

CHEMICAL PRODUCT DESIGN & ANALYSIS:

INNOVATIVE SOLUTIONS
TOWARDS SUSTAINABLE
DEVELOPMENT



About Workshop

The workshop introduces the chemical product design and the important process design issues related to their development. It will highlight the phases in product and process development; the relationships between product attributes, ingredients and product microstructure as well as the view from economical perspective.

The latest available methods and the first software-tool for chemical product design (ProCAPD) will be introduced to solve various types of cases associated with product-process design in a systematic manner.

How Will I Benefit?

- Describe chemical product design and identify the key issues related to product and process development
- Define needs for a chemical product; identify product candidates and quickly evaluate the important process-product design issue
- Apply innovative computer-aided methods on product design and development in a systematic manner to meet the customer needs
- Design novel and sustainable chemical products and process and be among the first to commercialize it
- Be at the forefront of competition by designing products that meet customer needs faster time to market

Workshop Program

DAY 1

8.30 – 9.00	Registration and welcome
9.00 – 10.30	Introduction Product and process design and development; what to make and how to make; keys to design and analysis chemical products
10.30 – 11.00	Break
11.00 – 12.30	Computer aided methods and tools for single molecular product design Problem definition; database and property models; solution techniques and tools Introduction to Chemical Product Simulator (ProCAPD)
12.30 – 13.30	Lunch break
13.30 – 14.30	Case studies and tutorial exercise (single molecular product design)
14.30 – 15.00	Break
15.00 – 16.30	Computer aided methods and tools for blended product design Problem definition; database and property models; solution techniques and tools; Case studies and tutorial exercise (gasoline blend, lubricant blend and jet-fuel blend)

DAY 2

9.00 – 10.30	Computer aided methods and tools for formulated product design Problem definition; database and property models; solution techniques and tools; Case studies and tutorial exercise (hair spray and insect repellent lotion)
10.30 – 11.00	Break
11.00 – 12.30	Chemical product design case studies
12.30 – 13.30	Lunch break
13.30 – 14.30	Chemical product design case studies
14.30 – 15.00	Break
15.00 – 16.30	Important issues & topics Economic analysis in product design and development; economic measures and pricing model, make-buy analysis; project management Concluding remarks

2-DAY WORKSHOP & TRAINING-COURSE

17 – 18 JULY 2017

9.00 – 16.30

BANGKOK

* Place at the workshop will be reserved on a first-come-first served basis. Please confirm participation as soon as possible



PSE for SPEED Company Ltd.

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CHEMICAL PRODUCT DESIGN & ANALYSIS: INNOVATIVE SOLUTIONS TOWARDS SUSTAINABLE DEVELOPMENT



SPEAKER
DR SAWITREE KALAKUL

Sawitree Kalakul is a postdoctoral Researcher at the Department of Chemical Engineering, The Auburn University and the Head of Product Engineering of the PSE for SPEED (Sustainable Product Process Engineering, Evaluation and Design) company. Her main area is development of computer aided methods and tools in order to speed up the process of the design of chemical products. She obtained PhD in Chemical Engineering from Technical University of Denmark where she has developed the first software-tool for chemical product design (ProCAPD) as well as a systematic computer-aided tools framework for designing of chemical products such as commodities, chemical devices, cosmetics and consumer oriented products. Her works has been awarded and widely accepted and published in several international conferences and journals.



SPEAKER
PROF KA MING NG

Prof. Ka Ming Ng is the chair professor at the Department of Chemical & Biomolecular Engineering at the Hong Kong University of Science and Technology. From 1980-2000, he served as Professor of Chemical Engineering at the University of Massachusetts, Amherst. He was Head of Department from 2002-2005 in Hong Kong. He held visiting positions at DuPont, MIT, and the National University of Singapore. His research interests center on product conceptualization, process design and business development involving water, biochemicals, natural herbs, polymers, pharmaceuticals, nanomaterials, semiconductors and other advanced materials. He serves as a technical advisor for various companies and is currently the Corporate Science and Technology Advisor of Mitsubishi Chemical Corp. Prof Ng is the recipient of the General Electric Outstanding Teaching Award. He is a fellow of the American Institute of Chemical Engineers where he received the Excellence in Process Development Research Award in 2002.



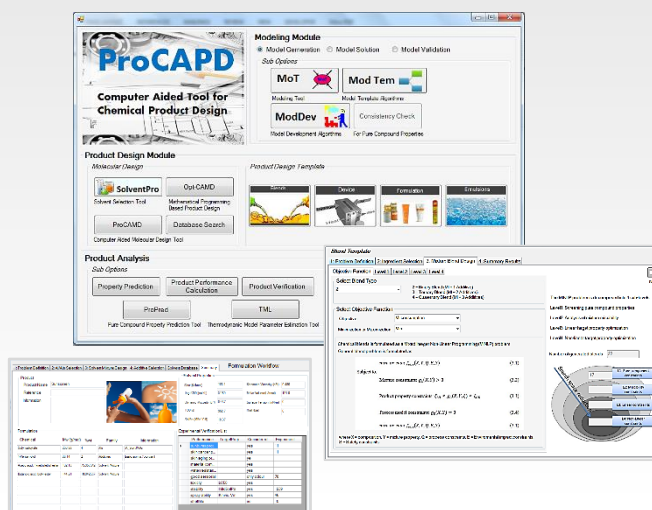
SPEAKER
PROF RAFIQU L GANI

Prof. Rafiqul Gani is professor of system design at the Department of Chemical and Biochemical Engineering, The Technical University of Denmark and the former head and co-founder of the Computer Aided Process Engineering Center (CAPEC). His current research interests include development of computer aided methods and tools for modelling, property estimation, process-product synthesis & design, and process-tools integration. He has published 406 peer-reviewed journal-proceedings articles and book chapters, and, delivered over 350 lectures, seminars and plenary/keynote lectures at international conferences, institutions and companies all over the world. Professor Gani is the president of the EFCE (European Federation of Chemical Engineering), elected for a second term 2016-2018; a Fellow of the AIChE and also a Fellow of IChemE. He is a co-founder and the CEO of the PSE for SPEED (Sustainable Product Process Engineering, Evaluation and Design) company.

Who Should Attend?

- Process Engineer
- Chemical Engineer
- Process Technology
- Consultant
- Researcher
- Chemist
- Professor/Lecturer
- Students working in the area of product design & process development

ProCAPD Software



List of Publications

- S. Kalakul. *Property Model-based Tailor-made Design of Chemical-based Products*. PhD-thesis, Technical University of Denmark, Lyngby, Denmark. (2016)
- S. Kalakul, S. Cignitti, L. Zhang, R. Gani. *Chapter 3 – VPPD lab: The Chemical Product Simulator*. Computer-aided Chemical Engineering, 39 (2017): 61-94
- R. Gani, K. M. Ng. *Product design – Molecules, devices, functional products, and formulated products*. Computers & Chemical Engineering, 81 (2015): 70-79
- K. Y. Fung, K. M. Ng, L. Zhang, R. Gani. *A grand model for chemical product design*. Computers & Chemical Engineering, 91(2016): 15-27

REGISTRATION

<http://www.pseforspeed.com/workshop-registration/>

REGISTRATION FEE

10000 BAHT (300 USD) PER PERSON (50% DISCOUNT FOR ACADEMIA)



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