



17th Congress of Asian Pacific Confederation of Chemical Engineering (APCChE 2017) UNMC-IEM Student Section won 'The Best Academic Society'

by Chong Yen Yee

Chong Yen Yee is a PhD student at University of Nottingham Malaysia Campus. Her research interests include producing biocrude oil (bio-oil) that is derived from lignocellulosic palm biomass via fast pyrolysis.

In August 2017, I was sponsored by the Institution of Engineers Malaysia (IEM) to attend the 17th Congress of the Asian Pacific Confederation of Chemical Engineering (APCChE 2017) that was held at Hong Kong on 23rd – 27th August 2017. I was fortunate as I won the Research Paper Competition organised by the Chemical Engineering Technical Division (CETD) of IEM, which was held in conjunction with the APCChE Congress. I was among the five finalists being invited to the oral presentation during the International Construction Week 2017 held at Kuala Lumpur Conventional Centre on 14 April 2017. My paper entitled "Synergic effects and Kinetics Mechanisms for Co-pyrolysis of Empty Fruit Bunch and Palm Oil Mill Effluent Sludge" and was co-authored by Dr Suchithra Thangalazhy-Gopakumar, Professor Dr Ng Hoon Kiat, Prof Dr Gan Suyin, and Dr Lee Lai Yee.

The APCChE Congress is a bi-annual conference for the Asian Pacific community of chemical and process engineers, as well as industrial chemists who come together to discuss the latest developments in the field, recognise outstanding achievement and share lessons learned. The APCChE 2017 Congress was hosted by Hong Kong University of Science and Technology (HKUST), The Hong Kong Polytechnic University (HK PolyU), and The Hong Kong Institution of Engineers (HKIE) and was held at the Hong Kong Convention and Exhibition Centre (HKCEC). About 500 delegates from countries in the Asia Pacific region gathered to share their insights and innovations in this important conference. My paper was allocated as poster presentation on 26 Aug 2017. My PhD research is meant to upgrade the qualities of bio-crude oil (bio-oil) that is derived from empty fruit bunches (EFB). The EFB-derived bio-oil is acidic, whereas the bio-oil derived from palm oil mill effluent (POME) sludge is alkaline in nature.

Therefore, combining these palm waste as feed will lead to a bio-oil with pH similar to the petroleum-based crude oil. The current presentation focused on the kinetics and mechanisms of the biomass. From this study, thermal kinetic triplets (apparent activation energy, apparent pre-exponential factor, and kinetic model) were determined. Having known these parameters, the degradation behaviour of the biomass and their blends can be further understood, which assist in the designing and optimization of the operation.

I must say that it was such a wonderful experience attending and presenting in an international conference. I am truly thankful to CETD, IEM for offering me this opportunity. The conference provided me with a platform to practice my skill in communicating my research works with other researchers and to engage in constructive dialogues. I have received quite some kind words and encouraging comments from the audience, which impelled me to continue to work hard. I feel that attending this conference was indeed an eye-opening experience. I would like to extend my heartfelt gratitude to CETD, IEM once again. I would also like to thank my supervisors, my family, and last but not least, all glory to God in the highest.