

A quarterly palm oil newsletter brought to you by
 IChemE Palm Oil Processing Special Interest Group

POPSIG

IChemE

We Release Our First Newsletter

Palm Oil Processing Special Interest Group (POPSIG) is proud to announce the inaugural release of quarterly newsletter. This is an effort to keep everyone informed of all the great things happening in our community. Although we have a long way to go, the first steps are always the hardest. With your continued support, whether its' becoming our member or simply sharing this across your networks, we will continue to bring you the latest and greatest in the community of POPSIG every quarter.

Call for Speakers

The POPSIG's evening talks and webinars are free and open to all, at the moment. The presentations are directed towards audiences who would like to know more factual information about Palm Oil Processing industry and who would appreciate an opportunity to ask question. The committee is looking to ensure presentations cover palm oil milling, refinery as well as oleochemical. If you'd like to volunteer to give a presentation – either at a physical seminar or via an [online webinar](#) - then please get in touch, providing some details about yourself and your proposed talk. Contact Professor Dr. Chong Mei Fong, meifong.chong@nottingham.edu.my, or Avanna Tan, specialinterestgroups@icheme.org, today.

POPSIG Committee

Chair	: Hong Wai Onn MIChemE
Secretary	: Professor Dr. Chong Mei Fong AMIChemE
Committee	: Qua Kiat Seng FIChemE Chow Boon Ping FIChemE Khoo Kiak Kern FIChemE Toh Seong Hing AMIChemE Mohan Balasingam IChemE

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EDITORIAL

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Editor's Message

POPSIG was formed to provide a forum for the exchange of ideas, the sharing of experiences and encouraging innovation in the palm oil processing industry. It is not limited to traditional areas of milling, refining or oleochemicals. It includes new areas such as nutraceuticals, biogas and energy, biomass, biofuels and bio-based chemicals. Processing in the palm oil industry encompasses all the four key challenges in *Chemical Engineering Matters* viz energy, food & drink, health & well being and water. The approach to improving the quality of life through the use palm oil has to be done safely and sustainably.

At the moment peatsmog haze is affecting Indonesia, Malaysia and Singapore. It is an annual occurrence in its 18th year. As chemical engineers it is important that we are absolutely clear about the environmental, moral, social and economic imperative of reducing damaging pollution and atmospheric emissions, as well as of wise stewardship of natural assets including forests and offer realistic contributions to solutions, based on sound engineering principles. Studies show that palm oil is a lesser (20%) though still significant cause of the peatsmog haze than other types of concession such as timber, pulp and paper and ex-concession areas such as smallholders and others. Processers should use as far as possible sustainable palm oil certified by organisations such as the Roundtable on Sustainable Palm Oil (RSPO).

We love hearing from you. Follow us on [LinkedIn](#). You can also email us directly with your thought and critique.

Editor
Hong Wai Onn

Sponsors

POPSIG gratefully acknowledges the supporters of our evening events.



The University of Nottingham, for provision of venue facilities.





Palm Oil Processing Special Interest Group was launched at the University of Nottingham Teaching Centre.



POPSIG committee members (from Left to Right: KS Qua, WO Hong, KK Khoo, BP Chow and MF Chong) unveiled a fresh fruit bunch revealing Malaysia's golden crop.

The Launch of POPSIG

The Palm Oil Processing Special Interest Group (POPSIG), the first IChemE SIG outside of the UK, was launched on 3rd August 2015 in Kuala Lumpur at the University of Nottingham Teaching Centre. The event was attended by an enthusiastic crowd of 65 chemical engineers and friends. Mr B P Chow, Immediate Past Chairman of IChemE in Malaysia, in launching POPSIG, said “Chemical engineers are needed to bring the palm oil industry to the next level as spelled out in Malaysia’s palm oil sector National Key Economic Area (NKEA). There are opportunities to grow, develop and improve this industry and chemical engineers, especially the young ones, will find it particularly exciting and challenging in this new (palm) oil & gas industry.”

POPSIG committee members unveiled a fresh fruit bunch (FFB) revealing Malaysia’s golden crop. Many members in the audience were seeing a palm oil fruit for the first time in their lives.

Mr Hong Wai Onn, currently a project manager, passionately delivered the evening’s talk “Transformation of Palm Oil Industry – The New Oil and Gas”. He traced the history of oil palms to 3000 BC in West Africa. More recently it was introduced to the then Malaya in 1875 with the first commercial scale plantation in 1917 in Tennamaran Estate in Selangor. Although Indonesia has overtaken Malaysia as the top producer of palm oil, Malaysia remains the top exporter in the world. In the last two years it has lost out to oil & gas as Malaysia’s 3rd & 4th fourth export revenue earner but it will regain this position this year as it is a recession proof commodity. People will always need food.

Hong focused his talk on the milling process and gave numerous examples of the contributions chemical engineers in his organization have made in processing, energy management, process automation, effluent, use of biomass and biogas and also process safety.

In answering a question from the audience on a personal level Hong said his first job posting was a mill 5 hours by road from Sandakan in Sabah. He stayed in the mill because he wanted to learn something. “A jack of all trades is better than a master of none” as in a remote area you need to be really self reliant. In the palm oil industry you are exposed to many areas, not only process control but people management, you have to know the labour laws and accounts (operational costs and profit). It appears to have all the ingredients to quickly become a chartered chemical engineer.

In closing the evening, Hong, as chair of POPSIG announced the upcoming events. The POPSIG welcomes the setting up branches outside of Malaysia.



Opening speech delivered by Mr BP Chow, Immediate Past Chairman of IChemE in Malaysia, in POPSIG launch event.

Site Visit by Monash's Undergraduates

Emery Oleochemical Plant

POPSIG was launched on 3rd August 2015. At the event attended by 65 participants there were many opportunities for networking. Some of the undergraduates present were inspired by Hong Wai Onn's talk and B P Chow's introduction they asked for visits to palm oil plants. Dr Babak Salamati, Senior Lecturer at Monash University Malaysia met Sudershan Sivasubramaniam, Site Operations Director at Emery Oleochemicals and asked him so.

On Thursday 27th August 2015, 28 third year chemical engineering undergraduates from Monash with Babak and KS Qua, POPSIG committee member, were at Emery Oleochemicals to see for themselves what a real life large oleochemical plant looked like.



Visit to Emery Oleochemicals by Monash chemical engineering undergraduates.

Louis Chong said, "It is a nice change from being in the lecture hall. The visit was very educational and interactive especially with the very helpful chemical engineers (including a Monash graduate Amahz Ashraf Salim who a Production Engineer) who showed us around, answering all our questions."

Ulu Kanchong Palm Oil Mill

On 17 September 2015, group of 3rd year chemical engineering undergraduates from Monash University Malaysia visit to Ulu Kanchong Palm Oil Mill (UKPOM), Negeri Sembilan to see for themselves what a real palm oil mill looked like. The visit was led by Senior Lecturer at Monash, Dr. Babak Salamati and Chair of POPSIG, Hong Wai Onn.

A brief introduction on UKPOM was given by the Mill Manager, Mr Tan Yaw Cho prior to proceeding with mill visit. During the mill visit, the undergraduates were not only exposed to main processing plant, but also power generation plant and the revolutionary effluent treatment plant - biogas plant.



Visit to Ulu Kanchong Palm Oil Mill by Monash chemical engineering undergraduates.

Alison Tan said, "The visit was great. The engineers let us get up closer to each processes, which was good exposure as we could actually see how it really works and gain a better understanding of each unit processes. Also, the utilization of biogas captured in covered lagoon at effluent treatment plant is quite ingenious." Blu Tan said, "This is the best field trip so far. It was very informative, and the engineers answered all our questions. We actually get to see up close all the different equipment and processes. I finally get to paint the picture of all the processes in my head, which was previously just literature and imaginations. I'm very excited to venture into palm oil industry!"

"No doubt this was one of the best field trip so far. We were exposed to real machineries and have the chance to witness the whole process of the mill. We were given the chance to touch and smell the product after each processes in the mill. This was an eye-opening experience for me," Ian Lim said.



Top: Mill visit and machinery sighting.

Right: Briefing on palm oil mill's material and products.



Sustainability Challenge 2015

The Sustainability Challenge 2015 is initiated by UKM-YSD Chair for Sustainable Development: Zero Waste Technology with the objective of exploring innovative ideas on sustainability of palm oil industry. This competition will provide an excellent opportunity of the participants to present their sustainability's ideas to the industry practitioners.

As part of POPSIG responsibility to promote sustainability development in palm oil industry as well as continue support student chapters, the committee provides guidance and insight to Monash Chemical Engineering undergraduates in order for them to prepare and submit entries for the competition.

International Palm Oil Congress and Exhibition 2015

The Malaysian Palm Oil Board (MPOB) International Palm Oil Congress and Exhibition (PIPOC 2015) carrying the theme, Oil Palm: Powering the World, Sustaining the Future, was held at Kuala Lumpur Conventional Center from 6th - 8th October 2015. PIPOC 2015 has five concurrent conferences to provide a strategic platform for interaction and in-depth deliberation of the many facets of the oil palm and the palm oil industry from innovations, latest developments, challenges and the future of the industry. A trade exhibition with more than 315 exhibition booths were also held throughout the congress to provide opportunities for delegates to view and discuss current technologies, state-of-the-art equipment and products related to the oils and fats industry.

Mr KS Qua, advisor for ASEAN Oleochemical Manufacturers Group (AOMG) and also committee member of POPSIG, was invited by MPOB to present in PIPOC 2015. In his presentation, Moving Sustainable Oleochemicals Through the Supply Chain, Qua shared the latest version of Supply Chain Systems 2014, as well as tabled the challenges faced.



KS Qua delivered his paper in PIPOC 2015



PIPOC 2015 was launched by YB Datuk Amar Douglas Uggah Embas

Collaboration with other SIGs

As our evening talks unfold we realise the growing interaction with the wider chemical engineering community not only locally but globally. The October talk by Mr B P Chow on "The New Oil & Gas Industry : Palm Oil" will be jointly held with IChemE Oil & Natural Gas Special Interest Group (SONG). The November talk by K S Qua "Process Safety in the Palm Oil Industry" with IChemE Safety & Loss Prevention Special Interest Group (S&LP). The chair of the Water SIG has contacted us to arrange a joint event on water/wastewater issues arising from palm oil and olive oil processing. POPSIG members listened with interest to the recent Sustainability SIG webinar "Towards a lower carbon economy: what's the fuss about biomass?" and are looking for someone who can similarly talk about oil palm biomass.

Tracking the Source of the Haze

Thick haze from peat-smog set in neighboring Indonesia has blanketed our country for weeks, and has spread to Singapore as well. This has been an annual occurrence for almost 20 years. Around the region, flights have been grounded, schools have been closed, and tens of thousands of people have sought medical treatment for respiratory problems, allergies, and other ailments.

In 2014, World Resources Institute and the Roundtable on Sustainable Palm Oil (RSPO) collaborated to create a map that was intended to make the palm oil supply chain more transparent. The map, accessible at www.globalforestwatch.org, shows land concessions granted by governments, deforestation (and reforestation), active fires, and plantations that have been certified as sustainable.

Now that the data has been made available, we can easily identify occurrence of fire and its frequency. When we pulled out the analyzed data, for the period 1st January 2015 to 5th August 2015, here's what we found.

CONCESSION TYPE	NUMBER OF FIRE ALERTS
RSPO CERTIFIED PALM OIL CONCESSIONS	80
ALL PALM OIL CONCESSIONS	2431

Out of 2,431 fire alerts on palm oil concessions, there was 80 fire alerts reported at RSPO certified palm oil concessions. Of course, it is also worth remembering that the fire alerts can come from reflection of red-sand road or fires up to 3 km away from the concession.

Diary of Events

Evening Talk : **Process Safety in the Palm Oil Industry**
 Date : 30 November 2015, Monday
 Time : 18:00 - 20:30 (GMT+8)
 Location : University of Nottingham Teaching Centre, Kuala Lumpur, Malaysia
 Register now at <http://ievents.icheme.org/booking/Default.aspx?evnt=406>

Evening Talk : **Continuous Fractionation: Latest Development in Fractionation**
 Date : 29 February 2016, Monday
 Time : 18:00 - 20:30 (GMT+8)
 Location : University of Nottingham Teaching Centre, Kuala Lumpur, Malaysia

