

## ACTIVITY REPORT

### POPSIG UNIVERSITY ROADSHOW @ UKM

On 19<sup>th</sup> February 2020, the Palm Oil Processing Special Interest Group (POPSIG), IChemE and the Chemical Engineering Student Club (CHESC), UKM jointly organized the POPSIG University Roadshow @ UKM at the Auditorium, Perpustakaan Lingkungan Dua UKM. The event was attended by participants which consists of chemical engineering undergraduates, postgraduates and researchers from various field in the university. The event was officiated by Professor Dr Jamaliah Jahim, the Chairperson of the Department of Chemical and Process Engineering (JKKP) with a welcoming speech to the speakers and all the participants.



Professor Dr Jamaliah Jahim giving welcoming speech

The event then started with an introductory talk given by Ir. Qua Kiat Seng, the founder of POPSIG IChemE, on the founding of POPSIG. POPSIG was formed on 3<sup>rd</sup> August 2015 in Kuala Lumpur, Malaysia to provide a forum for people (not only chemical engineers) who are passionate about the palm oil industry and process engineering to exchange of ideas, share experiences and encourage innovation in the palm oil processing industry. In addition, the group also serves as a channel to promote the professional aspect of the palm oil industry and acts as a focal point for all those interested in the process aspects of the palm oil processing. To achieve all its objectives, POPSIG has actively organized technical seminars and webinars, workshops, physical

evening talks and site visits. The group also raise awareness of the palm oil industry through quarterly newsletters and yearly forums. To appreciate and encourage more



Ir. Qua Kiat Seng giving talk on "Introduction to POPSIG"

innovations among students and industrialists in the palm oil industry, POPSIG actively supports awards such as the Best Final Year Design Award and the annual IChemE Malaysia Palm Oil Industry Award. Bursaries are also awarded to students to attend scientific conferences, workshops and forums related to the palm oil industry as to spur their motivations and support their research in the palm oil industry.

Next, Mr. Ahmad Shahdan from Malaysian Palm Oil Council (MPOC) presented on the overview of the palm oil and the initiatives taken by various parties in the country towards a sustainable palm oil industry. Palm oil is a nutritionally balanced oil which presence in almost all food and non-food products such as cereal, chocolate, household detergents, skincare and body care products, cosmetics etc. Due to the versatility of the palm oil, the Malaysian palm oil industry has provided livelihood to millions, making large economic contributions to the nation and even the world. Strict quality control measures were implemented to ensure the highest product quality and the sustainability of the industry. Such measures include Malaysian Sustainable Palm Oil (MSPO) certification scheme, Good Agricultural Practice (GAP), Malaysian Palm Oil Green Conservation Foundation (MPOGCF) and many more. The session was ended with the introduction of the "Love MY Palm Oil" campaign, which was

launched by MPOC in 2019, with the purpose to promote and raise awareness on the Malaysian Palm Oil throughout the country. In



Mr Ahmad Shahdan giving talk on "Know Your Palm Oil"

this campaign, a student ambassador programme was initiated and still ongoing to enable the youths to recognize and appreciate the vital role of palm oil and the industry to the country.

After the refreshment session, the event was continued by Ms Liew Sin Lu from Desmet Ballestra Malaysia who gave the participants an insight of the palm oil processing industry as well as the role of chemical engineer in such industry. Malaysia is the 2<sup>nd</sup> largest palm oil producer and exporter with 10% of the world's oils and fats production. 17.5% of the land mass (equivalent to 5.8 million hectares) is used for the oil palm plantation activity. The palm oil processing value chain can be categorized into three sections: upstream (palm oil milling), midstream (palm oil refining) and downstream (specialty fat, oleochemicals and biodiesel production). The process pathways and the technologies utilized in each section were introduced in this session. Ms Liew also explained that chemical engineers have a wide



Ms Liew Sin Lu giving talk on "Role of Chemical Engineers in Palm Oil Industry"

career options in palm oil processing industry such as front-end engineering design, plant operation, quality assurance, R&D, continuous improvement and technical sales and marketing due to their various technical knowledge in chemical engineering. Challenges lying ahead for the palm oil processing industry includes the process efficiency, oil quality and process sustainability. Hence, the industry expects the chemical engineers nowadays to be able to apply knowledge and understanding to practical situations, manage interpersonal relationships and demonstrate leadership skills, commit to high standards of professional and ethical conducts, and commit to continuous professional development related to professional knowledge and competency. Ms Liew then ended her presentation by encouraging the participants to always develop and excel by giving the three principles: Connect to Create, Back to Basics, Uphold Professionalism.

Ms Theresa Lok from IChemE continued the session with her presentation on becoming a Chartered Engineer. Throughout the session, the participants were introduced to the importance and benefits of becoming a Chartered Engineer. They were al-



Ms Theresa Lok giving talk on "Why Get Chartered?"

so briefed on the mechanism use to become a Chartered Engineer which is the Competence and Commitment Report. The participants especially the chemical engineering students were encouraged to pursue the path of becoming a Chartered Engineer.

After the four talks, a forum was held between the four speakers and the

participants, moderated by Adjunct Professor Dr Mohd Tushirin Hj Mohd Nor from Department of Chemical and Process Engineering. Several issues were raised and di-



Adjunct Professor Dr Mohd Tushirin Hj Mohd Nor moderating the panel discussion

scussed during the forum including the sustainability of the palm oil in Malaysia and Indonesia, the import ban by India towards Malaysia palm oil, digitalization in the palm oil industry and many more. In conclusion, a lot have been done to achieve sustainability in the palm oil industry but continuous improvement and development in various fields such as technology, social and economy are needed to ensure the advancement of the industry in the future.

Lastly, the event was continued with the souvenir giving session by Professor Tan Sri Dato' Seri Dr Noor Azlan Ghazali, former Vice Chancellor of Universiti Kebangsaan Malaysia and Dr Teow Yeit Haan, the supervisor of POPSIG University Roadshow @ UKM to the speakers and then ended with group photo session with all the participants. The speakers and VIPs were invited for a lunch session after the event.



Group photo session



Group photo session

## PLANT VISIT TO OLEON (MALAYSIA) SDN BHD

On the same day, 30 participants comprising of chemical engineering undergraduates, a department staff and a lecturer visited Oleon (Malaysia) Sdn Bhd located at Port Klang courtesy of POPSIG. The participants were welcomed by Mr Micky, the R&D executive of Oleon, as they arrived at 2.30 pm. Firstly, the participants were introduced on the history of



Mr Micky conducting the introduction session in the meeting room before the visit

Oleon and the overview of the production facilities in Malaysia via the corporate video clip. Next, a safety briefing was conducted by the safety officer through the safety video clip. This is to ensure that the participants were well informed of the hazards in the plant as well as the rules to be followed throughout the visit. The participants were then separated into two groups so that the lab and plant tours could be conducted simultaneously.

During the lab tour, the participants visited the Synthesis Laboratory where the formulation of vegetable oil-based lubricant formulations are made and tested. They also



visited the Cosmetic and Food Laboratory where the research officer demonstrated the preparation of emulsifier, an important ingredient for both cosmetic and food applications. As for the plant tour, the participants were shown one of the three ester plants in the production facility. The ester plant produces fatty ester by using fatty acid and fatty alcohol as raw materials. The production of fatty ester is a batch process where the plant includes pre-heating tanks, reactor, distillation column, evaporator, and deodorizer. The process engineer explained the functions and working principles of each unit operation in detailed along the tour.



Group photo of organizing committee from CHESC UKM with the speakers



Group photo session at the administration office lobby

A short closing ceremony was conducted where a souvenir was given to the production manager of Oleon by Dr Nur Hidayatul Nazirah Kamarudin, the senior lecturer of JKKP. The visit ended with a group photo at the lobby of the administration office.

On behalf of the Department of Chemical and Process Engineering UKM, we would like to express our utmost gratitude to POPSIG for selecting our campus as of the stop for the university roadshow. We wish POPSIG all the best in their upcoming roadshows, and we look forward for more cooperation in organizing such event in the future.