Organizing Committee

Dena Al-Thani (Committee Co-Chair)
Assistant Professor
Director of Interdisciplinary Programs
College of Science and Engineering
Hamad bin Khalifa University
Doha, Qatar
Email: dalthani@hbku.edu.qa

Dr. Dena Al-Thani is currently an assistant professor and the Director of Interdisciplinary Programs at the College of Science and Engineering at Hamad bin Khalifa University. Her research areas of interest are inclusive design, accessibility, and designing for eHealth. In 2016, Dr. Dena Al Thani was awarded her PhD in computer science from Queen Mary University of London; her thesis focused on human-computer interaction and inclusive design. Dr. Al-Thani actively publishes papers in high ranked journals and international conferences, as well as book chapters. Dr. Dena is keen to see the impact of her research on assistive technology research in Qatar in the world. She is a part-time consultant for research and innovation at the Mada Assistive Technology Centre, where she works with the innovation team. Dr Al-Thani has been a keynote speaker and a panelist in key world forums including the annual meeting of the Un Council Working Group on Internet Policy Issues, the UN Human Rights Social Forum, the Gulf Region Education and Assistive Technology Conference (GREAT), the World Health Innovation Summit, and the 12th session of the UN Conference of the States Parties to the Convention on the Rights of Persons with Disabilities.

Leonard Pease (Committee Co-Chair)
Senior Engineer
Pacific Northwest National Laboratory
Richland, Washington
United States
Email: leonard.pease@pnnl.gov

Professor Pease, a senior engineer at the Pacific Northwest National Laboratory (PNNL), holds academic appointments in internal medicine, chemical engineering, and Asian studies. He earned a PhD from Princeton University in chemical and materials engineering and completed a post-doctorate position at the National Institute of Standards and Technology (NIST) as a National Research Council post-doctoral research associate. At PNNL, he leads, manages, and supports high priority and high visibility research, development, and deployment efforts. He has earned five awards for technical excellence at PNNL and is currently advancing research initiatives with the potential to save billions of dollars in U.S. nuclear waste processing costs. Dr. Pease's research interests include developing novel image contrast agents to identify leukocyte diseases of the gastrointestinal tract now in clinical trials, exploring multiphase and transient turbulent jet flows to improve nuclear waste processing, and improving the algae-to-biofuel flowsheet by minimizing energy intensive harvesting unit operations. His research has been sponsored by the NSF, NIH, DOE, and multiple private foundations. He founded, secured capital, and advanced product development for two high-tech startup companies based on pioneering medical technologies

from his lab, specializing in applying chemical engineering knowledge to medical challenges. Dr. Pease has over 75 publications and intellectual property filings, and has been recognized for both research and teaching excellence, including a Silver Medal from the U.S. Department of Commerce. He is an alumnus of the 2017 China-America Frontiers of Engineering Symposium and the 5th and 6th Arab-American Frontiers of Engineering, Science and Medicine Symposia.

Tareq Al-Ansari
Assistant Professor
Hamad Bin Khalifa University
Doha, Qatar
Email: talansari@hbku.edu.qa

Dr. Tareq is a Qatari national born and raised in Qatar. He acquired a Bachelor of Science in mechanical engineering from the University College of London and a Master's in Philosophy in engineering for sustainable development from the University of Cambridge. He completed his PhD at Imperial College London. His previous industry experience involves working as a mechanical and piping engineer for Qatar Petroleum on both the Common Cooling Water project and the Barzan Gas project. Dr. Tareq also served as a technical advisor at the Qatar National Food Security Program.

His research focus thus far has been to develop an integrated assessment tool that considers the EWF Nexus in the analysis of product systems and in the context of the natural environment. The EWF Nexus tool compiles product system inputs and outputs, and tracks material flow within it enabling the: (1) identification of the inter-linkages between EWF resource sectors represented by sub-systems, the evaluation of potential trade-offs and synergies; and (2) the computation of environmental degradation. Guided by the life cycle assessment (LCA) methodology, the tool integrates EWF resources into one robust model and translates the outputs of the product system into environmental scores representing the impact on terrestrial, atmospheric and marine eco-systems.

Saif Al-Kuwari
Assistant Professor
Hamad Bin Khalifa University
Doha, Qatar
Email: smalkuwari@hbku.edu.qa

Dr. Saif Al-Kuwari is an assistant professor in the College of Science and Engineering at Hamad Bin Khalifa University, and an adjunct research assistant professor at the Kindi Center for Computing Research, Qatar University. Dr. Al-Kuwari holds a Bachelor of Engineering in computers and networks from the University of Essex, UK (2006), and two PhD's in computer science from the University of Bath, UK (2012) and Royal Holloway, University of London, UK (2012). Previously, he was the director of the Department of Information Technology (2013 – 2018). Dr. Al-Kuwari has received several awards including two platinum awards for outstanding academic performance and two MESA-CISO100 Government Security Leader awards. Dr. Al-Kuwari is an IET Fellow, a BSC Fellow, an IEEE Senior Member, an ACM Senior Member, an IACR Member, an AAAS member, and an MAA Member.

Majid S. Al-Ruqeishi
Researcher
Collage of Science
Sultan Qaboos University
P.O. Box 36, P. C. 123
Al Khoudh, Sultanate of Oman
Email: majidruq@squ.edu.om
Webpage: http://majidruq.wixsite.com/squn/publications

Majid Salim Al-Ruqeishi is a researcher in the graphene and nanomaterials fabrication fields in the Physics Department, Faculty of Science, Sultan Qaboos University. He holds a bachelor's degree in physics education from the Sultan Qaboos University, 2001 and a master's degree in applied physics (radiation and plasma) from the University of Malaya, Malaysia, August 2006. He acquired his PhD with full fellowship and a minimum completion period certificate in solid-state physics (nanotechnology) from the same university, August 2010. In 2012, along with his colleagues from the Physics Department, he started to build the Nanofabrication and Graphene Lab where he has supervised more than 30 final year students' projects in the field of nanomaterial synthesis and development of innovative applications in various energy fields. He has published more than 25 peer reviewed journal articles, 19 as a main author. He takes keen interest in synthesizing nanomaterials and graphene by physical and chemical methods especially chemical vapor deposition technique (CVD) and to develop smart, nano-based solutions for various energy issues. He received the Best Researcher award in Sultan Qaboos University for the year 2015-2016. In addition, he was selected the Best Oral Research Presenter in the 4th International Conference in Nanoscience and Nanotechnology, Kuala Lumpur, Malaysia, Jan 2016. He was awarded the Arab-American Frontiers Fellowship by US National Academy of Sciences (NAS) to

start collaborative research with the Graphene Research Group at the University of Illinois at Urbana-Champaign (UIUC), Illinois, Jan 2017. Recently, as a co-principle investigator, he received the "His Majesty Trust Strategic Fund" with research title: Developing Commercially Viable Graphene Based Technology for selected energy and environmental applications in Oman, 2018-2021.

Mohamed Bakhouya
Professor
International University of Rabat
Rabat, Morocco
Email: mohamed.bakhouya@uir.ac.ma

Mohamed Bakhouya is a professor at the International University of Rabat, Morocco. He obtained his HDR from UHA-France in 2013 and his PhD from UTBM-France in 2005. He has more than 10 years of experience in participating and working in sponsored projects. He was PI of a Aalto starting grant at Aalto University-Finland (2011-2013), co-PI (UTBM side) of two European projects, ASSET (Advanced Safety and Driver Support in Efficient Road Transport, FP7-SST, 2008-2011, and TELEFOT (Field Operational Tests of Aftermarket and Nomadic Devises in Vehicles, FP7-ICT, 2008-2012. He spent two years as a research scientist in George Washington University, HPC Laboratory (USA), participating and working in sponsored projects, mainly UPC (Unified Parallel C), and NSF Center of High-performance and REConfigurable Computing. He was also a member (UTBM side) of the EU EACEA Erasmus Mundus project TARGET I/II (Transfer of Appropriate Requirements for Global Education and Technology), 2011-2015. He was PI of CASANET project (CNRST, 2016-2019), Co-PI of SELFSERV (VLIR-UOS, 2016-2018), and Co-PI of AFRIKATATERRE (Solar Dechatlon AFRICA, 2018-2019). Hi is currently co-PI of MIGRID (USAID-PEER program, 2017-2020), PI of HELECAR (PSA OpenLAB@Maroc, 2017-2020), and PI of HOLSYS (IRESEN, 2020-2022). He was a reviewer of research projects for Agence Nationale de la Recherche (France, 2011), Ministero dell' Istruzione, dell' Università e della Ricerca (Italy, 2012, 2013, 2016, 2017), Qatar National Research Fund (2019, 2020) and for European Commission-FP7 (2013-2015). He was editor in chief of IJARAS Journal and also serves as a guest editor on a number of international journals, including ACM Trans. on Autonomous and Adaptive Systems, Product Development Journal, Concurrency and Computation: Practice and Experience, FGCS, and MICRO. He has published more than 100 papers in international journals, books, and conferences. He has co-authored a book on geopositioning and mobility. His research interests include various aspects related to the design and implementation of distributed and adaptive systems using Big data, CEP, and predictive control techniques.

Ryan J. Donaghy
Senior Data Scientist
National Risk Management Center
Department of Homeland Security
Washington, District of Columbia
United States
Email: ryan.donaghy@gsa.gov

Dr. Ryan J. Donaghy has extensive experience in decision science, cybersecurity, policy analytics, data governance, strategy and metric development, and qualitative and quantitative analysis across a wide range of disciplines and agencies. Since entering the U.S. Federal Government, Ryan has served multiple roles in the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency (CISA), first as the Chief of Metrics and Analysis for the Office of Infrastructure Protection and then as a senior data scientist at the National Risk Management Center. Before entering the federal service, Ryan worked as an affiliated faculty member for more than 10 years, teaching courses on research design, research analytics, conflict and negotiation, organizational communication, and other topics. Ryan was a two-time Fulbright Scholar and holds a PhD from UCLA, and a master's from Harvard University. In her free time, Ryan loves long-distance trail running and spending time with her family and her pug

Nady El Hajj
Assistant Professor
Hamad Bin Khalifa University
Doha, Qatar
Email: nelhajj@hbku.edu.qa

Dr. Nady El Hajj is an Assistant Professor of Genomics and Precision Medicine at the College of Health and Life Sciences at Hamad Bin Khalifa University. He obtained his PhD and completed his postdoctoral training at the Institute of Human Genetics at the University of Würzburg (Germany). Later, he joined Baylor College of Medicine as research associate. His main research interests are in epigenomics and epigenetic etiology of human diseases where he focuses on developing novel epigenetic biomarkers for precision medicine. Dr. El Hajj has published over 50 peer-reviewed research articles, many in leading journals like Nature Genetics, Diabetes, and Human Molecular Genetics. In 2012, he was awarded the Young Investigator award of the European Society of Human Genetics.

Amal El-Ghazaly
Assistant Professor
Cornell University
Ithaca, New York
United States
Email: Ase63@cornell.edu

Amal El-Ghazaly is an assistant professor in the Department of Electrical And Computer Engineering at Cornell University. Her work combines magnetism, ferroelectricity, and optics to create tunable, versatile electronic systems for telecommunications, sensing and actuation. Prior to joining Cornell in 2019, she was a postdoctoral research fellow at the University of California Berkeley, where she was awarded the University of California President's Postdoctoral Fellowship in 2017. Her postdoctoral research explored new possibilities for ultrafast all-electrical switching of magnetic nanodots for faster and more energy-efficient computer memories. She earned a PhD in electrical engineering from Stanford University, where she was funded by both NSF and NDSEG graduate research fellowships as well as the Stanford DARE fellowship until her graduation in 2016. Her PhD research focused on radio frequency devices using magnetic and magnetoelectric thin-film composites for tunable wireless communications. She received her BSc and MSc degrees in electrical and computer engineering from Carnegie Mellon University in 2011. She has studied and interned not only in the US, but also abroad in Japan, Egypt, and Nigeria over the course of her undergraduate and graduate degrees. Throughout her career, she has been, and continues to be, deeply passionate about empowering minorities through higher education and stimulating technology development and science and engineering education across the world.

Ellie Graeden
CEO
Talus Analytics
Washington, District of Columbia
United States
Email: egraeden@talusanalytics.com

Dr. Ellie Graeden is the founder and CEO of Talus Analytics and an adjunct professor with the Georgetown University Center for Global Health Science and Security. She leads an interdisciplinary research and development team at Talus that applies data analysis, modeling, and visualization drive practical decision-making in global health, governance, and emergency management.

Dr. Graeden has developed extensive expertise applying complex systems analysis to the intersection of policy, science, and strategy and has applied this expertise to developing quantitative approaches for global-scale decision making. With an emphasis on applying the best available data to decision making during emergencies, she previously led a comprehensive assessment of the models used for emergency management for the US Federal emergency management community, including those used for natural disasters and for disease outbreaks and acts of bioterrorism. Related to this work, Dr. Graeden led a project in support of the White House National Security Council to coordinate data-driven decision making for public health emergencies. In addition, Dr. Graeden and her team, in collaboration with Georgetown University, developed a tool to collate and analyze data on the investments in global health security, the results of which were presented at the United Nations Biological Weapons Convention Meeting of Experts. Most recently, Dr. Graeden and her team have worked with CDC NCIRD to develop platforms for health care visibility, vaccination coverage, and response efforts for influenza and now COVID. In collaboration with Georgetown, her team helped lead development of a comprehensive inventory of policies implemented to mitigate COVID and model the impact of those policies.

Dr. Graeden earned her undergraduate degree in microbiology from Oregon State University and her doctorate in biology from the Massachusetts Institute of Technology (MIT), where she held a National Science Foundation Graduate Research Fellowship. She was named a 2013 Emerging Leader in Biosecurity Fellow with the Johns Hopkins Bloomberg School of Public Health Center for Health Security.

Emily Kumpel
Assistant Professor
University of Massachusetts Amherst
Amherst, Massachusetts
United States
Email: ekumpel@umass.edu

Dr. Emily Kumpel is an assistant professor in the Department of Civil and Environmental Engineering at University of Massachusetts Amherst. She has an MSc and PhD in civil and environmental engineering from the University of California, Berkeley, and a BSc in mechanical engineering from Johns Hopkins University. Dr. Kumpel has over a decade of experience conducting research on topics including intermittent water supply, water quality in distribution systems, water access and equity, water quality monitoring, and use of information and communication technologies in water delivery systems. She has published more than 25 peer-reviewed scientific papers and currently advises six students working on projects related to water quality, sampling, and household water access with projects in the US, India, Kenya, and Mexico. Prior to joining the faculty at UMass, Dr. Kumpel was a senior research scientist with the Aquaya Institute, where she was based in Nairobi, Kenya, for three years and engaged in research and training on water quality monitoring, water safety plans, and impact evaluations. She has conducted extensive field research in India, Kenya, Senegal, and Nigeria, and collaborated on research projects in more than a dozen other countries throughout Africa and Asia.

April M. Salas
Chief Sustainability Officer, Hanover
Executive Director, Revers Center for Energy
Dartmouth University
Hanover, New Hampshire
United States
Email: April.M.Salas@tuck.dartmouth.edu

April M. Salas is Hanover NH's chief sustainability officer and executive director of the Revers Center for Energy at Dartmouth's Tuck School of Business. She brings nearly two decades of public and private sector experience in energy finance, power delivery, energy reliability, markets analysis, sustainability, and new technology integration. The Revers Center - one of 6 research centers at Tuck - helps build pathways of learning and connection to industry for MBA students, to include advising on climate, sustainability, and clean energy related projects with companies leading the charge on sustainable innovation. Additionally, April co-teaches a course in Morocco focused on energy innovation in frontier economies, leads consulting projects in Singapore and Australia, and works domestically with companies and students wishing to explore all aspects of sustainability, climate, and clean energy. Prior to Tuck, April started her career in energy finance consulting in mid-/downstream oil and gas. Mrs. Salas has held various senior positions within the US Department of Energy in power delivery, energy reliability and

systems analysis. Most notably, Mrs. Salas directed the White House's Quadrennial Energy Review Task Force Secretariat, the State Energy Assurance Program – working to monitor and upgrade the US electric, petroleum, and natural gas infrastructure - and led planning and analysis for all federal energy emergency response events with FEMA. Globally, Mrs. Salas founded the Global Energy Security Advisory Program, supporting DOE's country-to-country engagements, as well as, US government support to international energy emergency response. Mrs. Salas represented US government energy security interests at NATO, led engagements in Colombia, Haiti, Iraq, and within the EU. Today's April's work focuses on helping Hanover achieve its 100% renewable energy targets by 2050, and working with companies on re-envisioning their role in climate mitigation. April holds an MBA from Cornell University's Johnson School; two master's degrees, in international security and economics, with a focus on energy poverty and development; and her BA from the College of William and Mary.