DR. RAFIQUL GANI TO TEACH 2 SHORT COURSES IN MARCH

Rafiqul Gani
Visiting Professor
Artie McFerrin Department of
Chemical Engineering

Dr. Rafiqul Gani has been a professor of systems design at the Technical University of Denmark and was the former head and co-founder of the Computer Aided Process Engineering Center (CAPEC). He has published 466 peer-reviewed journals-proceedings articles plus book chapters and delivered over 300 lectures at international conferences, institutions and companies all over the world. Dr. Gani is the former editor-in-chief of the Computers and Chemical Engineering journal (2009-2015), editor for the Elsevier CACE book series and currently serves in the editorial advisory boards of several journals. Dr. Gani has been awarded three Doctor Honoris Causa degrees; he is the ex-president of the EFCE (European Federation of Chemical Engineering, finishing his 2nd term at the end of 2017); a member of the Danish Academy of Science; a Fellow of the AIChE and a Fellow of IChemE. He was awarded the AIChE (CAST Division) Computers in Chemical Engineering 2015 award in November 2015. Dr. Gani is the co-founder and CEO of the company "PSE for SPEED" providing innovative, accurate and consistent engineering solutions very fast to industrial clients. He is also a Distinguished (visiting) Professor at Zhejiang University in Hangzhou (China) and a Visiting Professor at Texas A&M University, College Station (USA).

Short Course: Advanced Computer Aided Modeling

March 5-8, 2018

Room 535 Jack E. Brown Chemical Engineering Building

The course provides coverage of introductory and advanced process modelling and solution concepts for different types of models (lumped and distributed systems), different modes of models (steady state and dynamic) and different forms of model (simple-complex, large-reduced, discrete-continuous). Starting with definition of the modelling objectives, to the derivation of the model equations representing the system, to the analysis of the model equations, to developing different solution strategies for different modelling objectives to final application of the developed model will be covered in the course. It will be illustrated why using a systematic modelling approach has advantages, what methods and tools need to be used and how they can be applied. The course should help the participant to develop skills in model formulation, analysis and solution of the model equations.

Sustainable process synthesis, design, analysis through 12 hierarchical tasks: Innovative solutions for sustainable development

March 26-27, 2018

Room 535 Jack E. Brown Chemical Engineering Building

Finding novel and more sustainable production systems is an important step towards addressing the grand challenges of energy, water, environment and food currently faced by modern society. Significantly better and/or new processing routes are needed to, just to name a few, convert available resources to useful products, recycle unused material, and reprocess used material, without negatively impacting sustainability of modern society. The synthesis-design of processing routes is receiving increasing attention, not only due to the scope and significance of the problems that it covers, but also because of its industrial relevance. A processing route is a combination of raw materials, a series of processing steps to convert them, and products, which they can be converted to; each processing step has various alternatives in terms of processing technologies, giving rise to a superstructure of alternatives. The synthesis-design problem is formulated as a superstructure optimization problem, solved in 3-stages. Stage-1 is the synthesis stage where a preliminary processing route is identified together with interesting alternatives. Stage-2 is the design-analysis stage where a detailed design is performed on the processing route from stage-1. Analysis of the design is performed to identify process "hot-spots" that help to define targets for improvement. Stage-3 is the innovation stage, where new alternative processing routes that match the targets of improvement are identified, thereby leading to innovative and sustainable process design. A computer-aided flowsheet design tool (ProCAFD), which performs the 3-stages innovative sustainable process synthesis, design and analysis in 12 hierarchical tasks will be used.

To attend, email Toni Alvarado at a-alvarado@mail.che.tamu.edu
or call 979.845.9806.