

production, and renewable energy integration in the gas and oil industry. His current research interests focus on big data analytics and integration in multiscale decision making in oil and gas operations.

Ali Elkamel is a Professor of Chemical Engineering. He holds a BS in Chemical Engineering and BS in Mathematics from Colorado School of Mines, MSc in Chemical Engineering from the University of Colorado-Boulder, and PhD in Chemical Engineering from Purdue University – West Lafayette, Indiana. His specific research interests are in computer-aided modelling, optimization and simulation with applications to energy production planning, carbon management, sustainable operations and product design. Professor Elkamel is currently focusing on research projects related to energy systems, integration of renewable energy in process operations and energy production systems, and the utilization of data analytics (Digitalization), machine learning, and Artificial Intelligence (AI) to improve process and enterprise-wide efficiency and profitability. Prof. Elkamel has supervised over 90 graduate students and more than 30 post-doctoral fellows/research associates. Among his accomplishments are the Research Excellence Award, the Excellence in Graduate Supervision Award, the Outstanding Faculty Award, the Best teacher award, and the IEOM (Industrial Engineering and Operations Management) Outstanding Service and Distinguished Educator Award. He has more than 280 journal articles, 141 proceedings, and 33 book chapters. He is also a co-author of four books; two recent books were published by Wiley and entitled Planning of Refinery and Petrochemical Operations and Environmentally Conscious Fossil Energy Production.

Mohammed Alkatheri holds a BS degree in Chemical Engineering from United Arab Emirates University, and MSc degree in Chemical Engineering from the Petroleum Institute in Abu Dhabi. During his MSc, he developed research on modelling and simulation of kinetics and single particle growth for the heterogeneous polymerization of Ziegler-Natta catalyst. From 2015 – 2017, he worked as a research assistant at the Petroleum Institute where he studied the economics of different ultra-sour natural gas sweetening processes, assessed sweetening of ultra-sour natural gas using hybrid processes and carried out green-house gases life cycle assessment for the United Arab Emirates electricity sector. In May 2017, he joined the PhD program in Chemical Engineering at University of Waterloo. His PhD research is focused on the application and integration of big-data tools (i.e. Artificial Intelligence and Machine Learning) in chemical process optimization and process system engineering. The scope of his PhD project is to address the challenges associated with chemical engineering process design and operation, namely, uncertainty handling, parameter estimation and unit process equation complexity. Therefore, high-level optimization tasks such as planning and scheduling will highly benefit from information mined from massive data, since optimization has always been based on the interchange between models and data.

Alberto Betancourt-Torcat is a researcher at the University of Waterloo. He holds a BS in Chemical Engineering from University Simon Bolivar in Venezuela, and MSc in Chemical Engineering from the University of Waterloo. He was a Research Associate at the University of Waterloo from September 2011 to June 2012. From August 2012 to November 2018, he worked at the Petroleum Institute (currently Khalifa University of Science & Technology) in Abu Dhabi, as a Research Engineer and Lecturer in the Department of Chemical Engineering. He has published numerous articles in renowned refereed journals, book chapters, and conference proceedings. He has also delivered several presentations in international conferences and seminars. Additionally, he serves as a reviewer for various reputable international journals in the area of energy systems and energy policy.

Ali Almansoori is a Professor of Chemical Engineering at Khalifa University of Science & Technology in Abu Dhabi. He earned a Ph.D. in Chemical Engineering from the Imperial College in London, an Executive MBA from London Business School, and a BS in Chemical Engineering from Florida Institute of Technology. During his profession, he has held several administrative positions including: the Coordinator of President's Duties, Dean of Engineering, and Chair and Deputy Chair of the Chemical Engineering Department. He also was the Interim Senior Vice President for Academic Affairs during the merge between PI, Masdar Institute, and Khalifa University of Science, Technology, and Research. He has published numerous articles, book chapters, and conference proceedings. Dr. Almansoori was also a research fellow at the Organization of the Petroleum Exporting Countries (OPEC) in Vienna, Austria during the summer of 2012. He was recently awarded the Mohammed Bin Rashid medal for scientific excellence on January 2019.