceans, Industrial Design and Engineering students at Asia Pacific University of Technology and Innovation (APU) joined hands and try to solve this problem with design thinking. This initiative won them a runner-up at this year's Malaysia James Dyson Award competition.

Team Techgasus, comprising of Industrial Design degree student Mostafa Marzouk; and four Bachelor of Engineering in Mechatronic Engineering with Honours final-year students – Chan Jing Hung, Lim Cher Khai, Lim Joon Yi and Tan Jia-Hao, invented “Whalecro”, an underwater propulsion vehicle with an all-new micro debris filtering system.

## THE SEAR PLC DESIGN COMPETITION 2022



Every engineering student is encouraged to learn new technologies and exhibit skills required of future engineers who operate in a disruptive technological environment. Future graduates also have to exhibit creativity and innovation in solving problems. That is exactly what our Engineering students Wong Chee Kei, Suah Jing Ye and Wong Chee Sheng (team Horizon) did recently. The trio qualified for the finals round of the SEAR PLC Design Competition 2022, where they finished 1st runner up.

The SEAR PLC Design Competition 2022 jointly organized by Institution of Mechanical Engineers, Asia Pacific University of Technology & Innovation (APU) and Republic Polytechnic Singapore.

Automation Studio is a circuit design, simulation and project documentation software for fluid power systems and electrical projects conceived by Famic Technologies Inc.

It is used in CAD, maintenance, and training. Engineers, trainers, and service and maintenance personnel are the primary users. Automation Studio can be used for hydraulics, pneumatics, HMI, and electrical control system design, training, and troubleshooting.

Team Horizon scribbles the general system requirements in OneNote and manages to clarify the required function block as well as the system components with one another based on their understanding.

Following that, they began building the system from the first step and progressed to the fifth steps. Their group approached the problem from a programming standpoint, using flags and variables to solve it, but they quickly realised that it was not feasible due to the nature of the software.

They devote considerable time to determining how to prevent the system from entering an infinite loop in steps 4 and 5. When they did, the time remaining was insufficient to complete the rest of the question.

Team Horizon were unable to complete the question and only managed to successfully build up to step 5 without error, but they were able to submit the file along with the simulation video to the link provided and began to prepare their 5-minute presentation, followed by a 5-minute Q&A session.

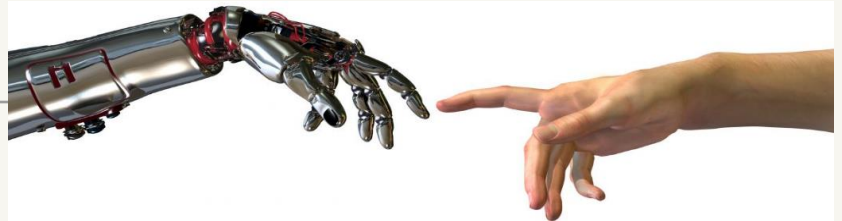
“When the results were announced, Horizon was overjoyed to learn that they had won 1st runner-up,” he explained.



*“How could Robotics Technology Revolutionize Rehabilitation-  
Vickneswari Durairajah - Lecturer, SoE*

## New Trends in Robotics

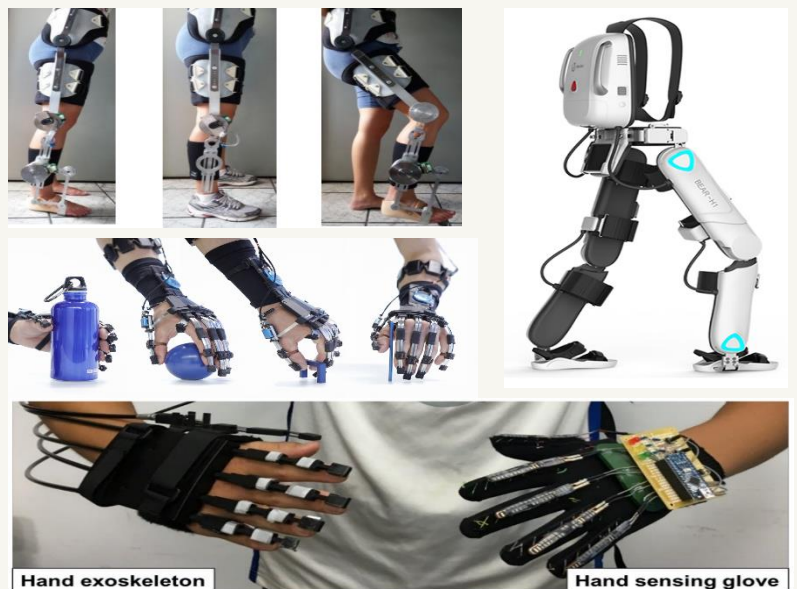
### VICKNESWARI DURAIRAJAH



Robotics Technology is becoming more and more common in healthcare, particularly in rehabilitation endeavours. Exoskeletons are used for upper and lower limbs as shown in Fig. 1, therapy robots, prosthetics and advances in neurology which enable people to regain their mobility and their ability to do daily task by moving their arms. What is rehabilitation? As define by World Health Organization (WHO), it's “a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment”

As such the key advantages of using robotics technology in rehabilitation is that they provide a better and consistent therapy options, treatment quantity and intensity, and enhance motivation. Professional therapists acknowledged the fact that the usage of technology can save staff burden to some extent, and they also believed that logistical problems such as transportation and storage expense can be reduced significantly. Adapting robotics technology in rehabilitation will also significantly assists with the scarce resources of therapist in the rehabilitation sector.

There are causes to be positive about the future of rehabilitation robots. There is a substantial need for rehabilitation services, and that need is only likely to increase as the population ages. For instance, in a study in 2019, stroke has affected 15 million people annually, with a third of them suffering from permanent disability, according to the World Health Organization (WHO). According to their calculations, there are roughly ten times as many people living stroke-free at any given moment as there are survivors of strokes. Despite the lack of accurate statistics, it is possible to estimate that 50 million people globally need rehabilitation treatments each year (WHO, 2019).



Upper and Lower limb Rehabilitation Exoskeleton



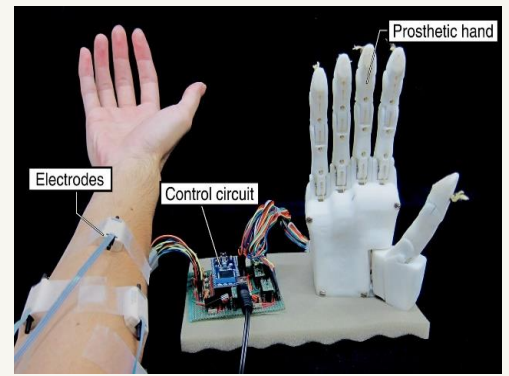
The need for robotics-based rehabilitation is considered as they now have bidirectional feedback that operates during robotic-assisted therapy (RAT), which has intensely altered the rehabilitation environment and practise, the addition of a neuro-robot during therapy imposes crucial role modifications on the therapists. Currently, robots are seen as cutting-edge therapeutic instruments used under the direction of therapists. As a result, robots complement traditional therapies by offering therapy in a specified way for extended periods of time, consistently, and accurately, with less effort required from the patient and therapist.

The labour-intensive aspects of physical therapy will be minimized, and this will provide therapists room to focus on personalised rehabilitation and simultaneous patient observation. The effectiveness and efficiency of rehabilitation programmes have been proven to increase based on clinical studies done by various researchers who have developed such rehabilitation products. Patients may also anticipate improved training results and quicker recuperation times.

Any automated rehabilitation robot's intrinsic capabilities which are highly repetitive, repeatable, and guided limb movements with intelligent control, continual sensory input, and monitoring of performance and behaviour with setting that can be change by healthcare professionals for effective rehabilitation.



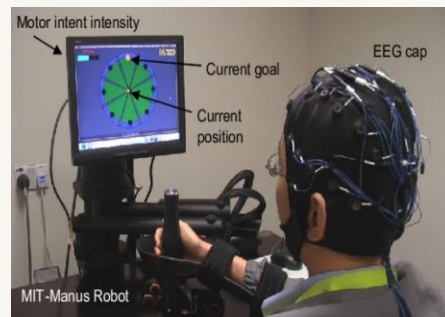
CPM Machine



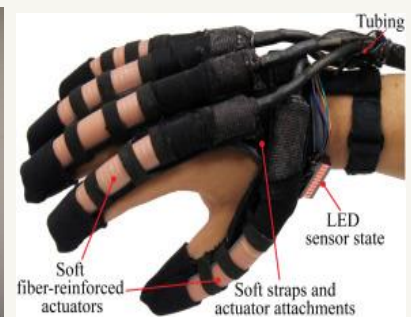
EMG based control

It can be narrowed down to some common types of robotics-based rehabilitation devices that have been developed by many researchers around the world to date, where few of the designs are clinically tested and are approved to be used in rehabilitation. The following are the types of rehabilitation devices:

- Continuous Passive Movement (CPM) – Passive & Active Mode (Fig. 2)
- EMG Control (Fig. 3)
- EEG Control (Fig. 4)
- Pneumatic Control (Fig. 5)

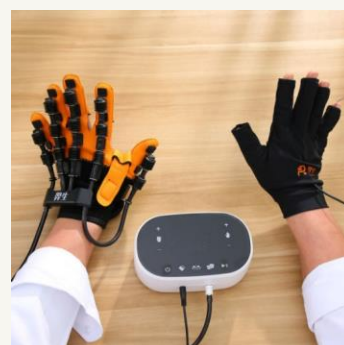


EEG based control



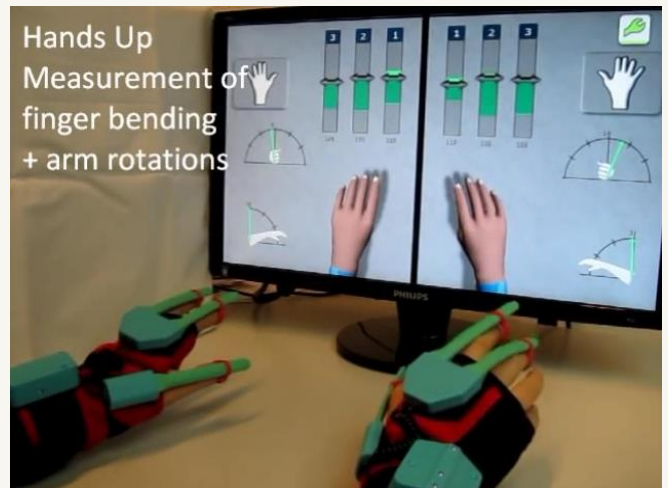
Pneumatic based

control



home rehabilitation device

As we move into IR4.0 and further into IR 5.0, the healthcare industry has also adapted the new era into rehabilitation by gamifying the rehabilitation process. Both in practice and research, gamification has grown significantly. These innovative ideas are becoming increasingly important to boost motivation and commitment, especially in rehabilitation. It is also considered as a relaxing and entertaining process during the rehabilitation process. Mostly the gaming techniques used in rehabilitation are virtual reality (VR), mobile/computer-based video games as shown in Fig. 6, web-based game and mix reality.



## VR and computer games for Rehabilitation

The game design also considers stroke survivors' physical and mental capacities. Based on evaluation of past practices and research, it has been revealed that gamifying the rehabilitation processes has offered beneficial improvements in patient participation.

Numerous rapid advancements in the integration of robotic technology as described in the above, enable therapists to deliver rehabilitation more effectively while enabling patients to access rehabilitation more widely. The development of robotics-based rehabilitation, which may be supplied via inexpensive technologies to provide effective and efficient rehabilitation for people to do the rehabilitation exercises in their homes at their own comfort. Fig. 7 shown a commercially available rehabilitation device that you can buy online for less than RM1k, which is used for arm rehabilitation(grasping).

## PETROLEUM GEOLOGY FIELDWORK

**Fatin Ayuni Mohd Suhaimi**  
**23<sup>rd</sup> –24<sup>th</sup> July 2022**

This fieldwork was conducted to comply with Petroleum Geology's module assessment requirement of a two days fieldwork. The aim is to expose the PE students with geological concept of petroleum system, sedimentology, structural geology and the concept of stratigraphic. The trip was participated by 3 PE students and 2 lecturers (Ms. Ailie and Ms. Fatin Ayuni) travelling to Pahang and Terengganu.

On the first day, we travelled to Bera Lake which the students observed the depositional environment such as the lacustrine. After that, we continued the journey observing the graphic sedimentary log, depositional environment in deep marine (turbidite) and Bouma sequence.



On the second day, we travelled to Pantai Batu Hitam, the observations of volcanic igneous rock (Basalt), Transitional Environment (Beach), Igneous Rock Texture and Structure such as Granulite, Fabric, Vesicular and Pillow Lava were carried out. Later, the trip continued to Pantai Batu Pelanduk where the students had to observe structural geology such as Upright (Open) and Recumbent Folds, Crenulation, Fault and Fracture. The Metamorphic Rock such as Quartzite and Phyllite with their rock structure (Foliation or Non-Foliation) were observed too.



## PETROLEUM GEOLOGY FIELWORK

**FATIN AYUNI MOHD SUHAIMI**

**8<sup>th</sup>-9<sup>th</sup> October 2022**



This fieldwork was conducted to comply with Petroleum Geology's module assessment requirement of a two-day fieldwork. The aim is to expose students with geological concept of petroleum system, sedimentology, structural geology, and the concept of stratigraphic.



This trip participated by 4 PE students and 2 lecturers (Ms. Ailie and Ms. Fatin Ayuni) travelling to Ipoh and Penang.

On First Day, students were to observe the Sedimentary Rock (Limestone) and Structural Geology such as Recumbent Fold, Cave Architecture and Sedimentary Structure in Kek Lok Tong Cave, Ipoh. The trip continued to Gunung Lang Recreational Park, Ipoh which students were need to observe Terrestrial Depositional Environment in swamp and lacustrine.

Next Day, the trip continued to Batu Feringgi in Penang where students need to observe Transition Depositional Environment (Beach and Marine), Igneous Rock (Granite) and Structural Geology (Fault). With participation in the fieldwork, students were able to apply classroom theories to field survey and observation.

## INDUSTRIAL VISIT TO TECHNICAL PRODUCTS Sdn Bhd

**Dr. Raied And Group Engineering students  
23<sup>rd</sup> August 2022**



Scientific & Technical Products Sdn Bhd are the sole distributor of advanced educational technology laboratory equipment in the Malaysian markets. At Scientific & Technical Products Sdn Bhd, the students were given briefing of the history of the company, different types of the robotics, advanced communication, green & renewable energy, automated software testing, IoT (Internet of Things), Intelligent drone educational system, cyber security and digital forensics. Students were excited about the achievements of Scientific & Technical products Sdn. Bhd., After briefing, students visited the smart classroom, printing solution area and educational lab solution that includes basic electronic, renewable energy, drone and robotic.

## INDUSTRIAL VISIT TO TOP GLOVE

**Dr. Wong Siew Fan**  
**14<sup>TH</sup> September 2022**



A group of 19 students and 5 lecturers had joined Dr. Wong Siew Fan to visit Top Glove on 14<sup>th</sup> September 2022. In this visit, students and lecturers were provided with tour to Top Glove corporate office, the Top Glove Tower.

The tower tour includes:

**Level 1:** Models of TG City and Courtyard by Marriott Hotel and Top Glove Global Doctor.

**Level 9:** Top Glove Tower Grand Ballroom.

**Level 10:** Top Healthy Fitness.

**Level 21:** TG Milestone, Auditorium, Healthy Event Hall.

This was then followed by Factory Tour at production area of Factory 10, where students and lecturers got to have some insights of the working environment in Top Glove and opportunities to achieve full awareness about industrial practices.

## INDUSTRIAL VISIT TO TOP GLOVE



Top Glove offers a comprehensive product range, which currently includes a non-glove segment comprising condoms, face masks, dental dams, exercise bands and household products, fulfilling demand in both the healthcare and non-healthcare segment. With the help of its 22,000 employees, Top Glove continues to produce high quality gloves at an efficient low cost level in line with its time-tested Business Direction. Not content to rest on its laurels, Top Glove has set its sights on higher aspirations which include becoming a Forbes and Fortune Global 500 Company.



## INDUSTRIAL VISIT TO EPE SWITCHGEAR (M) SDN.BHD

### Dr Mohamad Affan Mohd Noh And Engineering students

6<sup>th</sup> September 2022



A group of 22 students and 2 faculty members had joined Dr Mohamad Affan Mohd Noh to visit EPE Switchgear (M) Sdn Bhd on 6th September 2022. EPE is involved in manufacturing, engineering and project activities, providing a wide range of products and services to the generation, transmission and distribution sectors of the electrical power industry. One of Malaysia's largest manufacturers of medium voltage electrical switchgears, it is involved in a diverse range of activities within the power sector. It is also one of the few major companies in Malaysia involved in engineering products and services for the power industry. Backed with government registration such as Ministry of Finance, "Pusat Khidmat Kontraktor PKK Kelas 1", and "Jabatan Bekalan Elektrik & Gas JBE&G", EPE maintains its reputation and capability by undertaking and completing its projects on schedule.

Marketwise, EPE covers the whole spectrum of the power industry. It is one of the major suppliers of Malaysia's made switchgears to the local utility companies. Additionally, EPE remains a strong player in the Malaysian private sector market that includes water supply projects, industrial construction and the oil & gas sectors.



## INDUSTRIAL VISIT TO SUM HING ENGINEERING WORKS SDN BHD

**Ir Eur Ing Ts Dr Lau Chee Yong**  
**28th July 2022**



A group of 35 students had joined Ir Eur Ing Ts Dr Lau Chee Yong to visit Sum Hing Engineering Works Sdn Bhd on 28th July 2022. Sum Hing was established in 1969 and has more than 50 years of experience in tyre mould manufacturing. The company manufactures a full range of segmented and two-piece aluminium and steel tyre moulds for motorcycle, passenger car, light truck, truck and bus, agriculture, off road and earth mover. Sum Hing has its own supply of raw materials and foundry facility, which eases the supply chain process. The company has achieved ISO certifications in both ISO 9001:2015 Quality Management Systems and ISO 14001 :2015 Environmental Management Systems; and continues to maintain stringent quality control procedures while complying with environmental responsibilities.

The company is also committed to reducing any environmental impact while continuously improving the environmental performance as an integral part of its business strategy and operating methods. They too encourage customers, suppliers and other interested parties to do the same.



As an effort for Environmental Sustainability, Sum Hing ensures that scheduled waste is properly placed, stored, arranged, and disposed of according to the local laws. The scheduled wastes generated such as waste lubricating oil (SW 305), waste oil with water mixture/coolant (SW 307), waste empty container (SW 409) and waste rags and gloves (SW 410) are transported by the Department of Environment (DOE) licensed contractor namely Tensidchem Sdn Bhd. Sum Hing also allocates tens of thousands of ringgit annually for its Environmental Budgeting and has an in-house Certified Environmental Professional in Scheduled Waste Management (CePSWaM) personnel.

Sum Hing is a Class 1 Tyre Mould supplier with a customer base spreading across Europe, Asia, Africa, Latin America and United States. It is located in the heart of Kuala Lumpur, about 40 minutes via express highway from the Kuala Lumpur International Airport (KUL) and with easy access to the world famous Petronas Twin Towers. There is no doubt that it will continue to excel in its business venture.

## INDUSTRIAL VISIT TO ASTRO SDN BHD

**Dr Chandrasekaran Natarajan**  
**11<sup>th</sup> October 2022**



Astro Malaysia Holdings Berhad is a prominent group supporting to broadcast media and entertainment content in Malaysia. It offered services to 5.6 million homes, or 72% of Malaysian TV households, 8,000 businesses, 17.5 million weekly radio listeners, 14.0 million monthly unique visitors to its digital properties, and 3.2 million consumers across its platforms for TV, radio, digital, and commerce. At Astro, they are dedicated to providing the best local, regional, and international content to entertain, educate, and engage our viewers. Astro Malaysia is the largest content producer in the nation, broadcasting millions of Malaysians numerous special moments.

Astro provides home entertainment content with a 4K UHD Ultra Box and HD Ulti Box, which can both be self-installed and operate on either satellite or broadband. Astro launched Astro experience and Astro fiber recently that allowing customers to stream their preferred content from various streaming modes such as Astro GO, Netflix, and HBO GO. On October 11, 2022, 40 students accompanied by 4 academic staff visited Astro. The visit was coordinated by Dr. Chandrasekharan Nataraj and accompanied by Dr. Lau Chee Yong, Dr. Wong Siew Fan, and Ms. Fatin Ayuni Mohd Suhaimi from the School of Engineering. The students were given a detailed demonstration of every stage of satellite TV and radio broadcasting. The entire broadcast system, enormous dishes for transmitting and receiving, and well-equipped studios captivated the students.

## WORKSHOP AT XMUM LABORATORY

### Dr. Wong Siew Fan And Petroleum Engineering students

3<sup>rd</sup> August 2022

In the workshop, students experienced in conducting physical laboratory sessions. The workshop was divided into three sections: Ultraviolet-visible (UV-vis) session, Gas Chromatography with flame-ionization detection (GC-FID) session and Fourier-Transform infrared (FTIR) session. The workshop began with the trainer providing explanation and demonstration on how to perform analysis using the respective equipment. It was then followed by every student who was given the chance to carry out one set of data testing by their own.



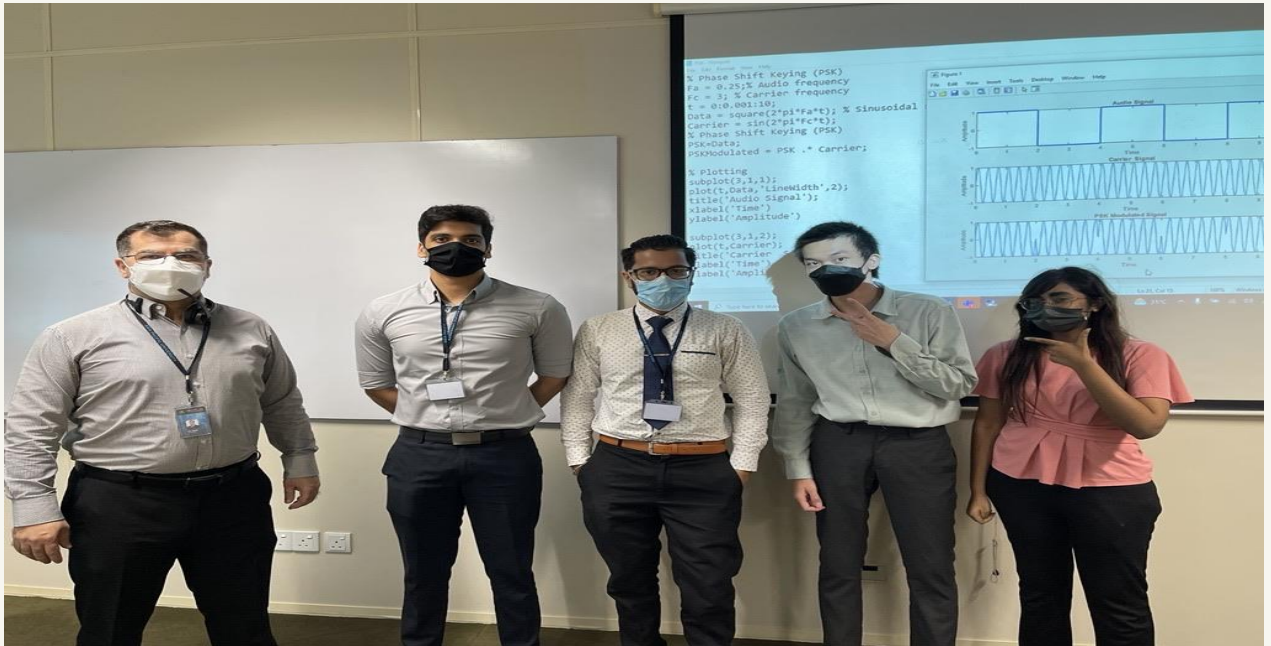
In (UV-Vis) session, students were able to measure the concentration of methylene blue solution using the equipment. In FTIR session, students were able to prepare KBr pellet of an organic compound (benzoic acid) and perform qualitative analysis of benzoic acid. In GC-FID session, students were able to determine the composition of an unknown hydrocarbon mixture.





## MATLAB Workshop On Digital Communication

**Ts. Dr. Raed**  
**8<sup>th</sup> July 2022**



Matlab Workshop with Topic: Digital Communication was held on 8th July 2022, from 9.30 am to 12.30 pm via the virtual platform "Microsoft Teams." Speaker: Ts. Dr. Raed Mohammed Taher Abdulla.

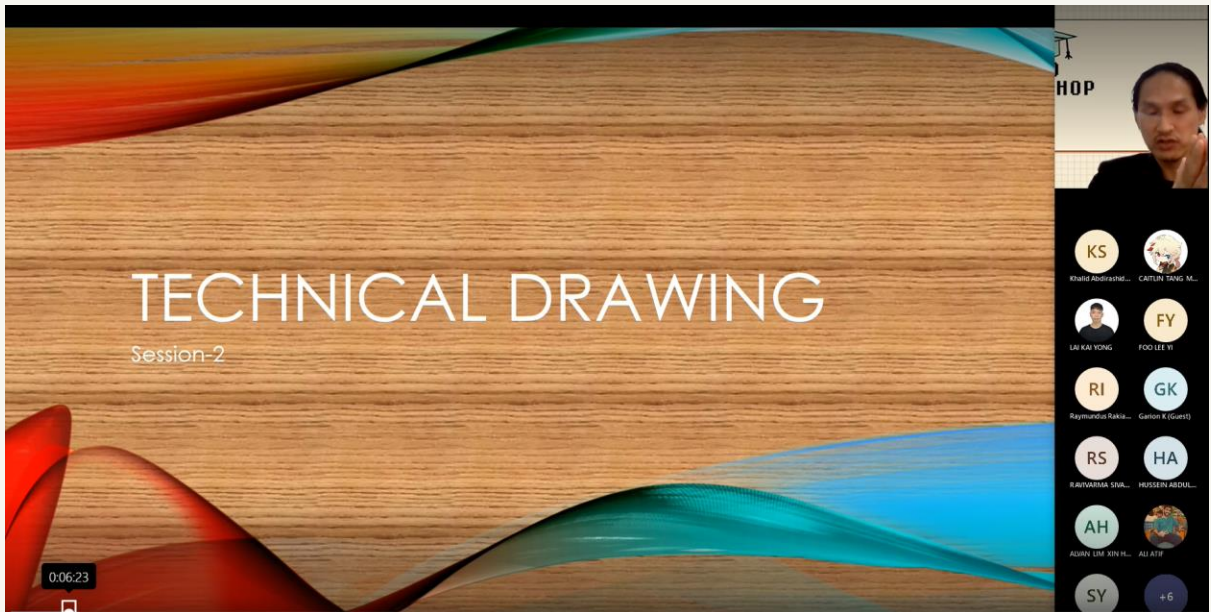
Digital Modulation provides more information capacity, high data security, quicker system availability with great quality communication. Hence, digital modulation techniques have a greater demand, for their capacity to convey larger amount of data than analog modulation techniques. The workshop helped students to know about different types of digital modulation techniques and also their combinations, depending upon the need, such as Amplitude Shift Keying, Frequency Shift Keying, and Phase Shift Keying.



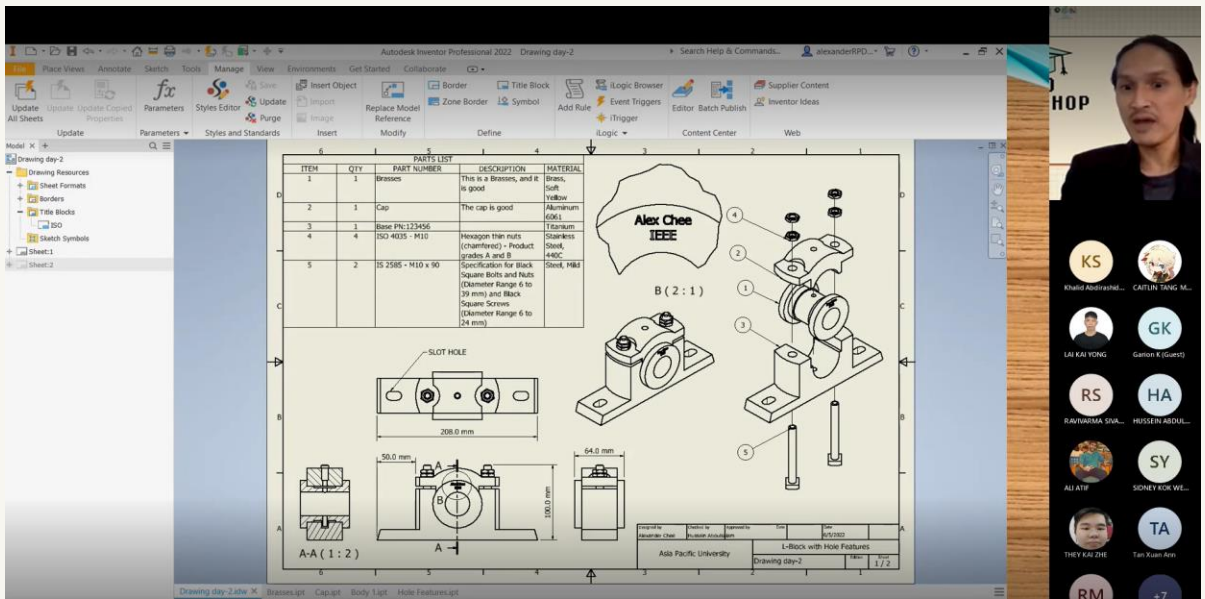
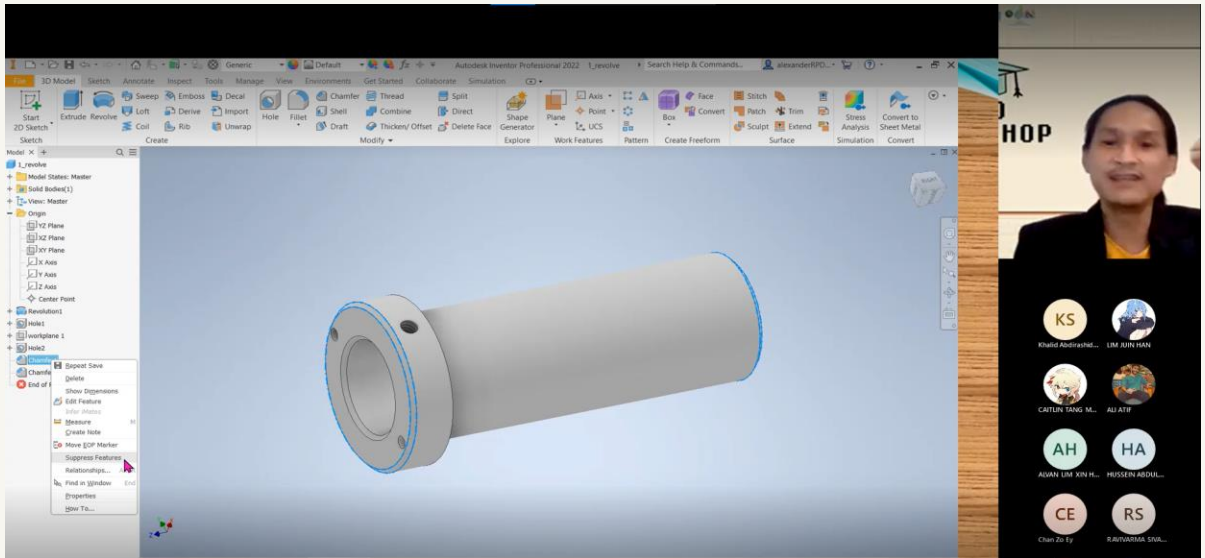
## Autodesk Inventor Workshop

### Ts. Dr. Alexander Chee Hon Cheong

#### 4<sup>th</sup> & 5<sup>th</sup> June 2022



The online workshop was a collaboration between the IEM UCSI student chapter, IEM APU Student Section & IEEE APU Student Branch. Ir. Ts. Dr. Alexander Chee Hon Cheong, a digital learning architect as well as a lecturer in Asia Pacific University, was invited to conduct the 2-days workshop of Autodesk Inventor. He is an experienced trainer of Autodesk Inventor, once a unit leader of an engineering team, he served as a design engineer based in Netherlands. Autodesk Inventor is a Computer-Aided Design (CAD) application for 3D mechanical design, simulation, visualization, and documentation developed by Autodesk. This software is specifically helpful for product design, tooling creation, mechanical design, and product simulation.



# “Understanding Cognitive Radio for Next Generation Networks”

**Dr. Chandrasekharan Natarajan**  
**14<sup>th</sup> September 2022**

The technical talk "Understanding Cognitive Radio for Next Generation Networks" was held on September 14, 2022, from 03.00 PM to 04.00 PM via the virtual platform "Microsoft Teams."

The main goal of this session is to create a platform for exchanging knowledge in terms of technical facts, market trends, and technological innovations. It is part of our commitment to providing our engineering students with the most up-to-date technical standards. It was organised by Dr. Chandrasekharan Nataraj, School of Engineering, APU for the benefit of our undergraduate students and to give them a solid understanding of cognitive radios.



Dr. K.C. Sriharipriya, Ph.D., PDF was the resource person for this technical talk. She is working as Associate Professor, School of Electronics Engineering (SENSE), Vellore Institute of Technology(VIT), Vellore. Dr. K.C. Sriharipriya has expertise in 5G communication, as she has been a part of 5G Testbed Project at IIT, Madras. She completed her post-doctoral fellowship in IIT, Madras in wireless communication engineering relating to Cognitive Radio. A group of 59 students had joined Dr Chandrasekharan Nataraj to attend this technical talk on 14th September 2022.



**“INDUSTRY TALK - LEED”****Ir. Rajasegaran Thevaraj, on 29<sup>th</sup> July 2022**

The talk was held under the auspices of Integrated Sustainability & Urban Creativity Centre (ISUC) as its 4<sup>th</sup> Public Lecture Series. It was attended by a total 17 students and 7 lecturers.

Ir. Rajasegaran Thevaraj received his B.E. Hons Electrical Engineering Degree in 1982 from the University of Malaya in 1982. Currently he is attached to Perunding Shanu Sdn Bhd, a Mechanical and Electrical Consulting company in Subang Jaya. His Professional Membership and Qualifications include Professional Engineer (P.E) registered with The Board of Engineers Malaysia, Electrical Supervising Engineer registered with Suruhanjaya Tenaga, Associate Member of Malaysian Institute of Management (AMIM), Associate Member of Association of Construction Project Managers (ACPM) and Member of The Institute of Engineers Malaysia (MIEM). He has 11 years of electronic microprocessor-based semiconductor manufacturing test and production equipment, instrumentation and maintenance of oil exploration downhole electronic equipment including surface data processing mini-computer based equipment, and maintenance of mainframe computer equipment. He has been practicing as an M&E Consultant for the past 29 years. He is also an IAP member in APU, among other universities.

His talk was entitled, “LEED - Leadership in Energy and Environmental Design - Get ready to design MEP for Green Building Rating System”. LEED is a Green Building certification issued by the US Green Building Council (USGBC). It is a point-based system, i.e., based on the number of points achieved, a project then receives one of four LEED rating levels, namely Certified (40 to 49 points), Silver (50 to 59 points), Gold (60 to 79 points) or Platinum (above 79 points). This certification is available for the following sectors:

- (i) Building Design and Construction
- (ii) Building Operations and Maintenance
- (iii) Neighbourhood Development
- (iv) Homes
- (v) Interior Design and Construction

Ir. Thevaraj demonstrated the point system using Building Design and Construction as a Case Study. He explained that here, Mechanical and Electrical Engineers would focus on the below listed, and the rest would come under the purview of the Architects and Interior Designers:

- (i) Water Efficiency
- (ii) Energy and Atmosphere
- (iii) Indoor Environmental Quality
- (iv) Innovation and Design Process

In Malaysia, this system is very similar to the Green Building Index Assessment scheme.

## Workshop On Design Thinking on Data Analysts

**Ir. Jacqueline Lukose (SOE)**

**&**

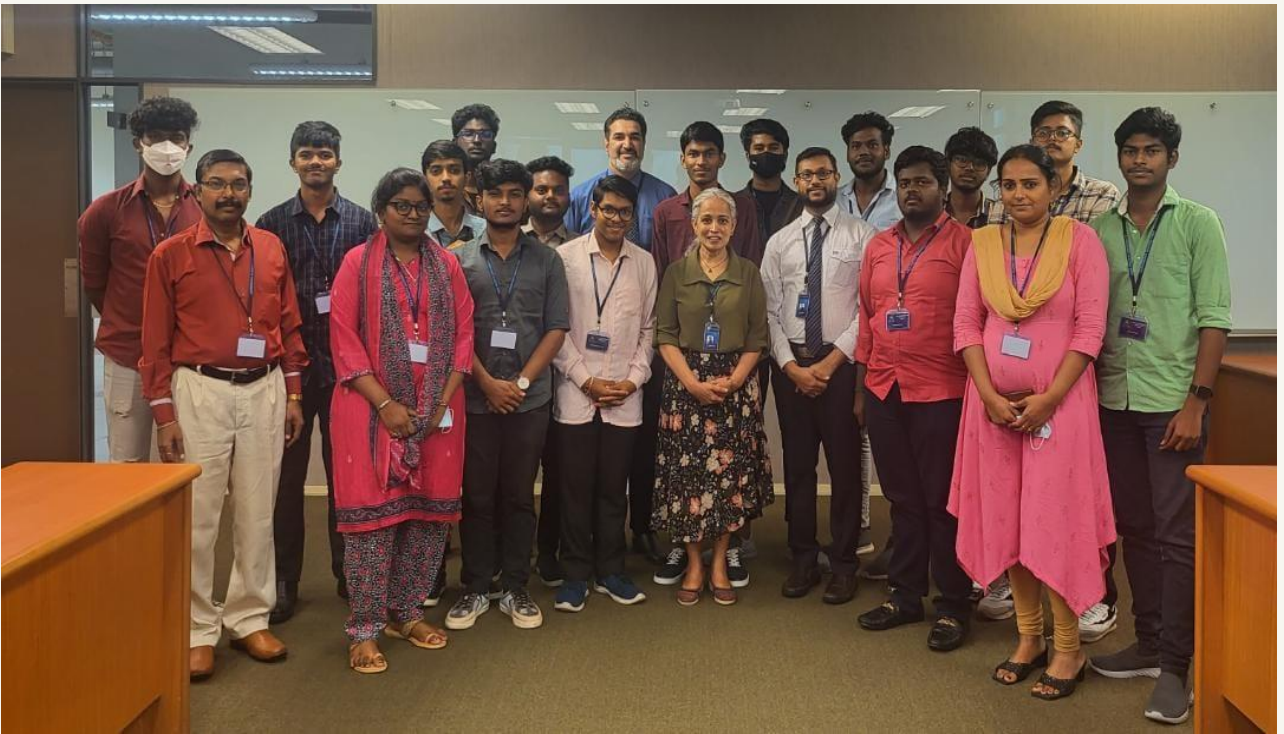
**Ms. Veeramani Vijai Indrian (SOT)**

**4<sup>th</sup> & 5<sup>th</sup> October 2022**



This workshop was organised as part of the APU-Saveetha Institute of Medical and Technical Sciences (SIMATS) Mobility Programme. It was facilitated by Ir. Jacqueline Lukose (SOE) and Ms. Veeramani Vijai Indrian (SOT) and was attended by a total 15 students from SIMATS, India.

Design Thinking is a user-centric and collaborative approach to fostering innovative solutions for a given problem. The 5 essential phases in this method are empathise, define, ideate, prototype and test. On Day 1, the students were split into 3 teams and given several group-based preliminary challenges. After detailed sessions covering phase 1, the students were given prior information off the task of applying the principles to address the problem entitled, “Develop the Means for Value Creation by the Alumni”, to be completed within the groups already defined. As a pioneering step, they were required to complete the “Persona” based on an imagined alumnus. A set of templates was provided to each team to streamline the requirements.



On Day 2, the remaining phases were completed, and the 3 teams continued to complete their respective proposals to address the main task, which they subsequently presented to 3 panels. Students were evaluation both on individual as well as group bases. The main criteria used for assessment were:

- (i) Feasibility of proposed prototype
- (ii) Innovative solution to address pain points
- (iii) Sustainability Element in Proposed Prototype
- (iv) Defence of Proposal
- (v) Power of Persuasion
- (vi) Time Management

For overall, given the short time allocated, the students performed excellently. Some of the solutions proposed were quite creative and have potential to be explored further and implemented in APU. In the terms of improvement, they did falter when it came to the topic of sustainability which they were asked to research on their own.

## **Drone troubleshooting and programming Workshop**

**Ir. Narendran Ramsendran (SOE)**

**6<sup>th</sup> August 2022**



This workshop was organized at APU from 10 AM until 5 PM on 6<sup>th</sup> of August by the facilitator Ir. Narendran Ransendran and SOE team. After becoming familiar with the fire detection model, the trainees acquired newly knowledge to use by practicing the deep learning in Python using OpenCV. The system will be equipped to the drone with cameras which can be deployed strategically to detect wildfires.

The introduction were delivered by President Aaron covering the fundamentals of the necessary components and equipment for drones, then the true thrill begins. The students started assembling the Pixhawk drones. Some tutorial videos had been shared to properly configure with Mission Planner before the drone came to life with actual flying. It was a wonderful introduction into the realm of drones for someone who was just starting out in the industry.

Students learned how to build their own drone from scratch! Many people know the method to fly it, but missing out the fun of building it. In collaboration with Engineering Credit Lab, we are proud to brought a full day of exciting and informative workshop that shared the knowledge and skills build a drone and fly it.



Student then becoming familiar with the fire detection model, which can be deployed strategically to detect wildfires. The fundamentals of components were introduced before the real thrill begins. Step-by-step guides were given to build a brushed motor Pixhawk drones. Using assembly kits and parts available in the Asia Pacific University (APU).



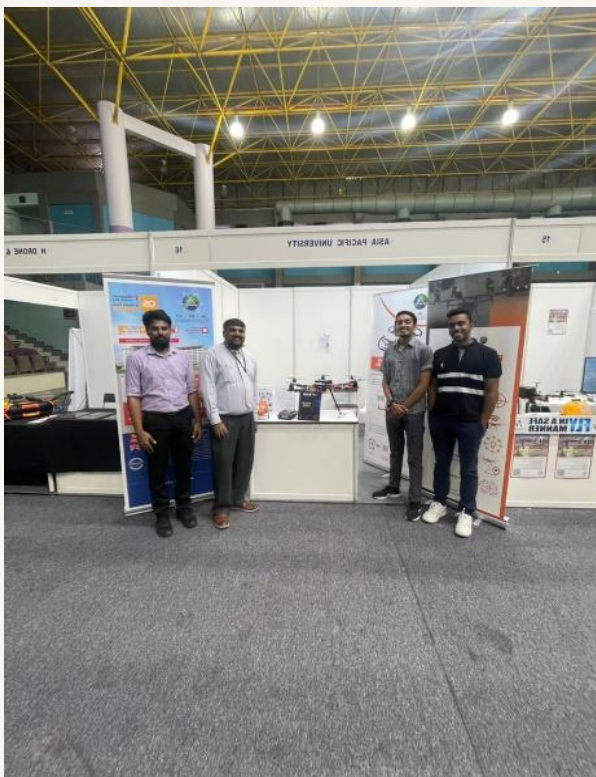
## Kuala Lumpur International Drone & RC

**Ir. Narendran Ramsendran (SOE)**

**26<sup>th</sup> -28<sup>th</sup> August 2022**

Center of Research and Development of IOT participated in the KLIDRC drone event to showcase our award-winning firefighting drone as a part of the drone innovation in Malaysia.

It was held at Titiwangsa stadium, with drone and RC racing events taking place throughout the two days. There were also a drone night light show event on the 26<sup>th</sup> August at the Titiwangsa lake.



## STEM – FEST 23<sup>rd</sup>-27<sup>th</sup> July 2022



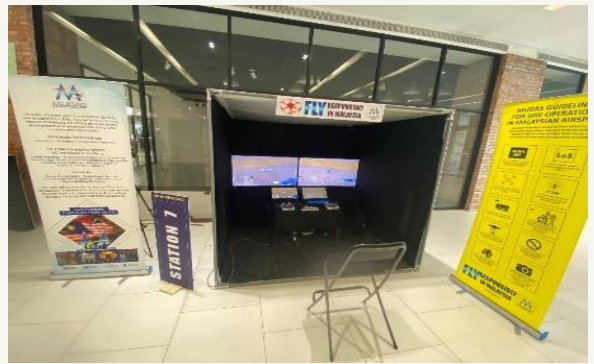
Makerspace STEM organized an event on the 23<sup>rd</sup> and 24<sup>th</sup> of July with several of its sponsors, including Asia Pacific University, to promote science, technology, engineering, and mathematics to youngsters in order to help them grasp the beauty of these subjects. Members of Asia Pacific University's Centre for Research and Development of IoT club contributed to the event by setting up various types of booths. First, the soldering booth, which is a basic technique that involves melting two metals and utilizing an LED as the element in the joint. This has enabled the youngsters to create their own LED (light emitting diodes) circuit that flickers different RGB lights.

The second booth is focusing on arts and crafts. A special aspect to appeal to young children's artistic side by assisting them in creating their own custom key chain with their favourite characters. The procedure were as follows: the student was given a tracing board on which to draw their character, using a pencil and colour pencils to complement the drawing; the tracing board was then placed in a heated oven to shrink the board, which allows the drawing to be printed onto the board; and a key ring was then used to make the finalised key chain.





Another element of the booth was the 3D pen, which children could use to outline their favourite shapes, such as an octopus, a tree, and a flower, among others. The drawing was created by heating the 3D pen to 180°C and then inserting the filament into the pen, making it ready to draw. The students would then draw the correct shape by following the outline. Overall, the experience was positive because it allowed students from Asia Pacific University to meet and work with new individuals while also learning how to present the science behind each booth in which they participated. Besides, the drone simulator section was prepared to allow passers-by to enjoy the experience on the method to fly a drone.



**Fire Fighting Drone Showcase Booth and Drone Simulator**



## **SieQA – Seminar on Internal-External Quality Assurance**

### **12 & 13 October 2022**

### **Shamini Pathmanathan**



In conjunction with Universiti Tunku Abdul Rahman's (UTAR) 20<sup>th</sup> anniversary, Malaysian Higher Education Institutions Quality Assurance Network (MyQAN) and UTAR jointly organised a seminar on Internal-External Quality Assurance (SieQA) 2022 entitled 'Quality Assurance Transformation towards a Sustainable Higher Education Ecosystem'. This event supported by Malaysian Qualifications Agency (MQA) was held on 12<sup>th</sup> and 13<sup>th</sup> October at Bangi Resort Hotel. The two-day event attended by many lecturers and quality personnel, mainly from public universities to gain some insights on the future higher education in Malaysia, digitalisation and on flexible education. The Covid-19 pandemic has very much changed the scene in the education environment.

The first day consisted of two workshop sessions called Masterclass, one in the morning and another in the afternoon. Attendees to the event were given option to choose one out of 3 workshops for each session. The first Masterclass entitled 'Developing a Quality Culture through Internal Quality Assurance' conducted by Prof. Ir. Dr. Rajkumar Durairaj focused on ways to reduce time and friction between people, and to involve the ones responsible when it comes to paperwork involved in quality / accreditation.



The second workshop was a very interesting event, however, only can be completed in limited time because there was not much time left in the schedule. A lot of things could be learnt from Assoc. Prof. Ts. Dr. Syamsul Nor Azlan Mohamed. He shared ideas on the method to make assessments sustainable, the planning and making the classrooms livelier.



The second day was a seminar, lined up with speakers YBhg. Prof. Dato' Dr. Mohammad Shatar bin Sabran (MQA CEO), Mr. Foong Chee Mun (MoneyLion CTO) and few others participant discuss in a forum, friendly debates between participants and the Annual General Meeting/ Election for MyQAN. These two days of exposure on the education scene in Malaysia has created more interest in me to deliver a livelier and productive classes and understand the requirements of both students and industry from higher education.

# IEM Students Section (IASS)

## Engineering & Technology week

Ts Subhashini  
Gopalakrishnan



The Engineering & Technology week is 4-days event to celebrate the significant roles around the world, which changes and further develops countless concepts, ideas, and technologies. This event is organized by the IEM-APU Student Section (IASS) in collaboration with IEEE APU Student Branch, Institution of Mechanical Engineers (IMechE), and Society of Petroleum Engineering (SPE). The event comprises various activities, such as competitions, talks, and workshops surrounding the sustainable development. **Mini Games Booth** and **DIY Repair Booth** were set up to attract the students and lecturers to participate in. Goodies bags were prepared for the winners of the mini games.

On the first day of the event, the **Debate Competition** started with the preliminary stage, where four teams were debated, and the two teams with the highest score will be advanced to the final stage. The top 3 debate teams will receive a physical certificate and cash prize during the closing ceremony of Engineering & Technology Week. Besides, a **Drone Workshop** was conducted by the APU Credit Club with the Malaysia UAV Drones Activist Society (MUDAS). The workshop was covered with different applications of drones in a broad meta context, and the current and future projects.



On the second day of the event, the **Debate Competition** continued with the semi-finals and finals round. The champion, first runner up, and the second runner up will be announced after the finals round.

On the third day of the event, a **Show & Tell Exhibition** was held at the booth at Atrium, where students will be showcasing their educational displays, and projects with clear explanation. The showcased projects have included the Smart City, the Smart Dispensing Robot with IoT, and ELA. In the morning, a MakerVan by the KakiDIY has parked at the campus visitor parking for two hours, hence, the students brought their broken items and learnt to fix the items themselves. At noon, the **Teachers & Students Quiz Challenge** was conducted in the Auditorium. The lecturers from each

engineering programme were competed against each other, and the winning team will be competing with the top 5 student winners on the next day. In the afternoon, the **Brute Strength & Agility** was held, which participants were competing in arm wrestling, and there will be only one winner to win the cash prize. On the final day of the event, the **Teachers & Students Quiz Challenge** was conducted in the Auditorium. The lecturers' winning team was competing with the students' winning team. Both teams were using Kahoot! to answer the prepared questions. After that, the closing ceremony of the Engineering & Technology Week was conducted, and the winners of all the competitions were announced and awarded.

All the organizing committee, the volunteers, and the winners were awarded with certificates. Cash prize worth up to RM1400 was awarded to all the winners who participated in the competitions.



## ELECTRICAL MACHINES – HANDS ON WORKSHOP

**By: Mr. Ravi Lakshmanan 22 JULY 2022**



Electrical Machines lab hands-on Workshop title Electrical Machines operation and handling was held on 15th November 2022, from 10.30 AM to 1.30 PM was conducted physically at B-03-Power Lab by Mr.Ravi Lakshmanan.

The energy conversion between electrical and mechanical power is done by electrical machines in both directions. Electrical machines can be used for different ranges of speed and as a motor particularly in traction, electrical vehicles or as generators in power station, and wind turbines. Electric machines are essential systems in electric vehicles and are widely used in other applications. Permanent Magnet Direct Current (PMDC) motors have been extensively employed in electric vehicles and battery-powered devices such as wheelchairs, power tools, guided vehicles, welding equipment, X-ray, tomographic systems, and Computer Numerical Control (CNC) machines. This workshop can give guidance to the students to learned about the different types of DC machines, their operation, working principle, characteristics, and their applications.

# Institution of Mechanical Engineers (IMechE)

**STEM FEST**  
**29<sup>th</sup> & 30<sup>th</sup> October 2022**

## TS.DR. ARUN SEERALAN

This event took place on 29 October 2022 and 30 October 2022. 8 students (Amogha, Adeel, Dylan, Sameul, Sabrina, Sarim, Naofah and Wesley) from the ImechE club volunteered for this event. The main concept of this event was to make the children learn things practically. Children between the age of 10 to 12 were invited for this event. There were 12 stations which were handled by the students, each of the students were provided with 2 stations each. They need to be responsible to make the children understand the concept in their station. There was a talk conducted that related to the drones. After the talk, children were provided with a check list for all 12 station and their detail description for each station. Children choose which station that they wanted to explore. The first station is Shrink Art or felt Keychain where the children can become creative and personalized their own keychain with the help of Sabrina who was the in charge for this station.

Station 2 was Da vinci Bridge, where children were given with a set of wood. They connect and make a self-supporting bridge. Dylan was the person in charge for this event. Code Kidz was the activity that took place in station 3 where children make their own Robot competition, and they were provided with all the necessary components.



Station 4 was Drone simulation where children experienced flying the drone virtually. Sarim was the person responsible for station. Station 5 was drone fun fly. In this station, the children experienced the fun of flying a drone. They can fly an original drone inside a drone cage. Amogha was the person who guided them with flying the drones. Station 6 was Adventure in Miniature where children were guided by Naofa to make miniature trees with strings. Station 7 was 3D pen Creation where children can experience the usage of 3D pens. Using the 3D pen they made their own creations. Station 8 was Tech up challenge where children develop the memory skills and learnt planned things. This station was supported by Dylan. Station 9 was Soccer Challenge where children were introduced to the usage of micro controller.





A car was made up of micro controller and the children were asked to operate with the help of Sabrina. Station 10 was wind turbine assembly; all the components of the wind turbine were provided, the children needed to assemble them together so that they can make a proper finished Wind turbine. Samuel was the person responsible for this station. Station 11 was VR exploration challenge; children learnt proper experience of virtual reality of the places that they haven't explored with the help of Adeel.

Finally, Station 12 was Toothpick tower, children were provided with toothpick and clay. They were required to make a tower. Wesley was the person who supported the children in this station. After the children explored each station a group photo was taken. The event ended at 7 PM on 30th October.



**APU MALAYSIA**  
STUDENT CHAPTER

Institution of  
**MECHANICAL  
ENGINEERS**

# Institution of Mechanical Engineers (IMechE)

**STEM EXPLORANCE - IMechE**

**TS.DR. ARUN SEERALAN**  
**13<sup>th</sup> October 2022**



This event took place on 13th October where 5 students (Amogha, Amman, Adeel, Dylan, and Ridwan) from ImechE volunteered for this event. This was a small event compared to the event that happened on 29<sup>th</sup> and 30<sup>th</sup> October. The event started at 9.45AM and the children dropped by 10 AM. The objective for this event was the same as the previous event. However, the event that took place in 29<sup>th</sup> and 30<sup>th</sup> October had drones, VR, and many advanced activities, but for this event, children were provided with the basic activity to understand the facts. In this event, there were 9 stations where all the ImechE students had knowledge on how to access all the 9 stations. With the support of the ImechE student's, children learned things better practically. This events helped the children to understand better rather than studying textbook. The activities were the same as Da vinci bridge, Code kidz, shrink art or felt keychain, 3d pen creation, Tech Up challenge, Wind turbine Assembly, chess, puzzles, and toothpick tower. All the stations had an ImechE student to guide the children. The event was so good, they all had super fun teaching the children. The event ended up with a group photo and ended at 2PM.

# Institution of Mechanical Engineers (IMechE)

**WORKSHOP OF JET CAR**  
**08<sup>th</sup> November 2022**

**TS. DR. ARUN SEERALAN**



This is one of the most interesting events that took place. This event happened on 8 November 2022. There were 6 Students (Saqib, jilan, nur, Naofah, Sabrina and Amogha) from ImechE Club. The event started at 8.30 AM. The main objective is to make children understand the third law of Newton. Every action has an equivalent and opposite reaction. In this event, children were provided with all the components of the jet car. The trainer, Sam guided them to assemble the components. All the components of the jet cars were made up of plywood using laser machine by Sabrina and Amogha at Mranti. It was assembled after getting lasered to check whether each parts suit properly. 50 jet cars were printed and were tested by both Amogha and Sabrina. All the required components were segregated and packed up for the event. At the day of the event, the components were provided to 50 children. The ImechE students help the children to assemble the jet car under the guidance of Sam. Some components stuck properly, and some doesn't fit properly, for the pats which doesn't fit properly glue gun were used to attach them together.



ImechE students helped the children to glue their jet car. After the jet cars assembled, there was a lunch break for the children. The event continued with jet car race thus making this event more interesting. Children were segregated into 3 teams, 2 ImechE students were assigned for each group. A plastic bottle which had a small hole on its cap was provided to the children to place the bottle in the empty space of the jet car. Each group was provided with an air pump, where the children must pump the air inside the plastic bottle through the small hole. When they release the air pump from the plastic bottle then the jet car moves. So, whoever makes more pump their jet car will go faster and travels longer distances. The event ended at 5.30 PM with fun filled day and the children allowed to took their jet cars with them.

## SOE Team Building

### Mr. Syed Mohd Bahrin and Team 7<sup>th</sup> August 2022

The purpose of this team building exercise is to forge a strong relationship between the staffs in the SOE especially after 2 years of working remotely due to the pandemic. It is critical that the team works together and instils the same vision of the department and the University. Also, there is a great need within the department for the team to work synergistically to enhance both performance and engagement for a positive and collaborative work environment.

The team building was held in The Pulse Grande hotel, Putrajaya. The staffs went there by university bus to further strengthen the relationships. In the hotel, the event was divided into two sessions. Morning session was the outdoor treasure hunt and afternoon sessions were mine trap, all about SOE and guess the drawing.



Big breakfast before the event



The staffs were divided into 3 groups



Yoga by Dr. Sathish

## SOE Team Building

Not stopping at the games, prize giving ceremony was held together with birthday celebration.



The event ended at 4pm. The event had attained its objectives. It is hope that such event is continuously held for SOE to facilitate employee engagement and ultimately lead towards better job satisfaction and improved task delivery among all staff in the SOE.

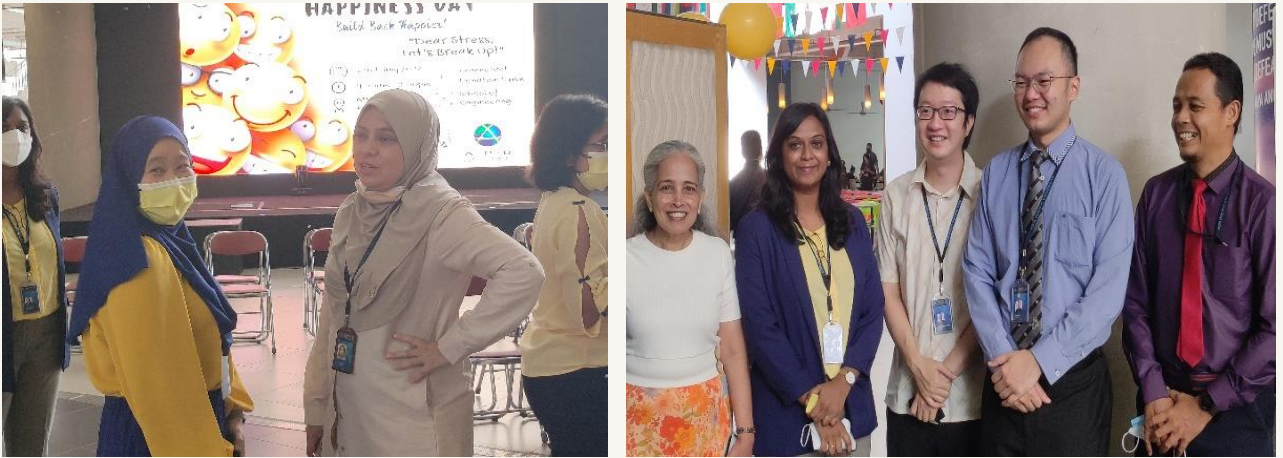
## SOE Team Building



Gaming sessions.

## HAPPINESS DAY CELEBRATION - SOE

22 JULY 2022



**‘Build Back Happier’**, the slogan for this year’s International Day of Happiness reflects the strength to recover from the world-wide Covid-19 pandemic. International Day of Happiness is celebrated on March 20<sup>th</sup> every year and in conjunction of this day, School of Engineering had its own Happiness Day celebration on 22<sup>nd</sup> July 2022 at APU’s Level 3 Atrium. The event was organised to create a friendship bond among engineering staffs.

The theme colour for School of Engineering Happiness Day was yellow, the colour of Happiness. The event commenced at 9.30 am, officiated by School of Engineering Head of School, Dr. Sivakumar Sivanesan. It was such a happy sight to see engineering staff attired in bright yellow for this event, ready to face the challenges in the games prepared for them. Three games were lined up to make every engineering staff happy. First was ‘Buddy Game’ testing staffs how much they know about their colleagues followed by ‘Happiness Quiz’ which tested on general knowledge pertaining Happiness with last being ‘Charade’.

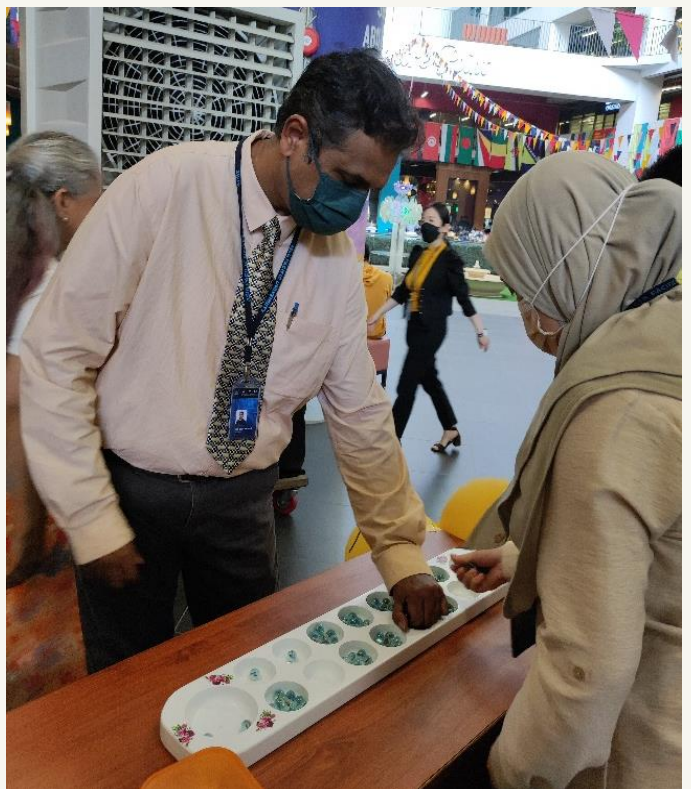




Not stopping at making only engineering staffs happy, we had another agenda for this celebration. We wanted to provide happiness to children from Pusat Pemulihan Dalam Komuniti – Mutiara Hatiku too. During this event, a donation drive was initiated. Donation boxes with ‘Happy’ emoji faces drawn on them were used to collect donation. Cupcakes with ‘Happy’ emoji faces were sold. These cupcakes were happily baked by Ms. Subhashini (SOE). Game booths were also set in the Atrium. We collected RM750. All collections will go to Pusat Pemulihan Dalam Komuniti – Mutiara Hatiku. The collections will be spent on purchase of stationery and items for a science and arts workshop for children with autism and cerebral palsy. The workshop will be a collaboration between Huroof Seni, a Non-Governmental Organization and APU.







SOE Happiness Day ended with July birthday celebration. The birthday cake was themed Mr. Happy and Ms. Sunshine to mark Happiness Day. It was a happy cake, indeed. The cake was happily baked by Dr. Yvette (SOE). Briyani for the birthday lunch definitely made staffs happier. The following lecturers sponsored food for the celebration.

Syed : Fruits

Mukil : Samosas, Vege briyani with chickpea curry, rice crackers

Kumaresan : Nasi Lemak

Fatin : Cream puffs and Mamak Mee

Yvette : Pickled Onion

Hafizul : Chicken sandwich

Shamini : Chicken sandwich and jelly





Utmost appreciation goes to Syed, Mukil, Fatin (committee members), to IASS student representative, Jordan, emcee for the event, Thiik Thiik and to all student volunteers for making the event a successful one.

Organiser – Shamini Pathmanathan & Team (SOE)

