



POPSIG

Decarbonizing the Palm Oil Sector

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

IChemE

Palm Oil Processing
Special Interest Group

***Decarbonizing the Palm Oil
Sector: Leading the Path to
a Net-Zero Future***

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UM National Chemical Engineering Exposure Camp
2025

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Palm Oil Station—Build & Battle: Engineering Station
Game

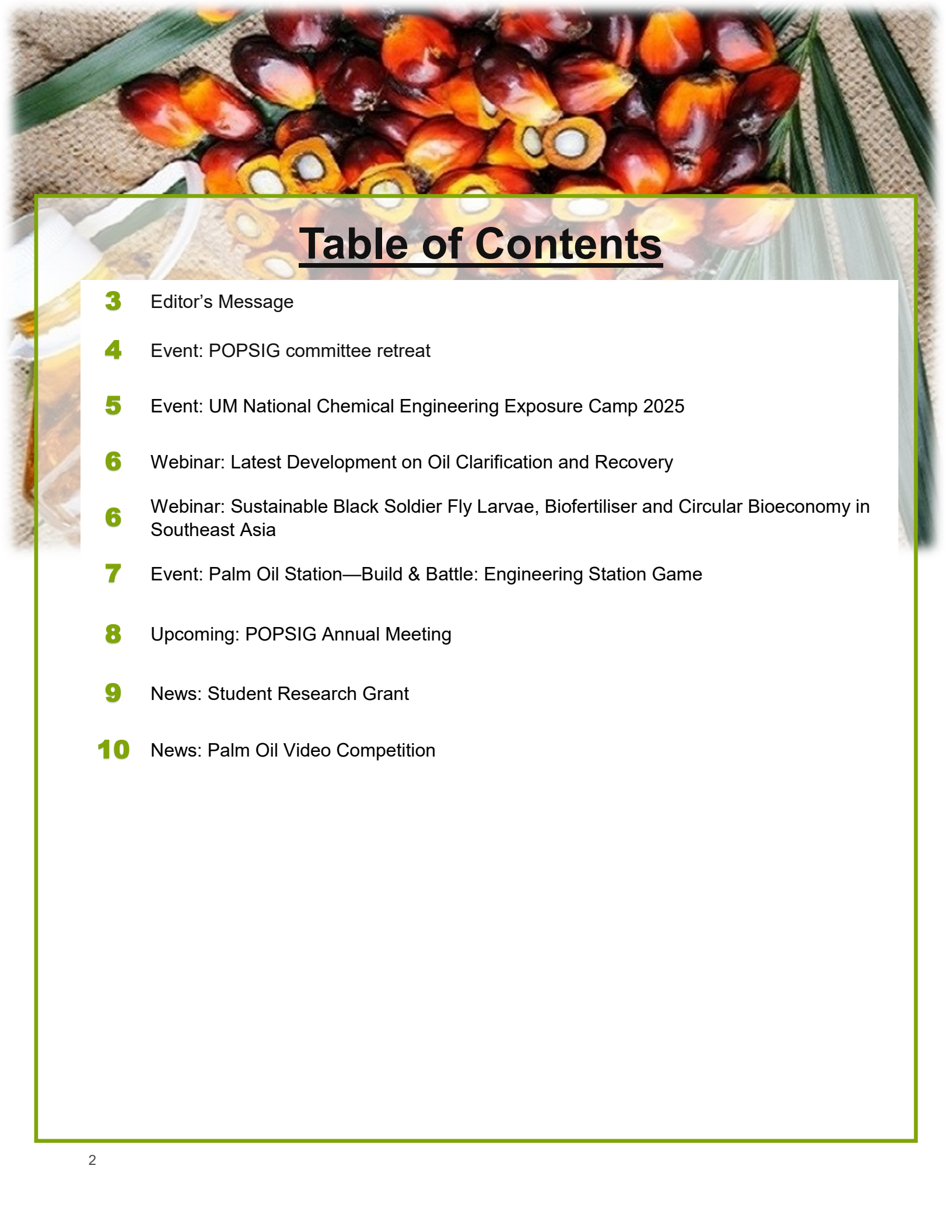


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Editor's Message

As we look back on another eventful and inspiring year, POPSIG continues to uphold its mission of promoting sustainability, innovation, and collaboration among industry and academia. A series of impactful initiatives, insightful webinars, and student-driven activities has collectively strengthened our shared vision of a greener and more responsible palm oil industry.

We began the year with the POPSIG Committee Retreat, held on 13 January 2025 at Sunway University, where the committee reflected on the achievements of 2024 and mapped out strategic directions for the year ahead. The retreat marked the adoption of the 2025 theme: "Decarbonizing the Palm Oil Sector: Leading the Path to a Net-Zero Future", reaffirming POPSIG's dedication to driving transformative change and industry decarbonisation through engineering innovation.

Engagement with future engineers remained a key focus, exemplified by POPSIG's participation in the UM National Chemical Engineering Exposure Camp 2025. This event was organised by the IChemE-UM Student Chapter, gathering 80 enthusiastic students nationwide under the theme "Navigating the Future of ChemE." POPSIG's representative, Ms. Liew Sin Lu, delivered an insightful talk titled "Sustainable Advancement in the Palm Oil Industry", inspiring participants to consider sustainability, innovation, and process efficiency in palm oil refining.

POPSIG also hosted two webinars that showcased the latest developments in sustainable processing technologies. The first, "Latest Development on Oil Clarification and Recovery" on 21 April 2025, featured Mr. Rahmat Ngteni from SD Guthrie Research Sdn Bhd and Mr. Stephanus Dwidianto from GEA Westfalia Separator, who discussed emerging technologies in oil clarification and recovery for improved productivity and resource efficiency. The second, "Sustainable Black Soldier Fly Larvae, Biofertiliser and Circular Bioeconomy in Southeast Asia", held on 26 May 2025, featured Assoc. Prof. Dr. Tan Jian Ping from Xiamen University Malaysia, who shared innovative approaches to upcycling palm oil waste into biofertiliser through microbial immobilisation and co-culture techniques.

In line with POPSIG's continued support for student engagement, the Palm Oil Station – Build & Battle: Engineering Station Game was organised by the IChemE Student Chapter at Swinburne University of Technology Sarawak. The event took place on 25 October 2025 with the aim to raise awareness of palm oil processing and sustainability through an interactive quiz. The enthusiastic participation and positive feedback reflected the growing interest among students in sustainable palm oil practices.

Our commitment to fostering research and creativity among students was further exemplified by the Student Research Grant and the Palm Oil Video Competition. The Research Grant supports investigations into responsible production, digitalisation, and risk management within the palm oil sector. Meanwhile, the Video Competition, generously sponsored by KLK OLEO Sdn Bhd, encouraged students to express their vision for the industry through short creative videos addressing themes such as IR4.0 in Palm Oil, Non-Food Palm Oil Products, and Palm Oil Waste to Wealth.

As POPSIG prepares for its Annual Meeting in November 2025, we take pride in the progress made through these collaborative efforts. With the steadfast support of IChemE, our partners, and an active community of professionals and students, POPSIG continues to champion innovation, sustainability, and decarbonisation within the palm oil sector. Together, we are paving the path toward a net-zero and sustainable future.

Thank you for your unwavering support and dedication.

POPSIG gratefully acknowledges our sponsors



Event: POPSIG committee retreat

On 13 January 2025, the POPSIG committee gathered at Sunway City for its annual retreat, hosted at Sunway University. The meeting provided an opportunity for members to reflect on the achievements and activities conducted in 2024 while setting strategic directions for the year ahead. The retreat focused on evaluating past initiatives, identifying areas for growth, and strengthening POPSIG's commitment to advancing sustainability within the palm oil industry. Moving forward, the committee announced the 2025 theme, "Decarbonizing the Palm Oil Sector: Leading the Path to a Net-Zero Future". underscoring The 2025 committee lineup was also introduced during the retreat, marking the beginning of another impactful year for POPSIG.

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Event: UM National Chemical Engineering Exposure Camp 2025

National Chemical Engineering Exposure Camp (NCEEC) 2025 kicked off at Universiti Malaya, gathering 80 enthusiastic pre-university students from across Malaysia for a two-day immersive journey into the world of chemical engineering. Organized by the IChemE-UM Student Chapter, the event carried the theme “Navigating the Future of ChemE,” inspiring participants to explore the challenges and opportunities in this dynamic field.

As part of the program, Ms. Liew Sin Lu, a representative from POPSIG, delivered an insightful industrial talk titled “Sustainable Advancement in the Palm Oil Industry,” which introduced participants to the importance of sustainability, innovation, and efficiency in the palm oil refining process. The engaging session concluded with a Q&A and pitching activity, where students eagerly asked questions to win prizes, making the experience both educational and interactive.



Webinar: Latest Development on Oil Clarification and Recovery

On the 21st April 2025, Mr. Rahmat Ngteni from SD Guthrie Research Sdn Bhd and Mr. Stephanus Dwidianto from GEA Westfalia Separator were invited to share their experience on the latest development on oil clarification and recovery. Mr. Rahmat has over 15 years of experience in palm oil milling, process control, water and effluent treatment industries primarily serving SD Guthrie Research Sdn Bhd. On the other hand, throughout his 25 years with GEA Westfalia Separator, Mr. Stephanus has leveraged his extensive knowledge in centrifugal technology, processes, and field experience to make significant contributions to the field. Mr. Stephanus has specifically focused on the development and improvement of palm oil processing using decanters or separators in Southeast Asian countries, primarily in Indonesia, Malaysia, and Thailand.

Mr. Rahmat was first presenting on "Redefining palm oil clarification with RAPID oil recovery system" based on the RAPID oil recovery system, a simplified palm oil clarification setup developed by SD Guthrie Research Sdn Bhd. By mitigating the milling factor's impact on CPO quality degradation, RAPID supports to fulfilling the growing global demand for specialty-grade CPO while enhancing the overall palm oil mill productivity. Subsequently, GEA solution for oil recovery in palm oil industry was shared by Mr. Stephanus. GEA has developed an additional process stage in order to improve the profitability of the conventional process by recovering residual oil from the sterilizer condensate and EFB press.

Webinar: Sustainable Black Soldier Fly Larvae, Biofertiliser and Circular Bioeconomy in Southeast Asia

On the 26th of May 2025, the webinar featured Associate Professor Dr. Tan Jian Ping from Xiamen University Malaysia to share on Black Soldier Fly Larvae (BSFL) technology in enhancing biofertilizer with microbial innovation. The technology has successfully upcycle palm oil waste into biofertiliser. The research offers insight on sustainable solution for palm waste management and soil enrichment through microbial immobilisation technique. Assoc Prof. Dr. Tan also explores electro-fermentation, and precision monochromatic irradiation for microbial bio-energy and biochemical production.

Supporting the session was Mr. Yeow Teck Ann, an imaging geophysicist at Viridien, who shared his research on the bioconversion of ligno-cellulosic biomass into biofertiliser using co-culture bacteria. In addition to his scientific work, Mr. Yeow and his classmates co-founded a biotechnology startup, which was successfully shortlisted as a finalist in the MYStartup Pre-Accelerator Cohort 3, reflecting their innovative approach to sustainable waste valorisation and bioresource utilisation.

IChemE
Palm Oil Processing
Special Interest Group

Join Our Webinar!

Sustainable Black Soldier Fly Larvae, Biofertilizer and Circular Bioeconomy in Southeast Asia



Dr. Jian Ping Tan
Xiamen University Malaysia



Mr. Teck Ann Yeow
Viridien

26 May 2025 | Monday
18:30-19:30 (GMT+8)
Online Session

REGISTER NOW

IChemE Palm Oil Processing Special Interest Group

Event: Palm Oil Station—Build & Battle: Engineering Station Game

Organised by the IChemE Student Chapter, Swinburne University of Technology Sarawak, and supported by POPSIG, the event titled “Introduction to Palm Oil and POPSIG – Kahoot Challenge” was held on 25 October 2025 as part of the Build & Battle: Engineering Station Game. The Palm Oil Station aimed to raise awareness and enhance students’ understanding of the palm oil industry, its processing, and sustainability aspects through an engaging, interactive learning experience.

A total of 32 students, divided into eight groups, participated and rotated among different engineering-themed stations, with the Palm Oil Station standing out as one of the most popular. Participants attended a short presentation introducing palm oil production, its diverse applications, and POPSIG’s role under IChemE in promoting responsible and innovative practices. This was followed by a Kahoot quiz featuring 20 questions, testing participants’ knowledge of palm oil and sustainability. The competition sparked enthusiastic discussions and excitement as teams competed for the highest scores on the leaderboard. The event received highly positive feedback for its educational value and engaging format. The winners of the Palm Oil Station Challenge were Bryan Bong Jing Xuen, Jason Ng Yong Sheng, Dylan Ng Hon Wei, and Ivan Pan Guan Yuan, who emerged as the top-performing team in this fun and educational activity.



Event: POPSIG Annual Meeting

Annual meeting of the Palm Oil Processing Special Interest Group (POPSIG) will be held in 21 November 2025. The Annual meeting will be covering the important achievements attained in 2025 and outlines the future prospect and planning of POPSIG. It also serve as a platform for two-way dialogue between the SIG chair / committees and the members.



Webinar: POPSIG Annual Meeting

PALM OIL PROCESSING

AGM of POPSIG covers the illustration of the important achievements attained in 2025 and outlines the future prospect and planning.

DATE FROM

21st November 2025

DATE TO

21st November 2025

LOCATION

Online: 18:00 MYT. Duration: 40 minutes.

News: Student Research Grant

The Palm Oil Processing Special Interest Group (POPSIG) of IChemE is offering research grants of up to RM6,000 per project to support original research related to the palm oil sector. Open to IChemE members who are registered undergraduate or postgraduate students, the grant encourages studies under themes such as *responsible production (sustainability, climate change, environmental protection)*, *risk management*, and *digitalisation of palm oil-related processing*. Projects may include interdisciplinary activities, laboratory studies, simulations, computational analyses, or desktop reviews, and can complement existing work, provided all other financial support is declared. The funding covers travel, maintenance, software subscriptions, materials and supplies, professional services, and data collection. Each project should be completed within six months from the date of award, promoting innovation and sustainability in the palm oil industry through student-led research initiatives.

News: Palm Oil Video Competition

POPSIG gratefully acknowledges Kuala Lumpur-Kepong Oleomas (KLK OLEO) Sdn Bhd for generously sponsoring the Palm Oil Video Competition, an initiative that provides a creative platform for students to showcase their vision of the future palm oil industry. With cash prizes of RM3,000 per winning video, the competition aims to convey the ideas, opinions, and aspirations of the younger generation to current industry players, promote awareness of the palm oil industry among youth, and offer a stage for creative expression. Participants are invited to produce a video of up to three minutes addressing one of the following themes: *IR4.0 in the Palm Oil Industry*, *Palm Oil for Non-food Products*, or *Palm Oil Waste to Wealth*. The competition is open to all students, and entries may be submitted individually or in teams of two to five members, fostering collaboration and innovation in shaping a sustainable future for the palm oil sector.

UPCOMING EVENTS

DATES

EVENTS

21 November 2025

POPSIG Annual General Meeting

December 2025

POPSIG Retreat

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