# Organizing Committee

**Fajhan Al-Mutairi**
Completions Domain Champion
Schlumberger
Kuwait City
Kuwait
Email: FAl-mutairi3@slb.com

Dr. Fajhan Al-Mutairi is a petro-technical expert at Schlumberger, an oilfield services company specializing in well completions technology, where he provides technical expertise in his role as Completions Domain Champion. He started his career as a research associate in the Petroleum Research and Studies Center at the Kuwait Institute for Scientific Research (KISR) where he worked on several projects related to oilfield chemistry. In 2002 he was awarded a scholarship to the Heriot-Watt University Institute of Petroleum Engineering (IPE) to pursue his MSc and PhD degrees which were awarded in 2007 His research focused on intelligent oilfield technology and downhole fiber-optic monitoring and data interpretation. Following graduation, Dr. Al-Mutairi returned to KISR where he led several research projects and research services, as well as served as a member of the organizing committee for the first Arab-American Frontiers of Science Symposium. He published several papers in the society of petroleum engineers (SPE). In 2013, he decided to cross-over to the oilfield industry by joining Schlumberger as a completion domain champion, where he currently promotes advanced technology applications and gainful applications of research.

**Mohamed (Moh) Amer**
Co-Director of the Center of Excellence for Green Nanotechnologies
King Abdulaziz City for Science and Technology
P.O. Box 6086
Riyadh
Saudi Arabia
Email: mamer@seas.ucla.edu

Dr. Amer currently serves as the co-director of the Center of Excellence for Green Nanotechnologies (CEGN) at University of California, Los Angeles (UCLA) and King Abdulaziz City for Science and Technology (KACST). CEGN center serves as a collaborative multi-million-dollar research center between KACST and UCLA, which aims in finding emerging clean and sustainable energy technologies. He is also an assistant professor at KACST where he is the principal investigator of various technical projects. Dr Amer is the recipient of the 2016 Arab-American Frontiers fellowship sponsored by the U.S. National Academy of Science. Prior to his appointments at UCLA and KACST, Dr. Amer served as a research associate in the center of energy nanoscience at University of Southern California (USC), part of U.S. Department of Energy, U.S. Office of Basic Energy Sciences, and U,S, Energy Frontier Research Center, His previous work involves the investigation of the electronic transport of carbonaceous devices such as carbon nanotubes, high frequency devices using nanomaterials, phonon and thermal transport of nanoscale devices, and nanoelectromechanical resonator (NEMS) structures. His research group focuses on low dimensional devices such as graphene and 2-D materials for industrial applications including, electronic switches and high frequency (RF) devices, optoelectronics and photonic devices for various sensing applications, and thermoelectric devices for power generation applications. Dr. Amer is the

recipient of various grant awards including national academy of science Arab-American Frontiers seed grant fellowship. Dr. Amer has authored and co-authored many scientific papers. He is currently a fellow of the American Chemical Society (ACS) and the American Physical Society (APS).

**Hassan A. Arafat**
Professor
Department of Chemical and Environmental Engineering
Masdar Institute of Science and Technology
PO Box 54224, Abu Dhabi
United Arab Emirates
Email harafat@masdar.ac.ae
Websites: http://www.masdar.ac.ae ; http://www.sustainable-desalination.net

Prof. Arafat received his PhD in chemical engineering from the University of Cincinnati (Cincinnati, OH, USA) in 2000. From 2000-2003, he worked at the Argonne National Laboratory (ANL) (Illinois, USA) as a researcher and project manager for the United States Department of Energy (DOE), developing processes for nuclear waste treatment at DOE sites. Between 2003 and 2010, Dr. Arafat served as a faculty member at the Chemical Engineering Department at An-Najah University (Nablus, Palestine). Between 2009 and 2012, he also served as an adjunct associate professor in the Department of Biological Engineering at Utah State University (Utah, USA). In 2010, he joined Massachusetts Institute of Technology (MIT, USA) as a visiting scholar, before moving to Abu Dhabi (UAE) in 2011 where he now works at Masdar Institute of Science and Technology as a professor in the Department of Chemical and Environmental Engineering. He is a PI/co-PI on 21 research grants, exceeding USD $11M in total funding, and a recipient of several prestigious international awards and international research fellowships. He is an author of 86 book chapters and peer-reviewed journal papers and 90+ conference papers. He delivered 42 keynote speeches, graduate seminars, and invited talks worldwide. He supervised 30 graduate students and postdoctoral fellows. The focus of Dr. Arafat's recent research interests is on the development of novel membranes, especially for desalination (membrane distillation) and wastewater treatment applications, and on sustainability assessment of promising desalination processes.

**Nader Behdad** *(Organizing Committee Chair)*
Associate Professor
University of Wisconsin-Madison
1415 Engineering Drive
Madison, Wisconsin 53706
United States
Email: behdad@wisc.edu

Nader Behdad received the BSc degree in electrical engineering from Sharif University of Technology in Tehran, Iran in 2000 and the MSc and PhD degrees in electrical engineering from University of Michigan - Ann Arbor in 2003 and 2006, respectively. Currently he is an associate professor in the Department of Electrical and Computer Engineering and the Harvey D. Spangler Faculty Scholar in the College of Engineering of the University of Wisconsin-Madison. From 2009-2013 he was an assistant professor in the Department of Electrical and Computer Engineering of the University of Wisconsin and from 2006 to 2008, he was as an assistant professor in the Department of Electrical Engineering and Computer Science of the University of Central Florida in Orlando, FL. Dr. Behdad's research expertise is in the area of applied electromagnetics. In particular, his research interests include electrically-small antennas, antenna arrays, antennas for biomedical applications, biomedical applications of RF/microwaves, periodic structures, frequency selective surfaces, passive high-power microwave devices, metamaterials, and biomimetics and biologically inspired systems in electromagnetics. Over the years, Dr. Behdad's research has been sponsored by various U.S. Federal agencies including the U.S. Navy, Air Force, National Science Foundation, and the National Institute of Health.

Dr. Behdad is the recipient of the Michigan ECE Rising Star Alumni Award (2016) from the University of Michigan. He was named the Harvey D. Spangler Faculty Scholar by the College of Engineering (2016-2019) and the H. I. Romnes Faculty Fellow (2016-2021) by the Office of Vice Chancellor for Research and Graduate Education (OVCRGE) of the University of Wisconsin. Dr. Behdad is the recipient of the Vilas Associates Award from the OVCRGE of UW-Madison in 2016, the 2014 R. W. P. King Prize Paper Award, and the 2012 Piergiorgio L. E. Uslenghi Letters Prize Paper Award of the IEEE Antennas and Propagation Society. In 2011, he received the CAREER award from the U.S. National Science Foundation, the Young Investigator Award from the United States Air Force Office of Scientific Research, and the Young Investigator Award from the United States Office of Naval Research. Prior to 2009, he received five different fellowships and awards from the Office of Naval Research, the International Union of Radio Science (URSI), and the University of Michigan-Ann Arbor among others. His graduate students were the recipients of the ten different awards/recognitions at the IEEE AP-S/URSI Symposium (2010, 2012, 2013, 2014, 2015, 2016), IEEE Pulsed Power & Plasma Science (2013), and the Antenna Applications Symposium (2008, 2010, 2011). Dr. Behdad is serving as the general co-chair of the 4th Arab-American Frontiers in Science, Engineering, and Medicine Symposium and served as an Associate Editor for IEEE Antennas and Wireless Propagation Letters (2011-2015), and as the co-chair of the technical program committee of the 2012 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting.

**Bethany L. Ehlmann**
Assistant Professor and Research Scientist
California Institute of Technology, Jet Propulsion Laboratory
1200 E California Blvd
Pasadena, CA 91125
United States
Email: ehlmann@caltech.edu

Bethany L. Ehlmann is an assistant professor of planetary science at Caltech and a research scientist at the Jet Propulsion Laboratory. She earned her AB from Washington University in St. Louis, holds master's degrees from University of Oxford in environmental management and geography, and received her PhD in geological sciences from Brown University. Dr. Ehlmann's research interests focus on planetary surface processes, infrared spectroscopy, the evolution of Mars, and chemical weathering and hydrothermal alteration throughout the solar system, among others. Dr. Ehlmann was a European Union Marie Curie Fellow and a Collaborator on the Mars Exploration Rovers during their primary and first extended missions. She is presently a co-investigator for the Compact Reconnaissance Imaging Spectrometer for Mars, participating scientist on the Mars Science Laboratory mission, Co-I on the Mars-2020 rover's Mastcam-Z and SHERLOC instruments, an affiliate of the Dawn science team, and is working on mission plans for Venus, Phobos and Deimos, and Europa exploration. She is a Kavli fellow, Mineralogical Society of America Distinguished Lecturer, a National Geographic Emerging Explorer, and recipient of AGU's Macelwane medal and COSPAR's Zeldovich medal.

**Nicholas X. Fang**
Associate Professor
Massachusetts Institute of Technology
77 Massachusetts Ave
Cambridge, MA 02139
United States
Email: nicfang@mit.edu

Nicholas X. Fang received his BSc and MSc in physics from Nanjing University, and his PhD in mechanical engineering from University of California Los Angeles. He arrived at MIT in Jan 2011 as an associate professor of mechanical engineering. Prior to MIT, he worked as an assistant professor at the University of Illinois Urbana-Champaign. Professor Fang's areas of research look at nanophotonics and nanofabrication in the application areas of energy conversion, communication, and biomedical imaging. Professor Fang, together with his research group and collaborators, has published over 102 peer-reviewed archival journal publications that are cited over 10,000 times by 2016, and he is an inventor on two issued and several pending U.S. Patents. His recognitions include the ASME Chao and Trigger Young Manufacturing Engineer Award (2013); the ICO prize from the International Commission of Optics (2011); an invited participant of the Frontiers of Engineering Conference by National Academies in 2010; the NSF CAREER Award (2009) and MIT Technology Review Magazine's 35 Young Innovators Award (2008).

**Mona Jarrahi**
Associate Professor
University of California Los Angeles
66-147E Engineering IV, 420 Westwood Plaza
Los Angeles, California 90095
United States
Email: mjarrahi@ee.ucla.edu
Website: http://www.seas.ucla.edu/~mjarrahi/

Mona Jarrahi received her BSc degree in electrical engineering from Sharif University of Technology in 2000 and her MSc and PhD degrees in electrical engineering from Stanford University in 2003 and 2007. She served as a postdoctoral scholar at University of California Berkeley from 2007 to 2008. After serving as an assistant professor at University of Michigan Ann Arbor, she joined University of California Los Angeles in 2013 as an associate professor of electrical engineering and the director of the Terahertz Electronics Laboratory. Prof. Jarrahi has made significant contributions to the development of ultrafast electronic and optoelectronic devices and integrated systems for terahertz and millimeter-wave sensing, imaging, computing, and communication systems by utilizing novel materials, nanostructures, and quantum well structures as well as innovative plasmonic and optical concepts. The outcomes of her research has appeared in 150 publications and 120 keynote/plenary/invited talks and have received a significant amount of attention from scientific news outlets including EE Times, Popular Mechanics, IEEE Spectrum, Optics & Photonics News Magazine, Laser Focus world, Photonics Spectra Magazine, and SPIE Newsroom. Her scientific achievements have been recognized by several international and national prestigious awards including the Presidential Early Career Award for Scientists and Engineers (PECASE); Friedrich Wilhelm Bessel Research Award from Alexander von Humboldt Foundation; Moore Inventor Fellowship from Gordon and Betty Moore Foundation; Kavli Fellowship by the USA National Academy of Sciences (NAS), Grainger Foundation Frontiers of Engineering Award from the USA National Academy of Engineering (NAE); Early Career Award in Nanotechnology from the IEEE Nanotechnology Council; Outstanding Young Engineer Award from the IEEE Microwave Theory and Techniques Society; Booker Fellowship from the USA National Committee of the International Union of Radio Science; Lot Shafai Mid-Career Distinguished Achievement Award from the IEEE Antennas and Propagation Society; Breakthrough Award from Popular Mechanics Magazine; Early Career Award from the USA National Science Foundation (NSF); Young Investigator Awards from the USA Office of Naval Research (ONR), the Army Research Office (ARO), and the Defense Advanced Research Projects Agency (DARPA); the Elizabeth C. Crosby Research Award from the University of Michigan; Distinguished Alumni Award from Sharif University of Technology; and best-paper awards at the International Microwave Symposium, International Symposium on Antennas and Propagation, and International Conference on Infrared, Millimeter, and Terahertz Waves. Prof. Jarrahi is actively involved in several professional societies and has been on program committees of several conferences from IEEE, OSA, and SPIE societies. She is a senior member of IEEE, OSA, and SPIE societies and serves as a member of the Terahertz Technology and Applications Committee of IEEE Microwave Theory and Techniques, an editorial board member of Journal of Infrared, Millimeter and Terahertz Waves, a Distinguished Lecturer of IEEE Microwave Theory and Techniques Society, a Traveling Lecturer of OSA, and a Visiting Lecturer of SPIE. In addition, she serves as a panelist and reviewer for the USA National Science Foundation (NSF), National Institutes of Health (NIH), and Department of Energy (DOE).

**Maša Prodanović**
Associate Professor
The University of Texas at Austin
Austin, TX 78712
United States
Email: masha@utexas.edu
Website: http://www.pge.utexas.edu/facultystaff/profiles/prodanovic

Maša Prodanović has been an associate professor at the Department of Petroleum and Geosystems Engineering, The University of Texas at Austin since September 2016. She holds a Bachelor of Science in applied mathematics from the University of Zagreb, Croatia and a PhD in computational applied mathematics from Stony Brook University, New York, USA. She held an assistant professor position 2010-2016, a research associate position in the Center for Petroleum and Geosystems Engineering (UT Austin) 2007-2010, and prestigious J. T. Oden Postdoctoral Fellowship at the Institute of Computational Engineering and Sciences 2005-2007, prior to her current post. Her research interests include multiphase flow and image-based porous media characterization especially applied to microfractured media and tight media, pore network models, shale gas flow, particulate flow and formation damage, sediment mechanics, fracturing and ferrohydrodynamics. Most recently, she received NSF CAREER award in 2013, Interpore Procter & Gamble Research Award for Porous Media Research in 2014 as well as SPE Faculty Innovative Teaching Award in 2014. She organized and co-instructed three short courses on image analysis in porous media between 2011 and 2014. Finally, most recently she started Digital Rocks Portal, web-based repository of porous media images and related experimental and simulation data https://www.digitalrocksportal.org/.

**Mohammad Qasaimeh**
Assistant Professor
New York University Abu Dhabi
PO Box 129188
Saadiyat Island
Abu Dhabi
United Arab Emirates
Email: mohammad.qasaimeh@nyu.edu

Dr. Mohammad Qasaimeh is an assistant professor of mechanical and biomedical engineering at NYU Abu Dhabi (NYUAD), and with the Mechanical and Aerospace Engineering Department at NYU Tandon School of Engineering New York, USA. In September 2014, he established the Advanced Microfluidics and Microdevices Laboratory (AMMLab) and his current research interests include developing microfluidic and MEMS devices for biomedical applications and point of care diagnostics. Prior to joining NYUAD, he was a postdoctoral research associate at Massachusetts Institute of Technology and Harvard Medical School. Dr. Qasaimeh completed his PhD degree in 2013 in biomedical engineering at McGill University, Canada where he also received several prestigious fellowships and awards including the NSERC Postdoctoral Fellowship, the Alexander Graham Bell Graduate Scholarship (CGSD3), and the FQRNT Students-Researchers Stars Award. His research has been published in several peer-reviewed journals including Nature Communications, PLOS Biology, Lab on a Chip, Scientific Reports, and Biomedical Microdevices. Dr. Qasaimeh delivered more than 10 keynote and invited speeches at national and international conferences, and was involved with several local and international conferences as an organizing committee member.

**Amina Qutub**
Assistant Professor and Co-Founder
Rice University
6500 Main St.
Houston, Texas
United States
Email: aminaq@rice.edu

Dr. Qutub received her PhD in bioengineering from the University of California, Berkeley and UCSF, and a BSc in chemical engineering from Rice University. Following her postdoctoral training in biomedical engineering at Johns Hopkins University, School of Medicine, she joined Rice University in 2009 where she is currently an assistant professor in the Department of Bioengineering.

Qutub develops computational and experimental tools to characterize natural human behavior from the molecular scale (e.g., proteins, genes) to the tissue level (e.g., regeneration of tissue), in order to understand and improve health. Applications of her research are opening up new treatment possibilities for neurodegenerative diseases and hematological cancers. Qutub is also the co-founder of DiBS, a data visualization startup company launched from the lab's technology that capitalizes on the way our eyes recognize patterns in color order to rapidly characterize and share clinical and biomedical big data. She has authored or coauthored 30 publications and served as scientific lead of a 2014-2015 International DREAM Algorithm Challenge. She is also a U.S. National Science Foundation CAREER and Neural & Cognitive Systems awardee.

**Marouane Temimi**
Associate Professor
Masdar Institute
Masdar City, Khalifa City A,
Abu Dhabi
United Arab Emirates
Email: mtemimi@masdar.ac.ae

Dr. Marouane Temimi obtained his PhD and his MSc in water resources/remote sensing from the University of Quebec/ETS, Montreal, Canada, in 2006 and 2002, respectively. He holds over ten years of extensive experience in industry and academia and has served in leading international engineering firms. Before joining Masdar Institute as an associate professor in the Water and Environmental Engineering Program in 2013, Dr. Temimi worked at the NOAA-CREST Institute at the City University of New York as a research associate professor. He was responsible for the Remote Sensing of Land and Hydrology Research Group. He led/co-led several research projects including those funded by the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). Dr. Temimi has authored and co-authored more than 50 publications in peer-reviewed journals and referred conference proceedings and contributed to the publication of five books. He also supervised two post-doctoral scientists, three PhD theses, and five MSc theses.

**TieJun (TJ) Zhang** *(Organizing Committee Chair)*
Department of Mechanical and Materials Engineering
Masdar Institute of Science and Technology
Building 1A, Level 1, Lab 3, Masdar City
P.O. Box 54224, Abu Dhabi
United Arab Emirates
Email: tjzhang@masdar.ac.ae
Website: http://www.masdar.ac.ae/faculty-top/list-of-faculty/item/5727-tiejun-tj-zhang

Dr. TieJun (TJ) Zhang has been promoted to associate professor of mechanical and materials engineering at the Masdar Institute of Science and Technology. He was also a short-term visiting assistant professor at the Massachusetts Institute of Technology (MIT), USA.

In the past few years, he has been the principal investigator of six international and national research projects on energy and micro/nanotechnologies. Prior to joining the Masdar Institute, Dr. Zhang was a postdoctoral research associate at the Rensselaer Polytechnic Institute (RPI) for a US Office of Naval Research MURI project. He received his PhD degree in mechanical engineering from the City University of Hong Kong (2008), and his MSc and BEng degrees in thermal power engineering from the Southeast University, China (2004 & 2001).

Dr. Zhang has over 100 peer-reviewed publications on multiphase flow and heat transfer, nanomaterials synthesis and fabrication, solar power generation and refrigeration cooling, energy process dynamics and control. He is an active member of American Society of Mechanical Engineers (ASME) NanoEngineering for Energy and Sustainability Steering Committee and ASME Heat Transfer Division Technical Committee. As a member of ASME and the Institute of Electrical and Electronics Engineers (IEEE), he has organized and chaired many conference sessions. He is also a member of the American Physical Society (APS), American Chemical Society (ACS) and Materials Research Society (MRS). He has been an invited reviewer for over 30 international journals and many leading conferences.

Dr. Zhang is the co-chair (Arab-side) of the Fourth Arab-American Frontiers of Science, Engineering and Medicine Symposium, which is organized by the US National Academies to enhance collaboration between USA and 22 Arab countries.