

Professor Rafiqul Gani

Technical University of Denmark

Models, modelling and process systems engineering – what next?

In the Chair: Professor Stratos Pistikopoulos, Director, Centre for Process Systems Engineering, Imperial College London

Vote of Thanks: Professor Nilay Shah, Centre for Process Systems Engineering, Imperial College London

Abstract: Process systems engineering (PSE) has traditionally been concerned with the understanding and development of systematic procedures for the design, control, and operation of chemical process systems. Systematic computer aided methods and tools have been successfully used in the solution and analysis of problems related to process-product engineering, mainly in the petrochemical and related industries. This presentation will discuss the connection between modelling and the future challenges and opportunities for process systems engineering. Although, models are an integral part of all computer-aided methods/tools, the development of mathematical models for representation of the domain chemical process/product knowledge is still principally a manual task. A significant reduction in time and resources spent on problem solving in general and modelling in particular can be made through the development and use of a computer-aided modelling framework that can aid in the systematic generation/creation of the needed models, which is usually the first step of any model-based approach. A versatile and flexible modelling framework with features such as model reuse, model decomposition and model aggregation coupled with a library of predictive constitutive models will have the capability to generate process-product models for a wide range of problems at a fraction of the time and resources spent currently, contributing thereby to the continued success and expansion of the application horizon of process systems engineering. The presentation will highlight the use of a systematic model-based approach coupled with a computer-aided modelling framework in solving interesting problems in process-product engineering.

Biography: Rafiqul Gani is a Professor of Systems Design at the Department of Chemical Engineering, Technical University of Denmark, and the director of the Computer Aided Process Engineering Center (CAPEC). His research interests include the development of computer-aided methods and tools for modelling, property estimation and process-product synthesis and design. He received his BSc from Bangladesh University in 1975, and his MSc in 1976 and PhD in 1980 from Imperial College London.

Lecture Theatre 1 (Room 250), Department of Chemical Engineering, ACE Extension Building, Imperial College London, South Kensington Campus, London SW7 2AZ

Tea will be served before the lecture from 16.45 in the Common Room (Room 228), Department of Chemical Engineering, Level 2, ACE Extension Building

RSVP: Attendance is free, but with registration in advance
Senait Selassie • s.selassie@imperial.ac.uk • 020 7594 6605

Thursday 6 December 2007 • 17.30

The Fourteenth Professor Roger W.H. Sargent Lecture

The Professor Roger Sargent Lecture is an annual event the Centre for Process Systems Engineering inaugurated as a tribute to Professor Sargent's vision, leadership, significant technical contributions and to his legacy in the field of process systems engineering.