



GAVIN CONFERENCES

# International Conference on Petrochemical Engineering

July 10-12, 2017 Dubai, UAE



**Abdallah Sofiane Berrouk**  
*Khalifa University of Science and Technology, UAE*

## Enabling process innovation through computation: Using advanced computer models for multiphase processes in chemical industries

Petrochemical industry is facing significant economic, environmental and societal challenges. Technology research, development and deployment will be crucial to meeting these challenges and capturing future market growth opportunities. With an ever-increasing focus on the development of products that generate revenues, the industry will need to find ways to enhance profitability and capital productivity. Long-term and strategic investments in R&D and new technologies can drive the industry towards higher levels of financial performance. An important element of this R&D is the development of enabling technologies that advance the application of fundamental chemical sciences throughout the industry's process environment. Technologies to assist industrial computations may be considered "enabling" in this regard since they are used in nearly every aspect of chemical research, development, design and manufacture. Among these computational technologies, Computational Fluid Dynamics (CFD) has grown over the years as highly sophisticated integration of applied computer science, physics, chemistry, and engineering science put together to enable innovation throughout the process industry. In this presentation, we give examples of CFD being used to optimize and troubleshoot an important petrochemical processes, namely, fluid catalytic cracking deployed to produce fuel and chemical feedstock in the region of Abu Dhabi

The author will also introduce EPIC (Enabling Process Innovation through Computation) Consortium. The EPIC effort is led by Louisiana State University over the last five years to bring together researchers working on process intensification, innovation using advances in multiphase flow and reactor development. Participation in this consortium is welcome from researchers around the world. This symposium should help bring like-minded people to work together to identify common challenges and opportunities to advance the field of process innovation with the aid of advanced modelling, by removing empiricism as much as possible.

### Biography

Berrouk was awarded a PhD degree from The University of Manchester (UK) in the area of Computational Fluid Dynamics (CFD) and turbulence modeling. He holds several master degrees which bear witness to his wide academic training. During his academic career, Dr Berrouk published two books, three book chapters and more than 90 papers on his ongoing research work in peer-reviewed international journals and conference proceedings. Dr Berrouk is a recipient of many awards from the local government and oil and gas industry. Dr Abdallah is member of the technical committee of ADIPEC (the largest oil and gas exhibition and conference) since 2013

aberrouk@pi.ac.ae