

# PREFACE FOR SPECIAL ISSUE ON CHEMICAL ENGINEERING

In the February 2009 monthly meeting of Chemical Engineering Technical Division (CETD), the idea to produce a Special Issue on Chemical Engineering within the IEM Journal was proposed and accepted unanimously by the members. It was decided to dedicate the special issue to the fast-growing chemical industry in the country, where the total capital investment for chemical related products being reported as USD 2.1 billion (RM 7.3 billion) for the first 6 months in 2009, highest among all sectors (MIDA website, accessed 18 September 2009). Subsequently a call for paper for the Special Issue was done in the beginning of March 2009, with the deadline for manuscript submission set at 30th April 2009. A total of 11 papers were received and finally 8 papers were selected for publication after a thorough evaluation process.

## SUMMARY OF PAPERS

All the papers selected for publication were vetted for content, format and theme suitable for this Special Issue. The first paper involves a collaboration work between Malaysian and Finland researchers (M. H. Hassim and M. W. Ali). They presented a method for evaluating the performance of safety, health, and environmental for chemical process design based on the inherent chemical and process properties. The second paper is contributed by A. Chan, E. Cheung and P. Siddheshwar. Their work is about the use of large-eddy simulations to study the effect of heat flux on pollutants dispersion in an urban street canyon, which is useful for engineers. The third paper which investigated the performance of heterogeneous calcium oxide catalyst in methyl ester production using coconut oil, contributed by a group of researchers from Philippines, *i.e.* J. M. Velasquez, K. S. Jhun, B. Bugay, L. F. Razon and R. R. Tan. The finding can be of a great interest to researchers in the similar field in Malaysia and the rest of the region. The fourth is a review paper contributed by H. Abu Hasan, S. R. Sheikh Abdullah, S. K. Kamarudin and N. T. Kofli. This paper critically reviewed the design criteria of biological aerated filter for the removal of organic and inorganic contaminants in drinking water production. The next two papers reported the research work on powder photocatalyst. The paper by R. Abd Aziz, N. Asyikin and I. Sopyan reported the synthesis of TiO<sub>2</sub>-SiO<sub>2</sub> powder photocatalyst through sol-gel technique using various types of metal alkoxides; while the paper by N. Hafizah, P. Jamal, M. I. Abdul Karim and I. Sopyan reported the study of TiO<sub>2</sub>-SiO<sub>2</sub> powder photocatalysts synthesis through sol-gel and its immobilization with cement for photocatalytic phenol removal. The seventh paper by Y. A. Yusof, A. C. Smith and B. J. Briscoe is a collaboration work between Malaysian and UK researchers, presented a study on uniaxial die compaction for typical food powders, *e.g.* maize powder, maize grits and microcrystalline cellulose. The final paper is contributed by J. Gimbut, reported a study of Eulerian two-fluid modelling in a bubble column using computational fluid dynamic.

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