Committee Members

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Biographical sketch: Dr. Habibah Al-Menaie is working as a Research Scientist at the Kuwait Institute for Scientific Research (KISR). She received her Ph.D. degree with distinction in Crop Production and Breeding from the University of Reading, UK. As a researcher, Dr. Habibah has made significant contributions in strengthening research and development activities in the Arid Land Agriculture and Greenery Department of KISR. She has extensive experience in greenhouse production of ornamental plants, integrated management in crop production, plant tissue culture, crop improvement of many plants including ornamentals and sustainable agriculture. She is experienced in crop production under stress and harsh conditions. Currently Dr. Habibah is the leader of three on-going projects and was the Project Leader/ Activity Leader/ Principal Investigator of many completed projects and research activities. She is the author of three books, and has published 33 research papers, 20 conference papers, and 20 scientific papers in refereed journals and presented her scientific accomplishments in many regional and international conferences. She has submitted 16 Annual Research Reports and 36 Technical/Progress/Final reports. Dr. Habibah has conducted 31 training courses for KISR staff and for participants outside KISR and has attended 48 training courses on different specialized areas.

Prof. Yaseen Al-Mulla
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Research interest: Soil and Water Engineering

Biographical sketch: Yaseen AI-Mulla obtained his Master's degree in Irrigation Engineering from Department of Biological and Irrigation Engineering at Utah State University working on developing standalone interactive software for design of laterals and tapered manifolds for trickle irrigation systems using Hydraulic Grade Line (HGL) method. He completed his PhD in 2004 in Engineering Science (Soil and Water Engineering) in the Department of Biological Systems Engineering, Washington State University where he applied the hydrothermal approach, and considered planting depth, on developing a simulation model that predicts time and percentage of wheat seedling emergence. In addition, he worked on assessing the effects of different tillage practices on soil water and temperature conditions at seed/root zoon where he also evaluated the ability of Simultaneous Heat and Water (SHAW) model in simulating the effect of tillage and residue management on the distribution of heat and water flow in the root zone. After completion of his PhD, Yaseen Al-Mulla has returned back to Sultan Qaboos University in Oman working since then as an Assistant Professor. One of his research interests include modifications of protected agricultural (PA) structures (greenhouses and screenhousses) used in arid region and finding new desalination mechanisms through these structures. That includes exploring the biophysical characteristics of these PA structures and determining the heat transfer parameters of the proposed modified structures. He is also working on using Remote Sensing technology for soil salinity assessment/mapping and land use/change and its effect on water resources and conservation.

Dr. Nisreen Al-Quraan
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Research Interest: Plant Biochemistry and Molecular Biology

Biographical sketch: Nisreen Al-Quraan graduated in 1998 with Bachelor of Science degree from the Department of Biological Sciences, Yarmouk University, Jordan. She joined the graduate program in the Department of Biological sciences, Yarmouk University and received her Master of Science degree in Plant Biochemistry and Molecular biology in 2001. After completion of her MS, she worked as research and teaching assistant for two years in the Department of Biological Sciences, Yarmouk University, Jordan. On May, 2004 she joined the Department of Biological Sciences, Auburn University, Alabama, USA to pursue her PhD degree in Plant Biochemistry and Molecular Biology working on the plant abiotic stress interaction and the role of GABA shunt pathway in plant stress tolerance. She obtained her PhD Degree in August, 2008 from Auburn University, Alabama, USA. Since September 2008, Nisreen Al-Quraan has been an assistant professor in plant biochemistry and molecular biology at Jordan University of Science and Technology, JORDAN. Her research is focusing on investigating the pathways that enable plants to adapt and tolerate harsh biotic and Abiotic stress conditions. She is interested in using Biochemical and molecular biology techniques to study and characterize the GABA shunt pathway that is activated in response to the interactions between plants and its environments.

Prof. Mahad Baawain
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Biographical sketch: Mahad Said Baawain is the Director of the Center for Environmental Studies and Research and an Associate Professor in the Department of Civil and Architectural Engineering, Sultan Qaboos University. He obtained his BSc in Civil Engineeringfrom Sultan Qaboos University, Oman in 1998, MSc in Environmental Engineering, from the Imperial College, UK in 2000, and a PhD in Environmental Engineering from the University of Alberta, Canada in 2007. His research interest covers several areas of environmental engineering including the fundamentals of water and wastewater treatment processes, advanced oxidation processes, water and wastewater reactors modeling, nanotechnology applications for water and wastewater treatment, contaminant transport in natural systems, climate change and impacts on environmental systems, solid waste management, and air pollution modeling and management. He has a number of major research projects and consultancy services in different areas of environmental engineering. Dr. Baawain works closely with many Omani organizations to realize their environmental goals.

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*Research interest***:** Tumor biology

Biographical sketch: Mehdi Bourouba is Associate Professor at USTHB (University of Sciences and Technology H. Boumedienne, Algiers). He earned his PhD degree in 2005 from the Karlsruhe TK University Germany, where he worked on the role of T cell activation in inflammatory bowel disease. He held successively post-doctoral positions at Institut Gustave Roussy and Paris-7 University, France, where he respectively worked on the role of the tumors suppressor PML in HIV1 induced cell death and the role the PML-RAR oncogene in tumor stem cell development. In 2012, he was awarded the National Academy of Science grant which allowed him to study the invasive properties of nasopharyngeal carcinoma at Pr. M. Zaman Laboratory, Boston University. With his team at USTHB, he focuses his research on finding biomarkers of predictability of NPC development in Algerian patients and unraveling the role of inflammation in virus induced tumor progression. He recently published evidences of differential mechanistic processes that would drive NPC progression in Maghrebi patients and identified nitric oxide as a biomarker of tumorigenesis in untreated and relapsing NPC patients. Dr. Bourouba's research interests also include HPV induced oral and cervical cancers. Dr. Bourouba has contributed to the development of PhD programs in cancer biology as well as of a Master educational program in safe science practices and bioethics at USTHB.

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Biographical sketch: Rula A. Deeb, PhD, is a principal civil and environmental engineer at Geosyntec Consultants, California. Her expertise includes groundwater and soil remediation with an emphasis on site closure strategies, in-situ technologies, and the environmental fate, transport and treatment of emerging contaminants. Rula has developed and implemented research programs in collaboration with scientists and engineers at universities, consulting firms and the federal government to address remedial issues at complex sites. Her research has been recognized with awards from the National Science Foundation, U.S. Environmental Protection Agency, Water Environment Federation, American Society of Civil Engineers, American Society for Microbiology, American Association of University Women, Air and Waste Management Association, and the American Chemical Society. She is the 2007 recipient of the UC Berkeley Engineering Innovation Award in the category of Outstanding Young Leader. Rula is a Board Certified Environmental Engineering Member of the American Association of Environmental Engineers.

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Biographical sketch: Dr. Elagroudy is an Associate Professor of Environmental Engineering as well as the director and founder of the Egypt Solid Waste Management Center of Excellence at Ain Shams University in Cairo, Egypt. Her PhD work was primarily on modeling solid waste decomposition in bioreactor landfills. She has won the National Graduate Student Paper Award for her PhD conducted at Ryerson University, Canada, from Canadian Geotechnical Society. She has been selected as the L'Oreal UNESCO Arab Fellow for 2013 and the best young scientist at her department. She is also a member of the Global Young Academy as well as a steering committee member to establish Egypt Young Academy of Science. She has published several journal papers and book chapters and serves as a reviewer for several key journals. She is currently engaged in several research grants in the field of solid waste management, waste to energy and wastewater treatment. Research interests involves optimization of anaerobic digestion process, production of refuse derived fuel from waste and low-cost sustainable wastewater treatment technologies using industrial wastes. For 14 years, she has coupled research experience with industrial work with National and International Counterparts. She serves as a solid waste expert at Chemonics Egypt Consultants and has been involved in several projects in solid waste and hazardous waste management.

Dr. Hesham Hamoda
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Research Interest: Advanced brain imaging techniques in mental illness (particularly psychosis), the co-morbidity between ADHD and Epilepsy

Biographical sketch: A native of Egypt and a graduate of Kuwait University Faculty of Medicine, Dr. Hamoda completed a psychiatry residency at the Harvard South Shore program followed by a fellowship in child and adolescent psychiatry at Children's Hospital Boston/ Harvard Medical School. He also holds a Masters in Public Health Degree from the Harvard School of Public Health. He is currently an attending psychiatrist at Children's Hospital Boston and an Instructor at the Harvard Medical School. His research is focused on applying advanced brain imaging techniques to study mental illness in children and working on Public Health initiatives in the Middle East that promote mental health in children. He has over 35 publications and poster presentations and his accomplishments have been recognized through local, national and international awards. Dr. Hamoda has also been active in non-govermental organizations and community work. He was elected as the projects director of the International Federation of Medical Students Associations (IFMSA), co-founded 2 Organizations working in development in Egypt; American Board Certified Doctors for Egypt (ABCDE) and Egypt NEGMA. He also serves on the Board of Directors of the Egypt Cancer Network and the Harvard Arab Alumni Association where he is responsible for relationships with Harvard University. He resides in Boston with his wife Hoda who is a physician and an Assistant Professor at Boston University and his children Omar and Ali.

Prof. Joy Ward
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Research Interest: The influence of atmospheric changes on plant physiology and development

Biographical sketch: Joy K. Ward is an Associate Professor in the Department of Ecology and Evolutionary Biology at the University of Kansas. In 2009, she was presented with the Presidential Early Career Award for Scientists and Engineers by U.S. President Barack Obama. She also serves as the U.S. co-chair for the Japanese-American Frontiers of Science Program through the U.S. National Academy of Sciences, and is a planning member for the Arab-American Frontiers of Science Program. Joy Ward obtained both her Master's and PhD degrees at Duke University. Her PhD research increased our understanding of how plants will respond to rising levels of atmospheric carbon dioxide over multiple generations and with genetic change. She also conducted post-doctoral work at the University of Utah with James Ehleringer where she studied the ancient physiology of glacial plants using stable carbon isotope techniques. More generally, she is interested in understanding how global change factors such as rising atmospheric carbon dioxide, changing precipitation regimes, and increasing temperatures will alter the physiology, population structure, and evolution of plants. In addition to studying how plants will respond to future changes, she also continues to investigate how plants responded to past global change factors, particularly limiting carbon dioxide levels during the last glacial period (approximately 20,000 years ago). She currently is curating a large pack-rat collection that contains numerous glacial plants from the southwestern United States, representing one of the finest collections of glacial plants in existence.

Prof. Muhammad H. Zaman
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Research Interest: New computational and experimental technologies for healthcare

Biographical sketch: Muhammad H. Zaman is an Associate Professor of Biomedical Engineering, Associate Chair of the Department of Biomedical Engineering, and Associate Director of Kilachand Honors College at Boston University. He is also the Director of the Lab for Engineering Education and Development at Boston University. Prof. Zaman received his PhD in Physical Chemistry from the University of Chicago in 2003 where he was a Burroughs-Wellcome Graduate Fellow in Interdisciplinary Sciences. After his PhD, he was a Herman and Margaret Post-Doctoral Fellow at MIT from 2003-2006. His lab focuses on developing new experimental and computational technologies for high value healthcare problems in both the developing and developed world. Prof. Zaman is actively involved in two areas of research, the first is developing a quantitative understanding of tumor formation and tumor metastasis and the second is in developing robust and affordable diagnostic technologies for the developing world. He is working on capacity building and engineering education in these countries as well. At BU, his students and researchers have worked closely with the Center for Global Health and Development (CGHD) to develop robust, affordable, and terrain-ready diagnostics and analysis toolkits for developing world settings. Technologies developed by Prof. Zaman and his team are in various stages of implementation in multiple countries including India, Zambia, Kenya and Ethiopia. His research is supported by USAID, US Pharmacopeia, Saving Lives at Birth Consortium, NIH, NSF, NRF (UAE), ARC (Australia), NCIIA, UN Economic Commission, and the Coulter Foundation.

Conference Speakers

Dr. Mohamed Elmuntasir Ibrahim Ahmed
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Biographical Sketch: Dr. Ahmed is a Research Scientist at the Innovative Technologies for Wastewater Treatment and Reclamation (ITWTR) Program. He holds a Phd in Environmental Engineering from the Illinois Institute of Technology in the United States (2000) and a BSc and MSC from the University of Khartoum, Sudan and Bradley University, respectively. He also is an Associate Professor of at the University of Khartoum, and Graduate Research Assistant at Illinois Institute of Technology. Dr. Ahmed has worked internationally under the United Nations and locally with the Nile Transboundary Environmental Action Program. He also serves as an Environmental Engineering Consultant with the University of Khartoum Consultancy Corporation.

Dr. Ahmed's research areas include industrial water treatment, water reuse, low energy ion-exchange membrane processes, the adsorption processes, hybrid biological processes for oil produced water treatment, decision theory application for wastewater treatment plant operation, and environmental assessment.

Dr. Waleed Al-Bazzaz
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Biographical Sketch: Dr. Waleed Hussein Al-Bazzaz is a Petroleum Engineer and a Petrophysist Research Scientist at the Kuwait Institute for Scientific Research (KISR). He obtained his PhD from the University of Missouri-Rolla in the United States, his MSc from New Mexico Tech, and a BSc from the New Mexico Institute of Mining and Technology, all in Petroleum Engineering. Dr. Al-Bazzaz is a member of several organizations including the Society of Petrophysicists and Well Logging Analysts, the European Association of Geoscientists and Engineers (EAGE), the Society of Core Analysts, and the IAEA, He has also served as a committee member of many associations including the World Energy Council and has held teaching roles at Kuwait University and at the University of Missouri-Rolla in the United States. Dr. Al-Bazzaz was a reviewer at the 70th EAGE Conference in Rome and has authored numerous publications covering a wide range of his interests which include heavy/ shallow oil recovery methods, tracer applications in oil field investigations, formation evaluation techniques and reservoir characterization integrations, and unconventional technological solutions.

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Biographical sketch: Dr. Alshrouf has more than 20 years of experience in international soil and irrigation engineering and is the author more than 25 scientific publications. Dr. Alshrouf has served as an instructor at UAE University for more than ten years and currently works as a Research Station Head under the auspice of the Abu Dhabi Food Control Authority (ADFCA). The main goal of his research in ADFCA is to deliver critical hi-tech services to farmers while at the same time strengthening private sector capactiy. He has worked extensively on international water and environmental projects and has shown excellent interpersonal and people management skills as demonstrated by the relationships that have been built with many local, regional and international agencies such as FAO, ICARDA, ICRISAT, USDA, AOAD, along with many academic agencies such as the Washington State and Utah State Universities in the United States, Ghent University in Belgium, and Wageningen University in Holland. Dr. Alshrouf's contributions to various national and international research projects are characterized by their complexity as well as his ability to guide projects from conceptional to fully operational phases. His project focus area is resolving agricultural and environmental issues through advanced technological methods and include improving agricultural practices and water scarcity. His research interests primarly concentrate on supplementary irrigation, marginal water, water conservation, water harvesting, irrigation management for low quality water, the Irrigation Management Information System, and e-Agriculture.

Prof. Hassan Arafat
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Biographical sketch: Professor Arafat received his PhD. in Chemical Engineering from the University of Cincinnati in the United States in 2000. From 2000-2003, he worked at the Argonne National Laboratory in Illinois as a researcher and project manager for the United States Department of Energy. Between 2003 and 2010, Dr. Arafat served as a faculty member at the Chemical Engineering Department at An-Najah University in Palestine and between 2009 and 2012 he served as an Adjunct Associate Professor in the Department of Biological Engineering at Utah State University. In 2010, he joined the Massachusetts Institute of Technology as a visiting scholar for six months before moving to Abu Dhabi where he now works at the Masdar Institute of Science and Technology as an Associate Professor in the Department of Chemical and Environmental Engineering. He is a PI/co-PI on 15 research grants, totaling USD $8.5M, and a recipient of several prestigious international awards and international research fellowships. Dr. Arafat is an author of 58 book chapters and peer-reviewed journal papers, one patent, and over 70 conference papers. The focus of Dr. Arafat's most recent research is on the development of novel membranes for Reverse Osmosis and Membrane Distillation applications in desalination, sustainable and autonomous desalination processes, life cycle analysis, and the development of sustainable solid waste management processes and strategies.

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Biographical sketch: Dr. Mohammed Bataweel is a research engineer working in Saudi Aramco EXPEC – Advanced Research Center (EXPEC – ARC). He earned a PhD from Texas A&M in the United States in 2011 and a MSc from Heriot-Watt University in the UK in 2003, both in Petroleum Engineering. He has represented his department in several field development, asset, and multidisciplinary teams. His research interests include formation damage due to drilling and completion fluids, investigation and mitigation of injectivity decline, conformance control, sand production prediction, special core analysis, Chemical EOR, productivity enhancement technologies, and the visualization of fluid flow in porous media and oilfield chemicals.

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Taner Batmaz has been working in different positions with Schlumberger Well Services since 1997. He has MSc and BSc degrees in Petroleum and Natural Gas Engineering from the Middle East Technical University in Turkey. He has spent seven years in the US working with Schlumberger customers during the development of the Pinedale Anticline Tight Gas Reservoir which aimed to achieve effective and efficient multi-stage fracturing while focusing on reducing the environmental impacts with methods such as utilizing production flowback water for mixing the fracturing fluids. After his assignment in US, Mr. Batmaz worked in West Africa (Congo, Gabon and the Democratic Republic of Congo) to introduce hydraulic fracturing techniques in order to develop previously abandoned tight oil reservoirs, such as the onshore M'Boundi, Kunji and Muanda Southern Fields. During his West Africa assignment, to improve the operational efficiency of the offshore horizontal multi-stage fracturing, he successfully initiated the pumping of seawater fracturing fluids. Since 2012, he has worked on geomechanically challenging unconventional reservoirs in Tunisia, Algeria, and Oman where he has attempted to establish common, integrated, fracturing design and workflow to successfully develop reservoirs by using hydraulic fracturing techniques. Mr. Batmaz teaches hydraulic fracturing courses in Schlumberger Learning Centers as well as NExT Training Schools.

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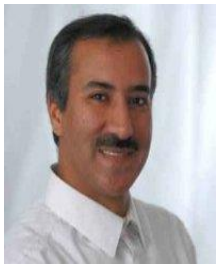

Biographical sketch: Dr. Boudjelal is the Head of the Medical Research Core Facility and Platforms of the King Abdullah International Medical Research Center in Riyadh, Saudi Arabia. Dr Boudjelal was formly employee by GSK as Group Leader in pre-clinical drug discovery. Prior to joining GSK, Dr Boudjelal held the position of Associate Director at Incyte (Pfizer) Pharmaceutical in San Diego, USA and Senior Scientist at the University of Michigan, USA and was also a Scientist at the IGBMC Strasbourg in France. Dr. Boudjelal holds a PhD degree in Biochemistry and Molecular Biology from the University of Leeds, UK and a diploma in International Business and Vocal Education from the University of California in San Diego. He is a recipient of several awards for scientific research excellence from the Dermatology Foundation, the American Association for Cancer Research and GSK. Dr Boudjelal is a founder and former president of the Algerian Competences Association.

Prof. Brian Ellis
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Biographical sketch: Brian Ellis received Bachelor's of Science degrees in Geosciences and Economics from the University of Michigan in 2006. He then received his Master's (2009) and PhD (2012) in Civil and Environmental Engineering from Princeton University. His PhD research examined CO2 sequestration in deep saline aquifers. He returned to the University of Michigan in September 2012 as a Michigan Society Fellow where he held a joint appointment as an Assistant Professor and a Michigan Society of Fellows Postdoctoral Scholar in the Department of Civil and Environmental Engineering. Brian is also a recipient of the National Science Foundation Science, Engineering and Education for Sustainability (SEES) Postdoctoral Fellowship (2012-2016). Dr. Ellis began his tenure-track appointment as an Assistant Professor in the Department of Civil and Environmental Engineering in September 2014. His research interests cover topics related to the sustainable and safe development of energy technologies, which includes studying the environmental implications of hydraulic fracturing of shale gas reservoirs. His research approaches combine bench-scale experiments, electron beam and x-ray imaging techniques, and geochemical modeling to examine fate of injected fluids in the subsurface.

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Biographical sketch: Specializing in metabolomics, natural products chemistry, and plant biochemistry, Mohamed A. Farag completed his PhD at Texas Tech University, USA, in 2003. In 2005, after spending time as a postdoctoral fellow at The Samuel Noble Foundation, USA, and the James Graham Brown Cancer Center, USA, he became a lecturer in the Faculty of Pharmacy, Cairo University, Egypt. Since 2009, Dr. Farag has worked as a visiting professor at the Technical University of Munich, Germany, where he participates in teaching plant metabolomics to Master's students and, in 2009, he was awarded the Alexander von Humboldt Fellowship at the Leibniz Institute for Plant Biochemistry, Germany. Dr. Farag now works full time as an Associate Professor at the Pharmacognosy Department within the Faculty of Pharmacy, Cairo University, where his research work focuses primarily on applying innovative biochemical technologies (metabolomics) to help answer complex biological questions in disease prognosis, herbal drugs quality control analysis, and agriculture.

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Biographical sketch: Kelvin Gregory earned his PhD in Environmental Engineering from the University of Iowa examining the biological and biogeochemical reactions between iron-reducing bacteria and munitions compounds. He later held a postdoctoral position at the Massachusetts Environmental Biotechnology Center where he worked on microbial-electrode interactions and defined a novel respiratory process for bacteria whereby bacteria directly consume electrons from electrodes, leading to microbial electrosynthesis of chemicals and fuels. Dr. Gregory is an Associate Professor of Civil and Environmental Engineering at Carnegie Mellon University in Pittsburgh, Pennsylvania. His research explores the fundamental microbiology, ecology, and interactions between bacteria and their physical and geochemical environment. His current research interests lie in management of produced water from oil and natural gas production, carbon sequestration, environmental nanotechnology, desalination and environmental sensing.

Prof. Lifang Hou
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Biographical sketch: Lifang Hou, MD, MS, PhD is an Associate Professor in Preventive Medicine and leads the Division of Cancer Epidemiology and Prevention in the Department of Preventive Medicine. With a multidisciplinary background in medicine, basic science, and epidemiology, Dr. Hou's research interest lies in integrating traditional epidemiologic methods with the ever-advancing molecular techniques in multi-disciplinary research focusing on identifying key molecular markers and understanding their potential impact on disease etiology, detection, and prevention. Dr. Hou's major research efforts to date have focused on two areas: 1) identification of risk factors that may cause chronic diseases; and 2) identification of biomarkers that serve as indicators of an individual's past exposure to disease risk factors and/or predict future disease risks and/or prognosis. The environmental/lifestyle risk factors that Dr. Hou has studied include air pollution, pesticides, overweightness, physical inactivity, and reproductive factors in relation to chronic diseases. The biomarkers that Dr. Hou has investigated include genetic factors (i.e., polymorphisms, telomere length shortening, mitochondria DNA copy number variations); and epigenetic factors (i.e., DNA methylation, histone modifications, and microRNA profiling). Her over-arching research goal is to understand the biological mechanisms linking environmental risk factors with subclinical or clinical disease development, which ultimately lead to development of effective strategies for prevention of chronic diseases. In addition to being a PI of several NIH funded grants, Dr. Hou is the co-director and Co-PI of the Northwestern Consortium for Early Phase Cancer Prevention Trials of the Division of Cancer Prevention (DCP) Consortia, National Cancer Institute.

Prof. May Massoud
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Biographical sketch: May Massoud holds a PhD in Environmental Management from the Imperial College of London. She is currently an Associate Professor and Coordinator of the MS-Environmental Health Program at the Department of Environmental Health of the American University of Beirut. She has over 40 publications including articles in peer-reviewed international journals and proceedings of international conferences. Prof. Massoud is a recipient of the First Prize of the Kingdom of Saudi Arabia Award for the best Environmental Management project for 2008-2010. Her research interests and publications are focused on water resources management, waste management (primarily healthcare waste management and disposal of pharmaceuticals), wastewater management and reuse in rural areas in developing countries, assessment of integrated management plans, Challenges and implemnetation strategies for Environmental Management System Certification in developing countries, and environmental health issues and management during disasters.

Prof. Joel Meyer
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Biographical sketch: Dr. Meyer received a Bachelor's degree in Environmental Studies and Peace and Conflict Studies from Juniata College in 1992. After working in a number of jobs including teaching high school and appropriate technology projects (improved stove and latrine construction) in Guatemala for five years, he moved on to obtain a PhD in Environmental Toxicology from Duke University in 2003. His thesis research was aimed at understanding the mechanisms by which a fish population had evolved to survive in a highly polluted estuary and the fitness costs associated with the adaptive process. He carried out postdoctoral research studying DNA damage and repair with Dr. Bennett Van Houten (NIEHS) from 2003 to 2006. Dr. Meyer joined the faculty at Duke University in 2007 and is currently an Associate Professor at the Nicholas School of the Environment and a faculty member of the Integrated Toxicology and Environmental Health Program and the Pharmacological Sciences Training Program. He is also a member of the Duke Cancer Institute, and holds secondary and fixed term graduate faculty appointments in the Duke Civil and Environmental Engineering and UNC Chapel Hill Environmental Science and Engineering Departments, respectively. Dr. Meyer's research group studies the effects of stressors on human and wildlife health. Particular efforts are focused on environmental agents that cause mitochondrial dysfunction and mitochondrial and nuclear DNA damage and how those effects are modulated by genetic differences. Most of this work is carried out using nematode Caenorhabditis elegans and cell culture, complemented by collaborative efforts that include analyses in piscine and rodent models as well as the human population in the United States and globally.

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Biographical sketch: Dr. Rihab Nasr is an Associate Professor in the Department of Anatomy, Cell Biology and Physiology at the American University of Beirut. Dr. Nasr received her PhD from the University of Paris VII in France. Her major research activities in basic and translational research focus on developing targeted therapies for human leukemias and she is currently interested in the targeting of leukemic stem cells in chronic myeloid leukemia (CML) through multiple approaches. Dr. Nasr is also interested in microRNAs and their implication in cancer, specifically breast cancer, and her second line of research is to determine distinctive microRNA expression patterns in Lebanese patients that can predict early onset breast cancer. Dr. Nasr has held several extramural research grants, has co-authored many articles in leading scientific journals including Nature Medicine, Cancer Cell, Blood Journal, and the International Journal of Cancer. She was selected as one of the seven top Arab Women by Sayidati Magazine for the year 2013 and received the Best Biomedical research award from the Qatar Foundation in 2011.

Prof. Jesse Nippert
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Biographical sketch: Jesse Nippert is a physiological plant ecologist with research focused on grass/tree interactions and grassland responses to climate change. He received a Master's of Science in Forest Resources from the University of Idaho and a PhD in Ecology from Colorado State University. His dissertation linked water uptake and flux among coexisting species in mesic grassland. Jesse held a post-doctoral position at the University of Kansas and the Kansas Geological Survey examining woody plant responses to environmental change using light stable isotopes as tracers of physiological plant processes. In 2007, Jesse joined the faculty in the Division of Biology, Kansas State University and was promoted to Associate Professor in 2012. During this time, he has provided leadership and long-term scientific vision for the tallgrass prairie research site - The Konza Prairie Biological Station. Currently, research from his lab examines the drivers and consequences of grassland woody encroachment, i.e., the conversion of grassland to shrubland, with research focused in the central Great Plains of North America and savannas in sub-Saharan Africa.

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Biographical sketch: Dr. Surya Raghu has been a co-director and speaker in workshops on entrepreneurship for scientists and engineers in Argentina, Ethiopia, Ghana, India, Indonesia, Italy, Jordan, Kenya, Lebanon, Mexico, Pakistan, Philippines, and South Africa, and has participated as member on missions to Morocco, Pakistan and Tanzania on entrepreneurship, tech transfer and research commercialization topics. He has also been a visiting scientist at NIST and AFOSR Laboratories and a guest lecturer at Kyushu Institute of Technology, Japan. Furthermore, he has developed an entrepreneurship course module that has been implemented in several universities in developing countries for training university students in the basics of entrepreneurship. He received his PhD in Mechanical Engineering from Yale University in 1987 and is the founder-president of Advanced Fluidics LLC and founding-partner of ET Cube International, Inc. in 2013. Dr. Raghu has inventions related to aerospace, automotive, consumer and biotechnology applications and has been awarded 12 US patents with over ten pending patents/invention disclosures as an inventor or co-inventor. He has experience in the development of products from inventions related to physiological monitoring, DNA testing, wireless corrosion sensors, aerodynamic flow control and spray technology, and has active research collaborations with many institutions in the US and Europe. Dr. Raghu is a recipient of the Alexander von Humboldt Fellowship from Germany and an Associate Fellow of the AIAA. He has served as an invited member of the Special Emphasis Review Panels on Micro and Nanotechnology at the National Institutes of Health and as an expert for the evaluation of an open grant competition by the Russian Federation.

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Biographical sketch: Geraldine (Geri) Richmond is the Presidential Chair in Science and Professor of Chemistry at the University of Oregon. Her research using laser spectroscopy and computational methods focusses on understanding the chemistry and physics that occurs at complex interfaces that have relevance to important problems in energy production, environmental remediation and atmospheric chemistry. She is a member of the National Academy of Sciences, the American Academy of Arts and is a Fellow of the American Chemical Society (ACS) , the American Physical Society (APS), and the Association for Women in Science. Awards for her scientific accomplishments include the ACS Olin-Garvan Medal, the Spiers Medal of the Royal Society of Chemistry, the ACS Joel H. Hildebrand Award in Theoretical and Experimental Studies of Liquids and the APS Davisson-Germer Prize. She is the co-founder and Director of COACh, a grass-roots organization that has helped in the career advancement of thousands of scientists and engineers in the U.S., Asia, Africa, and Latin America. Awards for these efforts include the Presidential Award for Excellence in Science and Engineering Mentoring, the ACS Award for Encouraging Women in the Chemical Sciences, the Council on Chemical Research Diversity Award and the ACS Charles L. Parsons Award. Prof. Richmond has served on numerous national and international advisory and editorial boards. She is currentlly serving on the U.S. National Science Board, an independent policy advisory board to the U.S. President and Congress on science and engineering research and education issues, and will assume the role of President for the American Association for the Advancement of Science (AAAS) in 2015.

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Biographical sketch: Dr. Salimia is an Associate Professor in the College of Agriculture at Palestine Technical University, Kadoorie as well as the Vice-President for Academic Affairs. He has a BSc in Horticulture Science and Technology from the University of Aden (1994); MSc in Protected Cultivation and Post-Harvest Biology from the Mediterranean Agronomic Institute of Chania inGreece (1997); and a PhD in Plant Science from Aristotelian University of Thessaloniki, Greece (2004). He has conducted numerous international scientific congresses and study visits including a post-doc on crop physiology and biotechnology at the University of Hohenheim, Germany in(2008; visiting scientist on olive reproductive biology at the University of Granada, Spain in 2010; visiting scientist on climate change and crop physiology at the University of Kansas, USA in 2012; and visiting scientist on plant mutation induction and detection at the International Atomic Energy Agency in Vienna, Austria in 2012. Dr. Salimia served as Dean of the College of Agriculture at Hebron University from 2007-2011 and has authored numerous publications in peer-reviewed scientific journals on plant histology and physiology, molecular markers, and plant production of subtropical fruits. In addition, Dr. Salimia is involved in national and international research projects, regularly supervises master's students, and teaches courses for postgraduate as well as undergraduate students. His research interests include, but are not limited to, plant stress eco-physiology, molecular genetic fingerprinting of local crops, alternate bearing and dormancy in fruit trees, and stomatal conductance and photosynthesis.

Prof. Nezar Samarah
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Biographical sketch: Dr. Samarah holds a permanent appointment as a Professor at the Department of Plant Production at Jordan University of Science and Technology (JUST) in Irbid, Jordan where he has also served in various leadership positions including Head of Department of Plant Production, Assistant and Vice Dean of Scientific Research, and Vice Dean of Graduate Studies. Dr. Samarah's research interests include the interaction effect of seed maturity and environmental conditions on seed quality of important field crops; the effect of drought stress on seed production of field crops; the biochemical and molecular processes of crops grown under stress; studying mechanisms to produce genetically modified crops that tolerate drought stress; acquisition of seed desiccation tolerance and vigor during seed development and maturation; cultural practices to improve crop productivity in rainfed Mediterranean regions; relationship of seed quality tests to field emergence under semiarid rainfed Mediterranean conditions; breaking seed dormancy, enhancing seed germination and seedling establishment of major crops in Jordan. Dr. Samarah consulted on multiple projects involving the seed industry including the "Conservation and Sustainable Use of Dry Land Agro-biodiversity in West Asia" project. He has received several distinctions during his academic career. He was the top of his class during his undergraduate studies and received a scholarship from JUST to pursue his MSc and PhD in the United States. Dr. Samarah also received the Sigma Xi Research Award, Research Excellence Award, Gamma Sigma Delta Award, Fulbright Scholarship for Sabbatical Leave at Iowa State University, and the Abdul Hameed Shoman Award for Young Arabic Scientists. His research activities are reflected in his 45 scientific articles in international, peer-reviewed journals. Dr. Samarah has attended 25 international conferences and scientific meetings in crop and seed science and technology. Dr. Samarah received his BSc. in Plant Sciences from JUST, an MSc in Seed Science from Mississippi State University in the United States, and a PhD in Crop Physiology/Seed Science and Technology from Iowa State University in the United States.

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Biographical sketch: David Sedlak is the Malozemoff Professor in the Department of Civil & Environmental Engineering at UC Berkeley, Co-Director of the Berkeley Water Center, and Deputy Director of the NSF Engineering Research Center for Reinventing the Nation's Urban Water Infrastructure (ReNUWIt). He received his PhD from the University of Wisconsin in Madison and was a postdoctoral researcher at Eawag in Zurich, Switzerland. Professor Sedlak's research addresses the use of natural and engineered systems to remove chemical contaminants from water prior to potable water reuse or use for habitat restoration. In addition to maintaining an active research program, Sedlak is the author of Water 4.0 and serves as editor of the ACS journal, Environmental Science & Technology.

Prof. Hani Sewilam
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Biographical sketch: Hani Sewilam is the Director of the Center for Sustainable Development at the American University in Cairo. Professor Sewilam joined AUC as a Professor of Sustainable Development and Water Resources Management. and is also working at the RWTH Aachen University in Germany as the academic director of the Department of Engineering Hydrology and executive director of the UNESCO Chair on Hydrological Changes and Water Resources Management. Sewilam coordinated capacity development activities of UN-Water between 2010 and 2011. From 2002 to 2010, Sewilam worked as the deputy director for the Department of Engineering Hydrology at the RWTH Aachen University where he managed a number of international research and capacity building projects in 21 countries. In 2008, he established the first North African Regional Center of Expertise on Education for Sustainable Development (RCE Cairo) which is acknowledged by the United Nations University. Sewilam worked for the Egyptian National Water Research Center as a researcher and coordinator for development projects with several UN organizations. Sewilam has more than 20 years of academic and professional experience in the fields of sustainable development, water resources, e-learning and capacity building. He has authored many peer-reviewed scientific papers and book chapters and has served as a consultant and reviewer for several international research and development organizations. Sewilam holds a PhD in Water Resource Management from the RWTH Aachen University, Germany, a Master's in Irrigation Management from Southampton University in the UK, as well as a graduate and Bachelor of Science in Irrigation and Environmental Engineering.

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Biographical sketch: Dr. Trasande is a faculty member in Pediatrics and Environmental Medicine at the NYU School of Medicine, in Health Policy at the NYU Wagner School of Public Service, and in Public Health at the NYU Steinhardt School of Culture, Education, and Human Development. Dr. Trasande's research focuses on identifying the role of environmental exposures in childhood obesity and cardiovascular risks and documenting the economic costs for policy makers of failing to prevent diseases of environmental origin in children proactively. Dr. Trasande is perhaps best known for a 2012 Journal of the American Medical Association study associating Bisphenol A exposure in children and adolescents with obesity, and a 2011 study in Health Affairs which found that children's exposures to chemicals in the environment cost $76.6 billion in 2008. His analysis of the economic costs of mercury pollution played a critical role in preventing the Clear Skies Act (which would have relaxed regulations on emissions from coal-fired power plants) from becoming law. He has also published a series of studies which document increases in hospitalizations associated with childhood obesity and increases in medical expenditures associated with being obese or overweight in childhood. These studies have been cited in the Presidential Task Force Report in Childhood Obesity, and another landmark study identified that a $2 billion annual investment in prevention would be cost-effective even if it produced small reductions in the number of children who were obese and overweight. He serves on the Executive Committee of the Council for Environmental Health of the American Academy of Pediatrics, and on the Scientific and Technical Advisory Committee for the World Trade Center Health Program. He recently served on a United Nations Environment Programme Steering Committee which published a Global Outlook on Chemicals in 2013 and on the Board of Scientific Counselors for the National Center for Environmental Health at the Centers for Disease Control and Prevention. Dr. Trasande earned a Master's degree in Public Policy from Harvard's Kennedy School of Government, and an M.D. from Harvard Medical School. He completed a pediatrics residency at Boston Children's Hospital, a Dyson Foundation Legislative Fellowship in the office of Senator Hillary Rodham Clinton, and a fellowship in environmental pediatrics at the Mount Sinai School of Medicine.

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Biographical Sketch: Dr. Mostafa Waly obtained his PhD in 2003 in Nutritional Biochemistry from the Department of Biomedical Sciences at Northeastern University, Boston, USA. He is currently holding the position of Associate Professor in the Food Science and Nutrition Department at Sultan Qaboos University in Oman. Dr. Waly has received several academic awards and he is an active member in international advisory board of American Society of Nutrition and Experimental Biology of Medicine Society. Dr. Waly is the author of many scientific publications recognized by local and international bodies. His research interests have been in the metabolic regulation of food intake and the role of B vitamins in primary prevention of chronic diseases. Dr. Waly performed several consultancies for UNICEF and WHO.

Attendee Roster

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Research Interest: Chemistry- Organic Synthesis

Biographical sketch: Dr. Dalia Abdelhamid received her BPharm degree from the Cairo University College of Pharmacy in 2000 and her Master's and PhD from Ohio State University in 2009 and 2011, respectively. From her first exposure to the fundamental scientific concepts, Dr. Abdelhamid has been fascinated by the potential of the integration of chemistry and biology to develop novel therapeutics. This interest was the impetus for her pursuit of research in the medicinal chemistry track with a focus on organic chemistry. Following graduation, Dr. Abdelhamid worked as a postdoctoral fellow with Professor Kathryn Uhrich of Rugters University in New Jersey. Dr. Abdelhamid's focus on advanced organic chemistry, biochemistry, and the principles of drug design during her doctoral studies proved to be critical to her postdoctoral work and to successfully realizing the goals of her multifaceted research projects. Throughout her postdoctoral career, Dr. Abdelhamid has applied her education and research skills to a new area of drug development, the synthesis of biodegradable polymers and their applications as drug delivery systems. Her interests include the organic synthesis of natural products, the chemical modification of drug leads, and the establishment of structure activity relationship studies - all of which will guide the development of safer and more potent drugs.

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Research Interest: Clean Energy

Biographical sketch: Ahmed Abdel-Rahman is a professional engineer working in the construction industry. Mr.Abdel-Rahman attained his BSc in civil engineering from Kuwait University and his MSc in Construction Management from the University of Toronto, Canada. He is a certified Project Management Professional (PMP) and is passionate about renewable energy and it's applications in the Arab world.

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Research Interest: Stem Cell Biology, Haematology/Oncology and Immunology of transplantation

Biographical sketch: Heba Abdelrazik (MD PhD) is a Professor of Immunology and Cell Therapy at the Faculty of Medicine of Cairo University and a senior scientist at the University of Cologne Center of Molecular Medicine in Germany where she is sponsored by the Alexander von Humboldt Foundation. Dr. Abdelrazik is the principal investigator of a German-Egyptian stem cell collaborative project and the group leader in two European stem cell projects wherein the Egypt scientific community collaborates with multiple European countries. Her career has been marked by a number of awards and distinctions in the field of stem cells and transplantation. She is a member of several national and international societies and is the Middle East and African Mentor for females in transplantation at The Transplantation Society. Dr. Abdelrazik's research interests are centered on the immune and genetic modulation of mesenchymal stem cells, as well as immunosuppression clinical trial designs for GvHD. She acquired her medical doctorate degree in Immunology, after which she earned another PhD degree in stem cells from Italy. Dr. Abderazik attended George Washington University for her undergraduate degree and completed her postdoc degrees in the fields of stem cells and transplantation immunology in Genoa, Italy and Cologne Germany. Dr. Abdelrazik has presented at numerous national and international meetings and has chaired several sessions. She is also a reviewer for multiple international peer reviewed journals.

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Research Interest: Water and wastewater treatment

Biographical sketch: Dr. Muna Abu-Dalo is an Associate Professor and Director of Queen Rania Al Abdallah Center for Environmental Sciences & Technology at the Jordan University of Science and Technology in Jordan.Her main research interests are chemical and physical water and wastewater treatment processes. She is one of the founding members of the Women Water Nexus network, which works on interdisciplinary and international research projects addressing water issues in developing countries and focuses on the education of future women scientists and engineers. She is committed not only to research but also to education, mentoring, community outreach, and supporting students to reach their full potential. Dr. Abu-Dalo has served as a role model to motivate young students and give them insight into the varied career paths available in science and engineering. She has received several awards including the Distinguished Graduate Student award, two outstanding research paper awards, and two patents. Dr. Abu-Dalo received her doctorate from the University of Colorado in the United States.

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Research Interest: Plant conservation biology and taxonomy

Biographical sketch: Dr. Abulaila is a botanist, conservation biologist, and herbarium keeper with most of his focus on the conservation of wild plants native to Jordan using in situ and ex situ methods. He has a special interest in conserving wild relatives of cultivated crops with the aim of tracking genes that are highly important to improving the stress tolerance of agricultural plants that are and will be affected by climate change. Dr. Abulaila has significant experience in plant taxonomy, with a focus on sampling the native flora of Jordan, and safeguarding organisms from endangerment. He also assesses the threat category assigned to each species in order to provide an early warning of the decline of certain plant populations. Additionally, Dr. Abulaila is active indomesticating wild plants to be used for purposes of nutrition and medicine.

Ms. Hanan Yaqoob Al Hinai
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Research Interest: Geoinformatics and application development

Biographical sketch: Ms. Al Hinai is a recent graduate with Master's in Geographic Information Systems and Remote Sensing from the Arabian Gulf University, She attained a Bachelor of Science in Computer and Internet Application from Majan College in 2005. Currently, Ms. Hinai works as a GIS Application Developer at Muscat Municipality and has seven years of experience in developing ArcGIS desktop applications. She aspires to pursue higher studies and research in the field of Geoinformatics technology and to collaborate with experts from multiple geospatial diciplines to develop new skills and solve new challenges.

Dr. Aisha Al Washahi
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Research Interest: Molecularly imprinted polymers as a powerful recognition tool and its application in chemical analysis & other fields as well as nanomaterials for environmental and medical sensing and remediation.

Biographical sketch: Dr. Washahi is an Assistant Professor at the Department of Engineering in the College of Applied Sciences (CAS-Sohar). She teaches general chemistry to chemical engineering majors and has also taught Polymer Chemistry and Analytical Chemistry previously. She worked as a chemistry teacher at the Ministry of Education from 1994 to 2004 and as a lecturer at the Ministry of Higher Education since then.

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Research Interest: Small grain development, developing new wheat genotypes, drought, climate change, and molecular breeding

Biographical sketch: Dr. Al-Ajlouni is the Assistant Dean of the Department of Plant Production at the Jordan University of Science and Technology. He is currently working on developing new cultivars of wheat, barley, and triticale to cope with drought conditions in Jordan and develop useful germplasm for others to use as parents in creating new cultivars. Additionally, he conducts research into new approaches to improve breeding methods for self-pollinated crops with an emphasis on biotechnology, advanced experimental designs, and crop modeling. Dr. Al-Ajlouni earned his BSc and MSc in Plant Science at the Jordan University of Science and Technology in 1997 and 2001 respectively and obtained a PhD in Plant Science from the University of Nebraska in 2008.

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Research Interest: Bioinformatics, Cancer Biology, Gene Regulatory Network, Biological Network, Molecular Biology

Biographical sketch: Dr. Fadhl Al-Akwaa is a Professor of Biomedical Engineering at the Faculty of Engineering of the University of Science and Technology and has served as Executive Director of the Biomedical Calibration Laboratory since 2009. Dr. Alakwaa has awards in teaching, innovation and researchand is a standard reviewer for multiple journals including the high impact factor Oxford Bioinformatics Journal and the International Journal of Bioinformatics Research and Applications. Dr. Al-Akwaa is an active member of more than 20 international academic sciecieties and journalsand has authored five books and more than 30 papers in the field of Bioinformatics. He received a Phd in Systems and Biomedical Engineering from the University of Cairo in 2009.

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Research Interest: Bioenvironmental issues

Biographical sketch: Dr. Ahmed Al-Busaidi is a Researcher in the Department of Soils, Water, and Agricultural Engineering at Sultan Qaboos University, Oman. He is active participant in many international inititives and has served in various capacities including as a guest lecturer, researcher, and instructer around the globe. He has also published multiple books and papers pertaining to bioenvironmental issues. Dr. Al-Busaidi earned his PhD in Bioenvironmental Science in 2007 from Tottori University in Japan and holds a MSc and BSc in Soil and Water Management from Sultan Qaboos University in Oman.

Dr. Mohammed Al-Duais
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Research Interest: Phytochemistry and Conservation biology

Biographical sketch: Dr. Mohammed Al-Duais is the current Director of the Foundation of Endangered Wildlife in Yemen and is responsible for the UNESCO Natural Science Sector office in Doha. He has also serveed as an Assistant Professor of Phytochemistry at Ibb University since 2009. Dr. Al-Duais his BSc from the Jordan University of Science and Technology in 1996 followed by a MSc in Biology from Al AlBayt University in 2003 and a PhD in Biology from Freidric Schiler University in 2009. Dr. Al-Duais was a Fulbright Researcher at the Phytochemistry Laboratory of the University of Rhode Island, USA in 2011and 2012 where he researched organisims nativeto Yemeni ethnobotany. Following his work as a Fullbright Researcher, Dr. Al-Duais worked as a postdoctoral researcher in the summer of 2013 at the Institute of Ecology, Freidreic Schiler University in Germany. He has attended more than 35 international workshops and conferencesand was notibly honored with the Shield of the Fifth Session at the International Geotunis Conference in 2010. During his work with FEW he played a role in the expansion of activityies and improving the credentials of the foundation at national and international levels. He also managed conservation projects throughout Yemen with the largest and most recent two projects in the south west highlands (Ibb-Taiz area). Some of his activities resulted in several publications in established journals and books.

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Research Interest: The molecular aspects of biochemical disorders and identifying the gene that is responsible for the combined malonic and methylmalonic aciduria metabolic disorder

Biographical sketch: Dr. Alfares completed his medical school in Saudi Arabia with an intention to pursue his specialty in genetics. In 2006 he joined the Medical Genetics Residency Program at McGill University, Canada and successfully completed the five years of residency training in medical genetics. Subsequently, he joined the Harvard Medical School in 2011 and completed his fellowship training in Clinical Molecular Genetics before passing the American Board Exam in 2013. Currently he is pursuing his third fellowship at the Harvard Medical School in Clinical Biochemical Genetics. Dr. Alfares is a Fellow of The Royal College of Physicians of Canada in Medical Genetics (FRCPC), the Canadian College of Medical Geneticists (FCCMG), and the American Board of Medical Genetics (FACMG). Dr. Alfares research interests include the molecular aspects of biochemical disorders and identifying the gene that is responsible for the metabolic disorder, combined malonic and methylmalonic aciduria (CMAMMA). Dr. Alfares is currently working on several projects including a research project on combined malonic and methylmalonic aciduria disorder and unsettled

phenomena. Clinical Trial # 01289158 http://www.clinicaltrials.gov/ and He is also involved in one of the largest studies about the genetics evaluation in patients with familial hypertrophic cardiomyopathyas well as the design and development of next generation sequence analysis for patients with undiagnosed disorders.

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Research Interest: Bio-Organic and Medicinal chemistry

Biographical sketch: Dr. Al-Gharabli has twelve years of experience in academia and is an Associate Professor at the German Jordanian University and the Vice-Dean of the Faculty of Applied Medical Sciences. He earned his PhD at the University of Tuebingen in 2002 and worked as a scientist at the Research Institute of Molecular Pharmacology in Berlin. In 2005, Dr. Al-Gharabli joined the German Jordanian University where he established the Chemical-Pharmaceutical Engineering Department.He currently works in Medicinal Chemistry and Chemical Biology with a focus on the synthesis of biologically active molecules based on diversity-oriented libraries for the utilization and optimization of potential drug targets using bioinformatics, molecular docking, virtual screening, high throughput screening (HTS), and tertiary structure prediction of proteins.

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Research Interest: Microfluidics for life science applications

Biographical sketch: Ala'aldeen Al-Halhouli works at the Mechatronics Engineering Department at the German Jordanian University as an Associate Professor. He obtained a BSc degree in Mechanical Engineering from Mu'tah University, Jordan in 1999, a MSc degree from the University of Jordan in 2001, and a PhD degree from the University of Jordan in 2007, and a Habilitation degree with Venia Legendi on microfluidics from the "Technische Universität Braunschweig (TU BS)" in Germany in 2013. In 2005, Dr. Al-Halhouli received a DAAD scholarship to conduct his PhD research in the area of viscous micropumps at the Institute of Microtechnology (IMT) of TU BS. Between 2007 and 2013, he worked as a research associate and lecturer at IMT. During the summer of 2014, he was a visiting scientist at the Micro/Nanofluidic BioMEMS group of the Massachusetts Institute of Technology (MIT), USA. Dr. Al-Halhouli has special interest in microfluidic systems and their design, simulation, fabrication, and testing. He is involved in projects on lab-on-a-chip (LOC) and, currently, he is developing projects focused on high throughput rare cells separation utilizing inertial microfluidics, paper based microfluidics (Lab-on-a-Paper), and foil based BioMEMS (Lab-on-a-Foil) for food monitoring and POC applications.

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Research Interest: Polymeric nanoparticles

Biographical sketch: Ali H. Alhasan is the Director of Strategic Initiatives at the Center of Excellence in Nanomedicine (CENM) which is a collaborative partnership between the University of California-San Diego and King Abdulaziz City for Science and Technology. Dr. Alhasan has five pending patents and his innovation has been acknowledged through Outstanding Researcher Award from the International Institute for Nanotechnolgy and Kemin Industries, Inc. He completed his PhD studies in the laboratory of Professor Chad Mirkin at Northwestern University and has published papers on his advances in biological diagnostics and gene therapy. He joined the laboratory of Professor Adah Almutairi at University of California-San Diego as a postdoctoral researcher. Dr, Alhasan's research focuses on the biochemical properties of responsive polymeric nanoparticles and the interaction of such structures with biological moieties in order to develop thoughtful research to address a wide range of challenges in biological research and nanomedicine. These materials fall apart upon exposure to the biochemistry of diseases or externally controlled stimuli such as light, a highly creative strategy towards drug targeting that has also led to the development of disease-activated imaging agents.

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Research Interest: Renewable energy technologies, energy management, desalination, and automobile technology

Biographical sketch Dr. Abdullah Al-Janabi is currently an Assistant Professor in the Department of Mechanical and Mechatronics Engineering at the College of Engineering at Dhofar University in Oman. He received his PhD from the Institute of Thermodynamics and Thermal Engineering, University of Stuttgart, Germany, and his MSc degree in Mechanical Engineering from Jordan University, Jordan. He finished his BSc degree in engineering at the Department of Mechanical Engineering, University of Baghdad, Iraq. He is a Chief Technological Officer in the field of renewable energy and a prominent team member of the European Seawater Desalination by Innovative Solar-Powered Membrane Distillation System (MEDESOL) project as well as of the EGR project founded by GM. He has several years of industrial work experience in the fields of sustainable energy technologies, energy management, waste heat recovery, and industrial heat exchangers. He has been a member of the International Association of HydroEnvironment Research and Engineering-Baden Württemberg (IAHR-BW), Germany since 2011, and a member of the International Solar Energy Society (ISES), Germany. His research interests include renewable energy technologies, energy management, desalination, and automobile technology.

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Research Interest: Water and wastewater (domestic and industrial), sewage sludge characterization and treatment, adsorption and leachability of heavy metals and organic by woody adsorbents, and modeling solute transport in porous media (HYDRUS 1-D).

Biographical sketch: Othman Al-Mashaqbehearned a PhD in Water Engineering from the University of Technology, Sydney in 2010. He has a Bachelor's degree in Chemical Engineering (1994) and a Master's degree in Civil Engineering/Water and Environment (1997). His PhD thesis title is "Performance of woody materials for storm water filtration treatment systems". Dr. Al-Mashaqbeh worked as an Environmental Engineer at the Ministry of Water & Irrigation/Water Authority – Laboratories & Water Quality Department before beginning his current position as an Assistant Researcher at the Scientific Research Center/Royal Scientific Society in Jordan His experience focuses on the management, and participation in the execution of consultants research in the water field. He is a member of the National Water Quality Committee, Agenda Committee for Pollution Prevention, and of the Jordan Highlands Forum which works to minimize the use of groundwater in agriculture. He has also worked as a teacher's assistant at the University of Technology, Sydney.

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Research Interest: Analytical method development, water analysis, marine pollution, water treatment and e-learing.

Biographical sketch: Dr. Najat is currently an Assistant Professor in the Faculty of Science at Sana'a University. She earned her Bachelor of Science degree in Chemistry from Sana'a University and received her Master's and PhD degrees in Environmental Chemistry from University Putra Malaysia. In 2011 she joined the Korean Institute of Ocean Science an Technology (KIOST) as a postdoctoral scientist. Dr. Najat has presented her research at international conferences and workshops including the proceedings of the IUPAC Congress and Society of Environmental Toxicology and Chemistry (SETAC). Additionally, she has published her findings in Q1 and Q2 journals. Her research interests include analytical method development, water analysis, marine pollution, water treatment, and e-learning.

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Research Interest: Photovoltaics

Biographical sketch: During her undergrad, Dr. Al-Riyami focused on the characterization of meteorites using Mossbauer and and XRD spectroscopies. She continued her studies with both a Master's and Doctorate concentrated on the preparation of the n-type ultrananocrystalline/ hydrogenated amorphous carbon (UNCD/a-C:H) composite films that prepared by pulsed laser deposition (PLD) technique for the first time in diamond field. The preparation and evaluation of the physical, chemical bonding structure, electrical, optical, and conduction behavior were evaluated using several techniques such as; synchrotron center (NEXAFS, XPS, ion sputtering, and XRD), AFM, SEM, Hall effect, IV &CV characteristics, life time measurement, IR- photospectroscopy, RF-sputtering system, fine coater, and clean room. Recently, Dr. Al-Riyami has begun to investigate the dangling bonds and calculate the hydrogen concentration in the film using ESR method to suggest the best candidate condition of the film that will enhance the life-time of the photo carrier. Thishas the potential to bea promising material in photovoltaic application.

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Research Interest: Design and analysis of building energy systems, energy conservation, energy audit and retrofitting opportunities in buildings, renewable and sustainable energy applications,
indoor environmental quality including thermal comfort, visual comfort and indoor air quality, amd computational fluid dynamics (CFD) for built environment

Biographical sketch: Dr. Al-Saadi is an Assistant Professor in the Architectural Engineering Program at Sultan Qaboos University (SQU), Oman. He holds a PhD in Building Systems Engineering from the University of Colorado at Boulder, a MSc in Architectural Engineering from King Fahd University of Petroleum and Minerals,Saudi Arabia, and a Bachelor of Civil Engineering from SQU. Dr. Al-Saadi has a diverse work experience which began with six years of work in the Oil and Gas industry for . Internationally, he has worked as a Mechanical, Electrical and Plumbing (MEP) coordinator for two years in Saudi Arabia. In addition to his industry work experience, Dr. Al-Saadi has taught several courses in building systems engineering and building energy efficiency.

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Research Interest: Engineering, Energy

Biographical sketch: Ahmed Al-Salaymeh is a Professor at the Mechanical Engineering Department, Faculty of Engineering and Technology, University of Jordan, Amman-Jordan. He is the director and founder of the Renewable Energy Master Program at the University of Jordan and is also the director and founder of Environmental Technology and Climate Change. Professor Al-Salaymeh is a consultant and expert in the design and selection of a Photovoltaic systems and the instructor of PV courses for the University of Jordan Master's Program. He earned a PhD from the Institute of Fluid Mechanics at Friedrich Alexander Universität Erlangen-Nürnberg, Erlangen-Germany in April 2001 and holds MSc and BSc degrees with honors from the Mechanical Engineering Department at the University of Jordan. He has a special interest in Fluid Mechanics, Turbulence Flow, Two-Phase Flow, MEMS, Micropumps, Energy, Energy Efficiency, and Renewable Energy such as Solar Energy, Wind Energy and Biomass. Additionally, Prof. Al-Salaymeh has conducted research in the area of Thermal Flow Sensors (Patent registered in Germany), Flow-Measurement Techniques such as HWA and LDA, and Turbulence Phenomena. He has authored numerous papers for the international journals and has attended multiple scientific conferences.

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Research Interest: Mental Health

Biographical sketch: Dr. Mohammad Alsuwaidan is an academic psychiatrist with expertise in mood disorders, medical education and public health. He is an Assistant Professor of Psychiatry at both Kuwait University and the University of Toronto. He also serves as the Founding Head of Mood & Anxiety Disorders and Inaugural Director of Education at the Kuwait Center for Mental Health - Kuwait's national mental health hospital. He completed his Psychiatry Residency, Mood and Anxiety Disorders Fellowship and Medical Education Fellowship at the University of Toronto. He also trained in mood disorders at the Stanford University Bipolar Clinic and the Tufts Medical Center Mood Clinic. He completed a Master's of Public Health (MPH) at Johns Hopkins University. He is a Fellow of the Royal College of Physicians and Surgeons of Canada and a Diplomate of the American Board of Psychiatry and Neurology.

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Research Interest: Biotic and abiotic stress factors on growth and productivity

Biographical sketch: Dr. Rashid Al-Yahyai is an Associate Professor of Horticulture at the Department of Crop Sciences, College of Agricultural & Marine Sciences at Sultan Qaboos University (SQU), Oman. He is an active participant of international conferences and has ongoing research collaboration with colleagues from various countries. His research focus is on the effects of biotic and abiotic stress factors on physiology, growth and productivity, and post-harvest quality of horticultural crops with emphasis on heat, drought and salinity effects. Recent research work includes studies on traditional farming systems, agroecology and the potential impact of changing ecological and climatic variables on fruit production in Oman. In recent years, as a principle investigator, Dr. Al-Yahyai has been active on major research projects namely, Physiological Responses of Date Palm to Various Levels of Water Stress, Rejuvenating Lime Production in Oman: Resolving Current Challenges, and Agroecology of Traditional Date Palm Farms in Oman. Dr. Al-Yahyai is a also a co-investigator on several other major Strategic & TRC-funded projects covering a range of topics in plant, soil, water and environment sectors. He has supervised local and international postgraduate students working in the field of horticulture and plant production.

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Research Interest: water demand management, greywater reuse, community-based water management, sustainable development

Biographical sketch: Dr. Assayed is a Water and Environmental Research Specialist with 14 years of experience in applied research and development projects, with additional expertise in decentralized wastewater management and food security. He earned a PhD in water and environmental engineering in 2013 and served as a consultant and senior specialist at the Water and Environmental Center at the Royal Scientific Society, the MercyCorps, and Jordan University. Dr. Assayed is an expert in conducting community-based water projects in collaboration with several international donors such as USAID, IDRC, JIZ, WHO and SDC.

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Research Interest: Pharmaceutical Chemistry

Biographical sketch: Dr. Baqi is an Assistant Professor of Pharmaceutical Chemistry at Sultan Qaboos University. His research work focuses on the development of small molecules as selective ligands for purinergic receptors (G protein-coupled receptors), and ecto-nucleotidases inhibitors. This includes isolation and chemical synthesis of new organic compounds, including combinatorial approaches, the analysis of structure-activity relationships. The small molecules developed are used as pharmacological tools for in vitro and in vivo studies (in collaboration). Molecular probes (e.g. fluorescent-labeled compounds, radioligands including tracers for PET imaging) are developed for biological and diagnostic applications (in collaboration)."

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Research Interest: Metabolomics (Analysis-/Bio-Chemistry, Nutrition, Health Sciences, Environmental)

Biographical sketch: Dr. Thaer Barri was recently appointed as Assistant Professor of Chemistry at the Dept. of Chemistry of King Fahad University of Petroleum and Minerals, KSA. Dr. Barri earned his BSc and MSc degrees in Chemistry at the Jordan Univeristy of Science and Technology, Jordan in 1996 and 2000. He graduated from Lund University, Sweden, with Master's and Doctoral degrees in Analytical Chemistry in 2003 and 2007, respectively. Following his doctoral studies, Dr. Barri completed a postdoctoral fellowship in the field of analytical environmental toxicology at the University of Alberta, Canada and followed with another postdoctoral fellowship in the field of of nutritional mass spectrometry and metabolomics at the University of Copenhagen, Denmark. At the later university, Dr. Barri also worked as Assistant Professor of Metabolomics. During 2012 and 2014, Dr. Barri had the opportunity to work again at Lund University as Assistant Professor of Chemistry, where he pursued research in the field of metabolomics.

Dr. Barri's research interests focus on using advanced analytical chemistry tools, such as membrane technology, mass spectrometry, and chemometrics to study important research questions with applications in the fields of environmental science and health sciences. Dr. Barri has published more than 30 articles (394 citations with an h-index of 13 and is a reviewer for several peer-reviewed journals and funding organisations. He is currently on the editorial board of the Journal of Chemistry (Hindawi publisher) has also published two book chapters and one book.

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Research Interest: The physicochemical fate of biologically-active organic contaminants, specifically pharmaceuticals, steroid hormones, and extracellular proteins such as the prion protein, as well as water quality issues in agricultural production.

Biographical sketch: Dr. Bartlet-Hunt received her PhD in Civil Engineering with a specialization in Environmental Engineering from the University of Virginia in 2004. She is currently an Associate Professor in the Department of Civil Engineering at the University of Nebraska-Lincoln. My research interests are in the physicochemical fate of biologically-active organic contaminants, specifically pharmaceuticals, steroid hormones, and extracellular proteins such as the prion protein. I have a particular interest in water quality issues in agricultural production. Dr. Bartlet-Hunt received a CAREER award from the National Science Foundation in 2012.

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Research Interest: Applied electromagnetics

Biographical sketch: Nader Behdad received a PhD degree in Electrical Engineering from the University of Michigan, Ann Arbor. He is currently an Associate Professor at the Electrical and Computer Engineering department of the University of Wisconsin–Madison. His research interests are in applied electromagnetics with emphasis on antennas, biomedical applications of RF/microwaves, RF/microwave/mm waves, high-power microwaves, wireless communications, metamaterials, and biologically inspired systems.

Dr. Behdad received the 2014 R. W. P. King and the 2012 Piergiorgio L. E. Uslenghi Awards of the IEEE Antennas and Propagation Society. He is also the recipient of the 2011 CAREER award from the U.S. National Science Foundation, the 2011 Young Investigator Award from the U.S. Air Force Office of Scientific Research, and the 2011 Young Investigator Award from the U.S. Office of Naval Research. He received the ONR Senior Faculty Fellowship in 2009, the Young Scientist Award from the International Union of Radio Science in 2008, and the Horace H. Rackham Predoctoral Fellowship from the University of Michigan. Since 2004 he has received 16 different conference paper awards/recognitions at various international symposia. Dr. Behdad is currently serving as an Associate Editor for IEEE Antennas and Wireless Propagation Letters and served 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 Meetings.

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Research Interest: Human and biomedical device integration

Biographical sketch: Christopher Bettinger is currently an Assistant Professor at Carnegie Mellon University (CMU) in the Departments of Materials Science and Engineering and Biomedical Engineering. He directs the Laboratory for Biomaterials-based Microsystems and Electronics at CMU, which is broadly interested in the design of novel materials and interfaces that promote the integration of medical devices with the human body. Recent efforts focus on addressing materials challenges in the design and deployment of edible electronics for diagnostics and therapeutics. Professor Bettinger has received many honors including the National Academy of Sciences Award for Initiatives in Research, MIT Department of Materials Science and Engineering Award for "Outstanding PhD Thesis", the ACS AkzoNobel Award for Polymer Chemistry, the Tissue Engineering and Regenerative Medicine Society Young Investigator Award, and the MIT Tech Review TR35 Top Young Innovator. Prof. Bettinger is also a co-inventor on several patents and was a finalist in the MIT $100K Entrepreneurship Competition. Prof. Bettinger received an S.B. in Chemical Engineering, an M.Eng. in Biomedical Engineering, and a PhD in Materials Science and Engineering as a Charles Stark Draper Fellow, all from the Massachusetts Institute of Technology. He completed his post-doctoral fellowship at Stanford University in the Department of Chemical Engineering as an NIH Ruth Kirschstein Fellow.

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Research Interest: Epitaxial growth, optical and electrical properties of oxide layers, solution crystal growth

Biographical sketch: Dr. Bin Anooz obtained a PhD degree in physics from the University of Assiut, Egypt in 2004. During his PhD studies, he was mainly interested in the structural, optical and electrical properties of bulk crystals. Following graduation, Dr. Bin Anooz moved back home and worked as a lecturer in the Department of Physics at Hadhramout University. He was awarded a two month research stay in the summer of 2006 on a DAAD fellowship and was a AvH Postdoctoral Fellow from March 2009 – February 2011 at the Institute of Crystal Growth (IKZ), Berlin. Dr. Bin Anooz is currently the Vice Dean of Academic Affairs at the Faculty of Science, Hadhramout University, Yemen. His general area of interest is in materials physics, particularly studies of the structure, electronic transport, optical studies of bulk materials, and thin films. His current research is split between two major efforts: Epitaxial growth (using the liquid-delivery spin metal-organic chemical vapor phase deposition (MOCVD) technique) and the characterization of oxide films. For

the characterization, I have used several characterization techniques such as Spectroscopic Ellipsometry, UV-Visible spectroscopy, Raman spectroscopy, and AFM, high resolution and x-ray diffraction (HRXRD). Dr. Bin Anooz's earlier work and collaborations with other researchers have included studies of thermal, electrical, and optical properties of ferroelectric single crystal growth by growth solution method.

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Research Interest: Land degradation and remote sensing

Biographical sketch: After the completion of an Engineering degree (2005) in Water and Soil Management and a Master's degree in Environmental Engineering and Management, Dr. Bouaziz worked in the private sector. Between 2006 and 2007 he was involved in environmental impact studies by using GIS techniques in a Tunisian-Italian company for environmental engineering. During this time, he had the opportunity to participate in several land and water management projects for rural regions in northern Tunisia.

He pursued PhD in 2008 with the Remote Sensing Group at the Technical University of Freiberg in Germany. The focus of Dr. Bouaziz's doctoral thesis was the monitoring of land degradation in Ethiopia, Tunisia, and Brazil using remote sensing and GIS advanced techniques. Throughout his academic research from the undergraduate to doctoral level, he has specialized in developing models to study land degradation and interactions with land use, vegetation cover, and climatic parameters. Aftercompleting his PhD thesis, Dr. Bouaziz received an Alexander von Humboldt Foundation grant to continue his postdoctoral research at the Technical University of Dresden.

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Research Interest: Water and sanitation technologies and applications for underserved communities

Biographical sketch: Joe Brown is an environmental engineer with broad interests at the intersection of environmental engineering and public health, particularly in water and sanitation technologies and applications for underserved communities. Following a BSc in Civil and Environmental Engineering from the University of Alabama, Dr. Brown gained a Master's degree in Environment and Development from Cambridge University and a PhD in Environmental Sciences and Engineering from UNC's Gillings School of Global Public Health in 2007. He is currently an Assistant Professor in the School of Civil and Environmental Engineering, Georgia Institute of Technology. Previously, he was a Lecturer in Water and Health in the Department of Disease Control, Faculty of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, University of London. Dr. Brown has also been a consultant with UNICEF, the World Health Organization, the World Bank, and numerous other organizations on topics related to water and sanitation. He is a registered Professional Engineer in North Carolina and Alabama.

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Research Interest: Coral reef ecology and management

Biographical sketch: Dr. John Burt is an Associate Professor of Biology at New York University Abu Dhabi and head of the NYUAD Marine Biology Laboratory. Dr. Burt uses the Arabian Gulf - the hottest sea on earth - as a model ecosystem to study how future climate change may affect reefs in other regions as well as to develop an understanding of how reef fauna have adapted to survive in the relatively hostile environment of the Gulf. Burt's research also has a strong public outreach and capacity building component and he has hosted a number of conferences and workshops at NYU Abu Dhabi to engage stakeholders from across Arabia and Persia to work on reefs in the Gulf, the Gulf of Oman, the Arabian Sea, and the Red Sea. Dr. Burt is co-founder of the Mideast Coral Reef Society and has published over 25 scholarly articles on regional reefs on topics ranging from pure science to conservation management and policy decision-making.

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Research Interest: Multiscale modeling of geomaterials with emphasis in flow and mechanics

Biographical sketch: Dr. Victor Manuel Calo is an Associate Professor in Applied Mathematics & Computational Science and Earth Science & Engineering and is the co-director of the SRI-Center for Numerical Porous Media at the King Abdullah University of Science and Technology . Dr. Calo is a highly cited researcher who is actively involved in disseminating knowledge: Dr. Calo has authored over 100 peer reviewed publications. In addition, in the last two years, he has given more than 30 invited presentations and keynotes at conferences and seminars and organized 12 mini-symposia at international conferences. Dr. Calo holds a professional engineering degree in Civil Engineering from the University of Buenos Aires. He received a Master‘s in Geomechanics and a doctorate in Civil and Environmental Engineering from Stanford University. Dr. Calo’s research interests include modeling and simulation of geomechanics, fluid dynamics, flow in porous media, phase separation, fluid-structure interaction, solid mechanics, and high-performance computing.

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Research Interest: Environmental sciences / water resources

Biographical sketch: Dr. Anis Chekirbane graduated from the University of Tsukuba in Japan and obtained a PhD in Sustainable Environmental Studies in 2013. His research focuses on the interaction between groundwater and saline surface water in alluvial aquifers in Tunisia. He is an Assistant Professor in the Water Researches and Technologies Center, Borj Cedria Technopark, Tunisia. He is involved in research projects addressing groundwater resources in Tunisia and also teaches "Groundwater Hydraulics" and "Water Quality" at the University of Bizerte and the Higher School of Agriculture of Mograne in Tunisia.

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Research Interest: Remote sensing

Biographical sketch: Miloud Chikr Elmezouar received an engineering diploma and a Magister degree in Electrical Engineering from the University of Djillali Liabes, Sidi-Bel Abbes, Algeria, and the PhD degree in Signal and Image Processing, under joint supervision, from the University of Djillali Liabes and from the Institut National des Sciences Appliquées (INSA), Rennes, France. He joined University of Djillali Liabes as a Lecturer in 2002, and is currently an Associate Professor with the Department of Electronic Engineering at the same university. His principal research interests are in the fields of digital signal and image processing, image analysis, medical and satellite image applications, and pattern recognition. In addition, at Mainsy Automation and at SAYA Electronics, he participated in renovating old machines, developing PLC applications, developing CCS (computer control system) application for plants using SCADA software, training staff on-site, and modifying supervision and PLC programs. Moreover, he contributed in the proposition of complete automation solution for many industrial processes and the design of electronics cards to replace obsolete cards used on longstanding machines. Dr. Chikr Elmezouar participated in initiating the "Joint Compression System and Object-Based Indexing for Video," an international collaboration project, approved by the Joint Evaluation Committee and Prospective of the Franco-Algerian scientific cooperation of CMEP PHC TASSILI.

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Research Interest: Anthropogenic carbon flows

Biographical sketch: Andres F. Clarens is an Associate Professor of Civil and Environmental Engineering at the University of Virginia and the Director of the Virginia Environmentally Sustainable Technologies Laboratory. He is an author or coauthor of over 30 archival papers focused broadly on anthropogenic carbon flows and the ways that CO2 is manipulated, reused, and sequestered in engineered systems. The results of his work are important for developing efficient strategies for mitigating the emissions that are driving climate change and for understanding how infrastructure systems must be adapted to meet these changes. For his work, he has received a variety of awards including the National Science Foundation CAREER award and the American Chemical Society Petroleum Research Fund Young Investigator Award. He received a BSc in Chemical Engineering from the University of Virginia and an MSE and PhD in Environmental Engineering from the University of Michigan.

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Research Interest: Materials Science Engineering

Biographical sketch: Dr. Cola is an Assistant Professor in the George W. Woodruff School of Mechanical Engineering and the School of Materials Science and Engineering at the Georgia Institute of Technology. He received a B.E (2002) and M.S. (2004) from Vanderbilt University while a member of the Vanderbilt Football Team, and a PhD (2008) from Purdue University, all in mechanical engineering. Dr. Cola has received prestigious early career research awards from DARPA (2009), NSF (2011), the US Army (2013), and received the Presidential Early Career Award for Scientist and Engineers (PECASE) in 2012 from President Obama for his work in nanotechnology, energy, and outreach to high school art and science teachers and students. He was awarded the 2013 AAAS Early Career Award for Public Engagement with Science and founded Carbice Nanotechnologies, Inc. in 2012 to commercialize carbon nanotube thermal interface materials. Dr. Cola's work is currently focused on characterization and design of thermal transport and energy conversion in nanostructures and devices. He is also interested in the scalable fabrication of organic and organic-inorganic hybrid nanostructures for novel use in technologies such as thermal interface materials, thermoelectrics and thermo-electrochemical cells, infrared and optical rectenna, and materials that can be tuned to regulate the flow of heat.

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Research Interest: Materials Science Engineering

Biographical sketch: Jacinta Conrad received an S.B. in Mathematics from the University of Chicago (1999) and an M.A. (2002) and PhD (2005) in Physics from Harvard University. From 2005 to 2009 she was a postdoctoral research associate in Materials Science and Engineering at the University of Illinois at Urbana-Champaign. She joined the Department of Chemical and Biomolecular Engineering at the University of Houston in 2010 as an Assistant Professor. Her research focuses on identifying the mechanisms by which surfaces modify the transport properties of particles in complex fluids, using a combination of microscopy, microfabrication, microfluidics, and high-throughput image analysis. Current projects include: (1) structure, dynamics, rheology, and flow of colloid-polymer mixtures in microfluidic geometries; (2) transport of nanoparticles through hard and soft porous media; and (3) near-surface motility and adhesion of bacteria on engineered surfaces prior to biofilm formation. In addition to these main focus areas, she collaborates with a biodetection group to develop diagnostic assays for viruses, with a cell biology group to characterize collective migration of cells on substrates, and with a protein crystallization group to quantify diffusion of liquidlike protein clusters. Applications include rapid prototyping, enhanced oil recovery, antifouling materials, and biosensing. She received NSF CAREER and ACS PRF Doctoral New Investigator awards in 2012.

Dr. Rosa Dominguez-Faus
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Research Interests: Natural gas and Hydraulic Fracturing, transportation fuels and fueling, infrastructure, methane leakage from natural gas systems, energy sustainability, and LCA methodologies for carbon and water foot printing

Biographical sketch: Rosa obtained her PhD in Environmental Engineering from Rice University with a dissertation on energy, water and climate. She is currently a fellow at the Institute of Transportation Studies at University of California Davis, where she uses models and data to simulate various aspects of conventional and unconventional fossil fuels use. Rosa's research is featured in peer-reviewed scientific articles, policy white papers and blogs. She frequently presents to the California's Energy Commission on topics related to natural gas, hydraulic fracturing, and emissions.

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Research Interest: Energy equipment modeling and control system analysis

Biographical sketch: Bryan Eisenhower is an Assistant Research Professor and the Associate Director of the Center for Energy Efficient Design at the University of California, Santa Barbara. Dr. Eisenhower received BSc and MSc degrees from Virginia Tech and a PhD from UCSB – all in Mechanical Engineering. Prior to this, as a Senior Research Scientist at the United Technologies Research Center, he was involved in numerous energy related projects ranging from combined heat and power systems to instabilities in jet engines. Bryan has over 20 peer-reviewed publications in both international journals and conferences, and holds multiple patents in the design and operation of energy related equipment. His area of focus is in modeling and control system analysis and design for energy equipment.

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Research Interest: Stem Cell Research & Regenerative Medicine

Biographical sketch: Dr. Zeinab El Maadawi is an Associate Professor at Kasr Alainy Faculty of Medicine, Cairo University, Egypt. Her research interest is in the field of regenerative medicine & stem cell research. Moreover, she is an expert in technology enhanced learning in areas that include e-learning management, instructional design, content development, tutoring of virtual communities & quality management of e-learning courses. She is also interested in new and emerging technologies that are used to link health care delivery, medical education and biomedical research. Dr. El Maadawi is an advocate for using virtual collaborative tools to promote cross-cultural communication to enhance management and leadership skills for start ups and emerging leaders worldwide.

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Research Interest: Pore fluids and soils

Biographical sketch: Professor El Mohtar is an Assistant Professor in the Department of Civil, Architectural and Environmental Engineering at The University of Texas at Austin. He earned his Bachelor's degree from Beirut Arab University in 2001, Master's degree from Michigan State University in 2003 and his PhD from Purdue University in 2008, all in Civil Engineering. He has developed a research program focused on auto-adaptive solutions for mitigating geo-challenges to existing and future infrastructures. His research involves engineering pore fluids and soils for resilient response to adverse and unforeseen loading conditions, with minimal compromise to the performance under normal working loads. Particularly, Prof. El Mohtar's work has focused on advancing the fundamental understanding of viscous flow within porous media through relating rheological properties of fluids and suspensions to the mechanical and hydraulic characteristics of geomaterials. His work on pore fluid-soil micro-mechanics extends from ground improvement to mobilization of non-aqueous fluids through integrates areas of rheology, deep-bed filtration, geotechnical, geoenvironmental and petroleum engineering. He has served as PI/Co-PI on externally funded projects in excess of $1.7M. He is the author/co-author of more than 40 technical papers, conference proceedings, and major reports. Prof. El Mohtar has received multiple awards including the NSF CAREER Award and ASCE Casagrande Professional Development Award.

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Research Interest: Analysis of polyamines and proteins as cancer biomarkers, using CE-LIF, CE-MS, and HPLC-MS

Biographical sketch: Dr. Abdalla Ahmed Elbashir is an Associate Professor of Analytical Chemistry, at the University of Khartoum, Sudan. Dr. Elbashir received his PhD from the University Science, Malaysia (USM), Penang, Malaysia. Dr. Elbashir is currently working as a Humboldt Research Fellow at Duisburg-Essen University, Germany. He has been awarded the award for best PhD thesis in pure science from USM. He has been considered a leading young scientist in capillary electrophoresis (CE) and related techniques; he established and adapted several CE techniques for pharmaceutical analysis and for chiral separations. Dr. Elbashir published a book entitled *Capillary Electrophoresis Methods in Pharmaceutical Analysis* (Lambert Academic Publishing) and has published more than 50 papers in internationally reviewed journals as well as participated in more than 20 international conferences in Europe and Asia. The main research interest of Dr. Elbashir is in the area of analytical chemistry with an emphasis on developing chiral separation protocols using HPLC, CE and CEC. He has organized/instructed a number of short training courses on application of instrumental techniques (FTIR, AAS, GC and HPLC) in petroleum analysis. Additionally, he has been involved in teaching General Chemistry and Analytical Chemistry and Instrumentation to undergraduate and postgraduate students . Dr. Elbashir is currently the main supervisor of five Master's and two PhD candidates.

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Research Interest: Geophysics of deserts and desertification

Biographical sketch: Dr. Elbelrhiti has significant experience in land degradation, the geomorphology of arid and semi-arid environments, and soil science, which has benefited greatly his from his expertise with modelling and remote sensing tools. During his doctoral studies, he studied the morpho-dynamics of barchan dunes and the physics of Aeolian transport. In particular, he demonstrated the existence of the intrinsic instabilities of barchans that led to the nucleation of waves on their surface and resulted in the ejection of small dunes. Dr. Elbelrhiti also developed new techniques to measure aeolian erosion and the transportion of sand and sediments. He then studied their effect on land degradation in arid and semi-arid regions. After graduating,Dr. Elbelrhiti developed an interest in soil sciences, particularly soil degradation and soil mapping. This led him to work for an E-SOTER project focused on the development of new techniques for soil mapping and making the data on soil and land available for policy-makers. Dr. Elbelrhiti also contributed to the Soil Atlas of Africa project which produced a soil map for the African continent.

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Research Interest: Petroleum Engineering

Biographical sketch: Dr. Abusabah Elfatieh Elemam Elnor is a petroleum engineer who earned his Doctorate, Master's and BSc in Petroleum Engineering from the College of Petroleum Engineering and Technology at Sudan University of Science and Technology (SUST). Currently, he is an Assistant Professor in theWater and Environmental Engineering College of Sudan University of Science and TechnologyIn addition to teaching, he also serves as the College Registrar. Building off of a number of publications during his MSc and PhD studies, Dr. Elemam explores a broad range of research projects with colleagues whom implement inter and multidisciplinary strategies towards their research. He is a member of several academic curricula committees for the development and enhancement of college standards and is the president of the Self-Assessment and Accreditation Office.

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Research Interest: Materials Science Engineering

Biographical sketch: Dr. Donglei (Emma) Fan has been an Assistant Professor in the Department of Mechanical Engineering of the University of Texas at Austin since 2010. Dr. Fan obtained her Bachelor's degree in Chemistry from the Department of Intensive Instruction, an honor program for gifted undergraduates, in Nanjing University, China, in 1999, and a Doctoral (2007) degree in Materials Science and Engineering from the Johns Hopkins University (JHU). In 2012, Prof. Fan received the National Science Foundation CAREER Award. Her work on bottom-up assembling of inorganic nanomotors was selected as the #3 of "10 discoveries that will shape the future in 2014" by the British Broadcasting Corporation (BBC) Focus Magazine. and was one of 30 US young engineers selected and invited to attend the National Academy of Engineering (NAE) 2013 EU-US Frontier of Engineering Symposium in France. She was featured by "Woman in Nanoscience", an NSF supported scientific blog highlighting achievements of woman scientists in Prof. Fan was also honored as a Recognized Mentor by the Siemens Foundation in 2012, and a finalist of the Beckman Young Investigator Award (24 finalists nationwide). Prof. Fan's work has spurred a series of publications in leading journals including Nature Nanotechnology, Nature Communications, the Proceedings of National Academy of Sciences, Nano Today, Physical Review Letters, Advanced Materials, Advanced Functional Materials, and Applied Physics Letters. She currently has five pending patents.

Dr. Baskar Ganapathysubramanian
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Research Interest: Computational physics, computational mechanics (fluid mechanics and heat transfer), stochastic analysis, uncertainty quantification and propagation, multiscale modeling, control and optimization of complex systems, materials-by-design, and parallel computing and inverse problems.

Biographical sketch: Dr. Ganapathysubramanian is an Assistant Professor of Mechanical Engineering at Iowa State University. He earned his B.Sc. in Mechanical Engineering from the Indian Institute of Technology, Madras, B. Tech in 2003 and his MSc and PhD in Mechanical and Aerospace Engineering from Cornell University in 2006 and 2008 respectively. He is part of the Iowa NSF EPSCoR wind energy/energy utilization plank which focuses on translating wind and flux measurements from wind turbines and making the data available to the general scientific community. Dr Ganapathysubramanian has recently been awarded the Iowa State University Early Achievement in Research Award and the National Science Foundation CAREER Award.

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Research Interest: Undergraduate STEM education and research

Biographical sketch: Christy Jo ("C.J.") Geraci is an Assistant Professor in the Department of Mathematics & Natural Sciences at the American University of Iraq, Sulaimani. She teaches a broad array of life and environmental science courses for the AUIS Core Curriculum and Geoscience minors, as well as leads the USAID-funded "PEER Research Experiences for Undergraduates (REU): Freshwater Science and Policy in the Human-Dominated Tigris River Basin". Working closely with collaborators at AUIS and Miami University of Ohio, she developed a learning community and REU program for AUIS students to study water resources and development in Iraq. Prior to joining AUIS, Dr. C.J. was an AAAS Science and Technology Policy Fellow at the US National Science Foundation's Division of Biological Infrastructure, and a Postdoctoral Fellow at the Smithsonian National Museum of Natural History. She earned a master's degree in Ecology from UNC – Chapel Hill and a PhD in Entomology from Clemson University. She is particularly interested in science infrastructure development and STEM education.

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Research Interest: Biotechnology; Wastes Treatment and Management; Climate Change Impacts and Adaptation

Biographical sketch: Dr. Ghanimeh is currently an Assistant Professor of Engineering at Notre Dame University – Louaize (NDU), Lebanon. She graduated with a PhD in Environmental and Water Resources Engineering from the American University of Beirut, Lebanon in 2012. Prior to joining the PhD program, Dr. Ghanimeh worked as a lab instructor for nearly eight years at the Department of Civil and Environmental Engineering at NDU. The main research activities of Dr. Ghanimeh lie at the intersection of waste management and biotechnology. Innovative biological systems are promising tools for waste and wastewater treatment with concomitant production of renewable energy. Dr. Ghanimeh is also intrigued by climate change impacts and adaptation. Areas of research of specific interest to her include: Biological treatment of wastes; modeling of biological processes; sustainable waste management and landfilling; climate change impact and adaptation.

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Research Interest: Environmental Chemistry, Advanced Oxidation Processes, Instrumental development

Biographical sketch: Dr. Antoine Ghauch is an Associate Professor in the Chemistry Department of the American University of Beirut. He specializes in the development of new analytical techniques based on spectroscopic measurements and of new methods for the elimination of water microcontaminants including classical and emergent contaminants. His work focuses on the Advanced Oxidation Processes and its use for long term applications toward sustainable water treatment. His research has resulted ongoing collaboration with researchers, institutions and companies in the US (UC-Berkeley, National Instrument), in France (HydroSciences) and in Germany (Univ. Goettingen). Dr. Ghauch has more than 35 publications in peer-reviewed international journals and many abstracts, lectures and presentations in national and international conferences. His work has been cited more than 760 times with a Google Scholar Citation Index of about 18. He has significant expertise in environmental sciences and instrumentation and has obtained several grants since joining AUB seven years ago Among them is the very competitive PEER grant from the NAS-USAID of 167,000 USD. He is a member of the International Water Association (IWA) and the ACS, Environmental Division. He has been featured on the coverpage of the Chemical Engineering Journal in 2011 and 2013 and is the recepient of several awards including: the PhD Award for Research Excellence (2000), the Fulbright Scholar Award (2009), and the TWAS Fellow for Science Diplomacy (2014).

Dr. Maha Halalsheh
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Research Interest: Environmental sciences and ecology

Biographical sketch: Maha Halalsheh is an Associate Researcher at the Water Energy and Environment Center at the University of Jordan. Dr. Halalsheh works in the field of Integrated Water Resources Management (IWRM) with special interests in anaerobic wastewater treatment, anaerobic digestion and resource conservation. She is a motivated fundraising expert with a strong vision and has extensive experience in coordinating and executing applied research projects. Dr. Halalsheh has around 20 scientific publications in the field of wastewater treatment. She is a board member of the Jordan Civil Engineers Association which includes more than 30,000 civil engineers.

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Research Interest: Environmental Sciences

Biographical sketch: Dr. Halmy works as a Lecturer at the Department of Environmental Sciences-Faculty of Science. Her responsibilities include teaching academic and vocational subjects to undergraduate and postgraduate students.She develops, and prepare teaching materials for the courses she teaches and advises undergraduate students to develop their course plans. In addition, Dr. Halmy supervises undergraduate & postgraduate students pursing research activities in environmental sciences. She pursues research to contribute to the wider research activities of her department and represents her institution at professional conferences and seminars. Through her research work, Dr. Halmy focuses on studying the understudied areas of species worthy of conservation actions. Her research focuses on how climate change has influenced critical areas in Egypt, how it is projected to change in the future, and the impacts on plant diversity. She also studies the impact of land use changes on the distribution of plants and important habitats. Her particular interests lie in conducting valuation of the goods and services provided by the natural ecosystems using remote sensing and GIS techniques and applying the concepts of landscape genetics to understand the pattern of gene flow among populations of endangered plants to implement efficient conservation measures to protect these important species.

Dr. James D. Harwood
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Research Interest: The role of prey biodiversity and habitat management on predation dynamics

Biographical sketch: James Harwood is an Associate Professor of Ecology in the Department of Entomology at the University of Kentucky. His research program seeks to understand mechanisms of foraging by generalist predators and identify their role in biological control through the integration of molecular techniques, behavioral studies and field experiments. Understanding the forces that regulate the abundance of these natural enemies can provide information that discerns the role of prey biodiversity and habitat management on predation dynamics. These research projects seek to understand how interactions between natural enemy and prey communities contribute to the provisioning of ecosystem services. His research has been supported by over $5 million in research funding from national and international funding agencies, focusing on developing a greater understanding of world agriculture and reducing the reliance on chemical input for crop production. James has published over 60 peer-reviewed research papers and given hundreds of presentations including plenary lectures in China, Vietnam and Brazil. In addition, James is the founding Editor-in-Chief of Food Webs, an interdisciplinary journal that published papers on the structure and function of food webs, and is an Editor of Biological Control. He also served as President of the International Branch of the Entomological Society of America and is the current secretary/treasurer of the International Organization for Biological Control.

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Research Interest: To discover, characterize, and deliver novel neuropeptides from venomous marine snails as tools for manipulating cell signaling in the nervous system

Biographical sketch: Dr. Mandë Holford is as an Assistant Professor of Chemistry at Hunter College and CUNY-Graduate Center, New York, with a scientific appointment at the American Museum of Natural History. Her dual appointment reflects her interdisciplinary research, which combines chemistry and biology to discover, characterize, and deliver novel neuropeptides from venomous marine snails (cones snails, terebrids, and turrids) as tools for manipulating cell signaling in the nervous system. She has received funds from the National Science Foundation (NSF), the National Institutes of Health (NIH), and Alfred P. Sloan Foundation to support her independent research. She was recently named a New Champion Young Scientist by the World Economic Forum. In 2013, Dr. Holford was awarded the prestigious Camille Dreyfus Teacher-Scholar Award. In 2011 she was awarded an NSF CAREER Award, and named a 21st Century Chemist in the NBC-Learn, Chemistry Now series. Dr. Holford has a sustained and active involvement in science education and advancing the public understanding of science. She is co-founder of KillerSnails.com, a digital educational tool.

In the area of international science policy, she is an AAAS Science & Technology Fellow, an inaugural member of the World Academy of Young Scientist (WAYS), and has served on the Advisory Committee for Term Members of the Council on Foreign Relations. Dr. Holford received her PhD in Synthetic Protein Chemistry from The Rockefeller University.

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Research Interest: Physics: Astrophysics, Earth and Climate Science

Biographical sketch: Dr. Alaa Ibrahim gained much of his experience in higher education and research at prestigious U.S. institutions, including NASA, MIT, George Washington Univ., and University of Maryland at College Park. His research speciality is on utilizing satellite observations in astrophysics and climate and Earth science. Looking outward at celestial objects, his work has led to several discoveries on a new kind of neutron stars known as magnetars whose radiation is capable of altering Earth's atmosphere. Looking inward toward Earth, he is currently investigating the climate and health impacts of a form of air pollution over Egypt known as aerosols. Dr. Ibrahim's teaching experience spans a range of specialized courses to science and engineering majors as well as core-curriculum courses taught to students from all majors. His community outreach initiatives include the Cairo Science Festival, Egypt's National Science Month, public telescope stargazing events, the Science Bus, and presenting popular science on Radio and TV. Dr. Ibrahim's advisory roles include the U.S. National Academies, Euro-Science Open Forum, the Community Based Learning board at the American University in Cairo, and local and regional NGOs. His work has been funded by NASA, NSF, Fulbright Commission, USAID, and ICTP and has been featured in press releases and coverages by NASA, Science, Nature, and Scientific American. He has collaborated on a number of projects with colleagues at Harvard, MIT, COSPAR, and IAU. Ref. http://bit.ly/AlaaIbrahimCV

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Research Interest: Renewables and sustainability

Biographical sketch: Dr. El Mostafa Jamea is currently a Senior Researcher at MENA Renewables and Sustainability. He is contributing to research projects in partnership with international and Moroccan universities, as well as development organisations on the thematics of sustainability, climate change, environment, and renewable energies. Prior to this, he served as a MENA and Italy Analyst at the Germany based development organisation FLO Cert; and researcher and PhD candidate at the Polytechnic University of Marche (Italy). He is an engineer by training and has a PhD in sustainable management of resources. He holds a certification from the German Renewables Acadmey in Re-

grid Management which is focuses on the integration of large amounts of renewable energy into grids. Dr. Jamea is fluent in Arabic, English, French and Italian, and has a working command of German.

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Research Interest: Gene therapy, drug delivery, cancer-targeted therapeutics, combined molecular imaging and therapy, and cancer vaccine, by employing stimuli-responsive nanomaterials.

Biographical sketch: Dr. Young Jik Kwon is an Associate Professor of Pharmaceutical Sciences, Chemical Engineering and Materials Science, Biomedical Engineering, and Molecular Biology and Biochemstry at the University of California, Irvine. He received his PhD in Chemical Engineering from the University of Southern California after completing his undergraduate education in Biological Engineering at Inha University in Korea. After his postdoctoral research in Prof. Jean Fréchet's laboratory in Chemistry at the University of California, Berkeley, he joined the faculty of Biomedical Engineering at Case Western Reserve University, before moving to his current position. His research group investigates gene therapy, drug delivery, cancer-targeted therapeutics, combined molecular imaging and therapy, and cancer vaccine, by employing stimuli-responsive nanomaterials.

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Research Interest: The technological challenges and broader, societal aspects of crowdsourcing

Biographical sketch: Matthew Lease is an Assistant Professor in the School of Information at the University of Texas at Austin. He received his PhD in Computer Science from Brown University in 2010, and he has since received early career awards from NSF, IMLS, and DARPA. His research, focusing on information retrieval, human computation, and crowdsourcing, has been featured in WIRED magazine's "Danger Room". Lease has presented crowdsourcing tutorials at ACM SIGIR, ACM WSDM, CrowdConf, and SIAM Data Mining. From 2011 to 2013, he co-organized the Crowdsourcing Track for the U.S. National Institute of Standards & Technology (NIST) Text REtrieval Conference (TREC). In 2012, Lease spent a sabbatical at CrowdFlower tackling crowdsourcing challenge problems at industry-scale.

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Research Interest: Ionomers

Biographical sketch: Dr. Mohammad Luqman is serving as an Assistant Professor of Chemistry in A'Sharqiyah University, Ibra. Previously, he served as an Assistant Professor of Polymer Science and Engineering in King Saud University, Riyadh. He has also served as an Assistant Manager-Prof. (Research Scientist) in SAMSUNG Cheil Industries, South Korea. His work includes development of heat resistant polymers, organic glass, and block copolymers as impact modifiers and compatibilizers for engineering alloys. He served as a post-doctoral fellow at Artificial Muscle Research Center, Konkuk University, Korea, in the field of Ionic Polymer Metal Composites. He was awarded the PhD degree in 2007, in the field of Ionomers, by Chosun University, Korea. He has also served as an Editor to three books, published by world renowned publishers and has published numerous papers and book chapters in the field of Ionomers, Ion-exchange Polymers and Polymer Nanocomposites. One of his Papers, published in "Polymer", Elsevier, was ranked first among the "Top 25 Hottest Articles" in Chemistry Journals during the spring of 2008. Additionally, he is serving as an Editor-in-Chief, Regional Editor, Section Editor, Associate Editor, and editorial/review board member to many jnternational journals.

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Research Interest: Biosaline Agriculture

Biographical sketch: Dr. Dionyssia Lyra works as a Post-Doc researcher at the International Center for Biosaline Agriculture (ICBA). Prior to her work with ICBA, she also had a Post-Doc fellowship in the Laboratory of Agronomy at the Agricultural University of Athens in Greece where she was involved in the evaluation of barley genotypes for drought resistance and crop yield. She has participated in EU and national projects on: a) parasitic weeds, b) integrated management of vegetation at archaeological sites, c) identification and evaluation of indigenous medicinal species with potential economic value for breeding purposes. Currently, Dr. Lyra has been working on projects related to: a) evaluation of agronomic characteristics of selected Salicornia bigelovii and native halophyte populations using seawater irrigation, b) seed multiplication of Salicornia bigelovii populations by using groundwater irrigation, c) on-farm management of available water resources (low quality, brackish, saline water and aquaculture water residues) to optimize crop production and minimize environmental risk, d) on-farm demonstration of using available technologies (desalinated water from RO units) for managing farms and e) exploring the potential of Integrated Aqua-Agriculture Systems (IAAS) in arid areas. Dr. Lyra has recently recieved a grant from USAID to improve economics of IAAS. She also has teaching experience and has published more than 35 research publications in peer reviewed journals and conference proceedings.

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Research Interest: Water quality

Biographical sketch: Dr. Olfa Mahjoub is a Senior Researcher for the National Research Institute for Rural Engineering, Water, and Forestry (INRGREF) under the Ministry of Agriculture in Tunisia. She has a MSc in Horticultural Sciences from INAT, Tunisia and a PhD in Water Sciences from University of Montpellier 1, France. She works in the water sector focusing her research on the reuse of wastewater in agriculture, related practices, perceptions, and impacts on health and the agricultural environment. One of her favorite subjects is the study of emerging pollutants in water resources in developing countries. She has published numerous peer-reviewed papers, two book chapters, and contributed to international reports. She is co-chair of a DAAD funded project on emerging pollutants and the country coordinator for international research projects on wastewater reuse in agriculture and environmental pollution funded by USAID and USDA. Dr Mahjoub is Guest Editor of the peer-reviewed journal Clean Soil, Air, Water. She has served as President of the Arab World Association for Young Scientists (ArabWAYS) since 2011 and is a member of the international organizations IWA and OWSD. She has participated in numerous international events and received grants from DAAD, OWSD, Italy, and the Maghreb Alexander von Humboldt Alumni Associations, SIWI, MESAEP, ISESCO, etc. She is alumni of the International Visitor Leadership Program (IVLP) funded by the American Department of State

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Research Interest: Biosensors, Food safety, Environmental security

Biographical sketch: Mouna Marrakchi is an Associate Professor at the Higher Institute of Applied Biological Sciences of Tunis , Tunis El Manar University and Researcher at the Laboratory of Microbial Ecology and Technology of the National Institute of Applied Sciences and Technology. She received an Engineering degree in Industrial Biology from the National Institute of Applied Sciences and Technology of Tunisia in 2002 and a Master's degree in Medical and Biological Engineering from the Claude Bernard University of Lyon, France in 2003. In December 2006, she obtained her PhD in Bioengineering from the Ecole Centrale of Lyon, France. Dr. Marrakchi has been the recipient of multiple awards including: the High-Level Scientific Fellowship in France; the Fulbright Visiting Scholar (2013 – 2014) in New York, and the Post-Doctoral Position for Education and Research (2006 – 2007) in Lyon, France.

Her research activities deal with the immobilization of different type of bioreceptors, as enzymes, microorganisms and antibodies, for biosensor development with special focus on the environmental monitoring of different toxic enteric viruses, pesticides, toxins. Different types of businesses (immunological and enzymatic) are tested to develop a sensitive and reliable analytical system for mycotoxin detection in foods. Also, during her Fulbright Fellowship at Clarkson University, Dr. Marrakchi worked on the use of a new type of antimicrobial peptide for bacterial pathogen detection.

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Research Interest: Drug Design

Biographical sketch: Dr. Mayhoub graduated from the School of Pharmacy of Al-Azhar University, Egypt in 2002. He obtained MSc in Pharmaceutical Chemistry in 2007 before joining the research group of Prof. Mark Cushman at Purdue University, USA. Dr. Mayhoub's research has been recognized with the Research Outstanding Award of ESANA in 2012. After graduation, he joined the Lab of Dr. Sylvie Tsodikova at the University of Michigan as a postdoc. Currently, he works at both Al-Azhar University as a Lecturer and as a Scientific Consultant at Al Andalous Medical Company. His work has been presented in 25 journal papers, three patents, and 17 international conferences and meetings. His main contributions in the field of Medicinal Chemistry include development of several cancer chemopreventive analogues based on the structure of resveratrol natural product, and extremely potent aromatase inhibitors. He also has significant contributions in the field of antiflaviviral agents. He discovered phenylthiazoles as a new antibacterial class of compounds for treatment of lethal bacterial strains MRSA and VRSA and is the first researcher to suppress Eis protein as a new target for treatment of XDR-TB. Currently, his lab has four funded grants. The main goal of his research is to develop small molecules that can modulate certain biological pathways selectively with a special focus on "Druggability". He is also interested in the field of nanocarriers as a tool for controlling the pharmacokinetics.

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Research Interest: Chemistry

Biographical sketch: In 1994 Stephen A. Miller received coterminal B.S. and M.S. degrees in Chemistry from Stanford University And earned a PhD in Chemistry at the California Institute of Technology in 1999 before conducting postdoctoral research with Nobel Laureate Richard R. Schrock at the Massachusetts Institute of Technology during 2000–2001. He held the position of Assistant

Professor of Chemistry at Texas A&M University from 2001 until 2007, when he accepted his current positions of Associate Professor of Chemistry and Member of the Butler Polymer Research Laboratory at the University of Florida. His primary research efforts include olefin polymerization with single-site catalysts and the synthesis of biorenewable and degradable polymers that mimic petroleum-based plastics. He is a co-founder and the Chief Technology Officer of Florida Sustainables and of U.S. Bioplastics (http://usbioplastics.com/). He is a member of the Global Young Academy (http://globalyoungacademy.net) and has twice attended the World Economic Forum/Annual Meeting of the New Champions as a Young Scientist (2010, Tianjin; 2011 Dalian). Notable awards include the National Science Foundation CAREER grant (2005–2011) and the 2011 Cade Prize for Innovation.

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Research Interest: Molecular Virology & Vaccination

Biographical sketch: Dr. Mohamed has been fascinated by the field of Clinical Virology since her undergraduate studies. Research in clinical virology After returning from her international studies which began in 2001, Dr. Mohamed returned back home to join the Al-Neelain University teaching staff, at the Medical Research Center and tostudy the common infectious diseases in Sudan, such as Tb, viral meningitis, RVF, HIV & HCVwhich aided in the development of her thesis. She has supervised several graduate students during their research projects and given particular assistance to her female students as they often struggle with engrained gender biases. Her goal is to acquire a professorship as well to establish her own group in her home country.

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Research Interest: Materials Science & Engineering

Biographical sketch: Shashi Murthy is an Associate Professor of Chemical Engineering and the Founding Director of the Michael J. and Ann Sherman Center for Engineering Entrepreneurship Education at Northeastern University in Boston, USA. He earned his PhD in Materials Science & Engineering at MIT (2003), his B.S. in Chemical Engineering at Johns Hopkins University (1999), and joined Northeastern in 2005 following a postdoctoral fellowship at the Harvard Medical School and Massachusetts General Hospital. Prof. Murthy holds visiting appointments at the Massachusetts General Hospital, Shriners Hospital for Children, and the Broad Institute or Harvard and MIT. Prof. Murthy is the recipient of the U.S. National Science Foundation's Faculty Early Career Development (CAREER) Award and the Søren Buus Award for Outstanding Research in Engineering at Northeastern

University. He has co-authored over sixty publications in the areas of microfluidic cell separation and biomaterials, is an inventor on five issued or pending patents, and a founder of Quad Technologies Corp., a startup focused on commercializing cell capture/release hydrogels designed in his laboratory. Prof. Murthy is also a member of the Features Advisory Panel of the American Chemical Society journal Analytical Chemistry.

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Research Interest: Microbiology/ Biofilm formation

Biographical sketch: Dr. Musafer is a self-motivated Microbiologist with six years of experience in research and highly knowledgable in microbiology techniques and of laboratory tests used in microbiology work. She has hands on experience in diagnostic problems involved in determining the cause and control of disease and is proficient in methods and practices of microbiological analysis.

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Research Interest: Nanotechnology for PV and Memory

Biographical sketch: Ammar Nayfeh received his Bachelor's degree from the University of Illinois Urbana Champaign in 2001 in Electrical Engineering and his Master's and PhD in 2003 and 2006 from Stanford University. His research focused on heteroepitaxy of Germanium on Silicon. After his PhD, he joined AMD as a Researcher working in collaboration with IBM. before spending a year as a consultant with PDF solutions and later, a silicon valley start up, Innovative Silicon (ISi) in 2008. In addition, he was a part time professor at San Jose State University. In June 2010, he joined MIT as a visiting scholar and became a faculty member at the Masdar Institute of Science and Technology in Abu Dhabi, UAE. He is Director of the Nano Electronics and Photonics Laboratory where his primary research interests are nanotechnology for future PV and low power memory devices. Professor Nayfeh is currently an Associate Professor in the Department Electrical Engineering and Computer Science (EECS) at the Masdar Institute of Science and Technology. Professor Ammar Nayfeh has authored or co-authored over 60 publications and holds two patents. He is a member of IEEE, MRS and Stanford Alumni Association. He has received the Material Research Society Graduate Student Award, the Robert C. Maclinche Scholarship at UIUC, and a Stanford Graduate Fellowship.

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Research Interest: Drug delivery systems

Biographical sketch: Dr. Odeh obtained a PhD in Physical Chemistry in 2006 from Clarkson University, Potsdam, NY, USAand her main field of interest is drug delivery systems (DDS). She is amoung a select few in Jordan who established a line of research dealing with DDS based both on soft and hard nanoparticles and she has established a very good collaboration with the Pharmaceutical Industry in Jordan in the research field to enhance present formulations and start new ones which has led to a pending patent. The main focus of her research now is to enhance the usability of phytochemicals obtained from plants in Jordan by overcoming the difficulties that prevented their usage such as poor solubility, toxicity and, stability issues.

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Research Interest: Global Food Security, Plant microbial interaction, biodiversity of plant root microbes

Biographical sketch: The long term research interests of Dr. Saad involve the development and establishment of a global knowledge database of desert rhizosphere microbes and their use in re-establishing sustainable agricultural systems in arid lands. His academic training and research experience has provided him with an excellent background in multiple biological disciplines including molecular biology, microbiology, bioinformatics and biochemistry. As an undergraduate, he joined a research team on the AGERI project in Egypt and the BBA project in Germany which focused on the plant-virus interaction and provided extensive experience in virus diagnostic, purification and characterization. As a PhD student at Geneva University, Switzerland, his research focused on the plant-Microbes interaction and different signals used by the two partners to establish successful symbioses and N2 fixation. He established a number of Omics-platforms to highlight different components involved in this process. For his post-doctoral training at INRA-CNRS, France and UNIGE-Switzerland, he join a team interested in the bacterial diversity and was involved in the annotation of the genome sequence of different B-protobacteria to study different mechanisms used by bacteria for survival. The accumulated experiences in the field of plant microbial interaction was the foundation for new challenges as a Senior Research Scientist at KAUST in Saudi Arabia where he explores the biodiversity of desert microbes and their potential role to enhance the stress tolerance of crop plants.

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Research Interest: Chemical reaction and design, control systems, mathematical models, and numerical computing methods and optimization

Biographical sketch: Ahmmed Saadi is an Associate Professor in Chemical Engineering at UiTm University. He received a BSc degree from AL-Nahrain University in Iraq,earned his Master's degree from the Technology University in Iraq and his PhD from University Malaya. He is experienced in different software MATLAB, MATHCAD, ASPEN, HYSYS, and NERO SOLUTION. Dr. Saadi has significant experience in many subjects and his current areas of interest are chemical reaction and design, control systems, mathematical models, and numerical computing methods and optimization. He has authored more than 100 articles and eight books covering a range of subjects on chemical engineering including mass transfer, heat transfer, chemical reaction, optimization, control, catalyst surface reactions and fluid flow. Dr. Saadi is an editor for three journals and reviewer in six others. He is a member in Australian Institute of High Energetic Materials and serves as a main reviewer and member of the American Cancer Society.

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Research Interest: Electromagnetic Engineering

Biographical sketch: Amr Safwat received a BSc and MSc from Ain Shams University in 1993 and 1997 and a PhD from the University of Maryland at College Park in 2001, all of which are in Electrical Engineering. He worked at Cascade Microtech Inc. in 2001 before joining the Electronics and Communication Engineering Department, Ain Shams University the following year as a professor. Dr. Safwat held visiting professor positions at the Otto-Von-Guericke University, Magdeburg, Germany in 2004, the "Institut National Polytechnique de Grenoble", Grenoble, France in 2005,, and the Radio Laboratory and MilliLab, Helsinki University of Technology, Finland in 2006. In 2008, he was awarded the Egyptian Encouragement State Prize for Engineering Sciences. His current research interests include metamaterial, microwave passive planar structures, compact size antennas, and microwave photonics.

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Research Interest: Mathematical, biomechanical, and scientific computation

Biographical sketch: Dr. Padmanabhan Seshaiyer is a tenured Professor of Mathematical Sciences at George Mason University (GMU) and serves as the Director of the STEM Accelerator Program in the College of Science as well as the Director of COMPLETE (Center for Outreach in Mathematics Professional Learning and Educational Technology). His research interests are in the broad areas of computational mathematics, scientific computing, computational biomechanics and STEM education. During the last decade, Dr. Seshaiyer initiated and directed a variety of educational programs including graduate and undergraduate research, faculty development, K-12 outreach, teacher professional development, and enrichment programs to foster the interest of students and teachers in STEM at all levels. He has mentored several student projects on real-world application of mathematics and has won numerous awards for his outstanding research, teaching and service. He has delivered keynote and plenary talks at several national and international meetings and also have given TEDx talks. In 2013, he was elected both as a new Councilor for the Mathematics and Computer Science Division, Council on Undergraduate Research as well as the US National Commission for Mathematics Instruction, National Academy of Sciences. He is currently engaged in university partnerships to help build STEM capacity in developing countries including Tanzania, Philippines, Myanmar, Latin America and Caribbean Countries.

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Research Interest: Nanotechnology-chemistry-nanostructured polymers

Biographical sketch: Dr. Amal was the first Egyptian scientist who attended Summer DAVOS 2009-China based on the initiative of IAP to empower young scientists worldwide. She then became a co-founder of the Global Young Academy (GYA) in 2010 and was the one who reached out to ASRT to establish the Egyptian Young Academy of Sciences (EYAS)and currently acts as its co-founder. She served as the executive committee member of GYA from 2010 to2013, where she was the group leader of Women in Science and a member of the selection committee of GYA. Most recently, she has acted as co-founder for the Islamic Young Academy. With a DAAD scholarship, she earned her PhD from Cairo University. She has performed research at various institutions in France, USA, and Germany. She has supervised and several international and national projects, and has also mentored postgraduate students. She organized and attended numerous national and international events and facilitated two memorandums of understanding between Egypt, Georgia and MTU-USA. She is founder, president and coordinator of both of the Egyptian Society and Arab Network of Advanced Materials and Nanotechnology. She is a TWAS Young Affiliate for the past four years and a member of the Arab-German Young Scientists Forum in 2011. She is also a member of many scientific organizations and has many scientific publications on nanotechnology and polymer technology.

Prof. Sameer Sonkusale
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Research Interest: Nanoscale science and engineering,

Biographical sketch: Professor Sonkusale is as an Associate Professor of Electrical Engineering and an Adjunct Professor of Biomedical Engineering at Tufts University. Prior to coming to Tufts, he was an Assistant Professor at Texas A&M University in College Station Texas from 2002 to 2004. During 2011, he was a visiting Associate Professor of Medicine at Harvard Medical School and Brigham and Women's Hospital. Sonkusale served as an Associate Dean of Graduate Education for 2012-2013 at Tufts University's School of Engineering. He received his MSc and PhD in Electrical Engineering from University of Pennsylvania. His undergraduate degree is in Electrical and Electronics Engineering from Birla Institute of Technology and Science Pilani, India. Sonkusale's teaching and research interests are in the areas of sensors, devices, circuits, and instrumentation for applications in healthcare and the environment. Sonkusale received the National Science Foundation CAREER award in 2010 and has won several best paper awards with his students at international conferences (NANO 2008, SENSORS 2008, ISDRS 2009, FTM 2009). Sonkusale is a past associate editor of IEEE Transactions of Circuits and Systems-I and is currently the chair of the Biomedical and Lifesciences Circuits and Systems Technical Committee of the IEEE CAS Society. He is also on the Technical Program Committees of several conferences including ISCAS, BIOCAS SENSORS, and EMBC. He is a senior member of the IEEE, OSA, MRS, AAAS and Eta Kappa Nu.

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Research Interest: Structural Biology and structure based drug design

Biographical sketch: Sameh Soror is an Associate Professor of Biochemistry and Molecular Biology at the Faculty of Pharmacy Helwan University and Director of the Centre for Scientific Excellence "Helwan Structural Biology Research (HSBR)". He graduated from the Faculty of Pharmacy, Cairo University with honors 1997 and received his Master's degree in Genetics from Kaiserslautern University, Germany in 2003 followed by a PhD degree in Genetic Engineering in 2007. He worked as a postdoctoral researcher at the Free University of Brussels from 2008 to 2009 and 2011-2012 and at Flames Institute for Biotechnology (VIB) in Belgium from 2009-2011. Since 2013, he has been serving as Co-Chair of the GYA, to which he was admitted in 2011. He is member of the National Committee of Biochemistry and Molecular Biology in the Egyptian Academy of Scientific Research (ASRT) and he serves as a board member of the Global Council of the IAP Science Education Program (SEP). He was lionized at the World Economic Forum in 2012, and he received the state prize for advanced technological sciences from ASRT, Egypt.

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Research Interest: Patient specific design and manufacturing of 3D Tissue scaffolds, 3D in vitro tissue models, biomedical applications of Additive manufacturing, biometrology and bioreactors.

Biographical sketch: Dr. Binil Starly is currently appointed as an Associate Professor in the Industrial and Systems Engineering at North Carolina State University (NCSU). He directs the Laboratory for Engineered Tissue Systems Manufacturing engaged in the Tissue bioprocessing for Regenerative Medicine therapies and Engineered Tissue Model Systems for in-vitro drug screening systems. He has received the National Science Foundation CAREER award for research in engineering living tissue systems. He has published over 27 journal publications and awarded 1 US Patent in the field of design/manufacturing, customized biomedical implants and tissue model systems. Dr. Starly currently teaches courses for undergraduate and graduate students at all levels, which include Product Development, Engineering Statics, Engineering Economics, Computer Aided Design/Manufacturing, Biomedical Manufacturing and Manufacturing for Regenerative Medicine.

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Research Interest: Agricultural water modeling and management, crop simulation modeling

Biographical sketch: Dr. Suleiman earned his doctorate in crop simulation and agricultural water modeling from Michigan State University in the United States of America in 1999. Since then, Dr. Suleiman's research interests have been working on crop simulation modeling, climate change impact on crop water requirements and production, environmental modeling, land-atmosphere interactions, simulating evapotranspiration using remotely-sensed and ground-based data and soil water dynamics modeling.

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Research Interest: Computer Vision and Medical Image Analysis

Biographical sketch: Prof. Sundaramoorthi obtained his PhD in Electrical & Computer Engineering from Georgia Institute of Technology in 2008. He was a postdoctoral researcher in the Computer Science Department at University of California, Los Angeles between 2008 and 2010. In 2011, he was appointed jointly Assistant Professor of Electrical Engineering and Assistant Professor of Applied Mathematics and Computational Science at King Abdullah University of Science and Technology (KAUST). Prof. Sundaramoorthi's research interests are in computer vision, image processing, and medical image analysis. His recent interests are visual object tracking, visual object recognition, shape modeling and analysis, and medical image segmentation/registration of CT and MR images. He is particularly interested in the use of methods in partial differential equations, differential geometry, optimization theory, and estimation and control for problems in computer vision.

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Research Interest: Identification of molecular pathways that contribute to normal and tumor cell motility and invasion

Biographical sketch: Dr. Lubna Tahtamouni is an Associate Professor at The Department of Biology and Biotechnology at The Hashemite University. She joined The Hashemite University in 2005 after obtaining her PhD in cellular and developmental biology from Colorado State University, USA. She was appointed as the chair of the department for two consecutive years, 2011 to 2013, and was on sabbatical leave for the year 2013/2014 at German Jordanian University. She is on the editorial board of two international peer reviewed journals, HSOA Journal of Cancer Biology and Treatment and TANG (Official Publication of Association of Genuine Traditional Korean Medicine). In addition, she has been a member of The Hashemite University Institute Review Board (IRB). Her research focuses on two fields: The identification of molecular pathways that contribute to normal and tumor cell motility, and invasion and the understanding of the mechanisms of motility initiation. She believes that this line of reasearch will provide new diagnostic approaches and targets for the treatment of metastatic cancer. The other line is etiology of male infertility with an emphasis on spermatogonia stem cells and human sperm chromatin abnormalities.

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Research Interest: The role of nutrition in causing and preventing cancer

Biographical sketch: Reema Tayyem is an Associate Professor of Nutrition at the Hashemite University in Jordan. Prof. Tayyem earned her Bachelor of Science degree in Biochemistry from King Abdul-Aziz University in 1993 and her Master's in Human Nutrition in 1996 from The University of Jordan in Jordan, Amman. In 1998, she joined the doctoral program in Clinical Nutrition at The University of Jordan at Jordan, Amman. She received the L'Oreal UNESCO Fellowship for Women in Science in 2005 and completed her post-doc at University of California,San Diego in 2005. Professor Tayyem has been the recipient of numerous honors and awards and has presented her research at international conference meetings and workshops. Additionally, Prof. Tayyem has published more than 46 papers in different nutrition areas. She formulated different types of flour for different genetic diseases and has one patent registered that involves the preparation of Arginine supplement powder.

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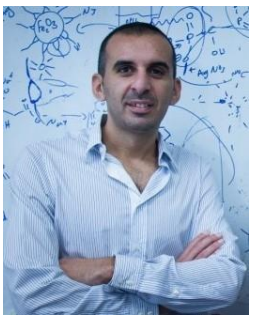

Research Interest: Material Science

Biographical sketch: Ali Trabolsi received his BSc degree in Chemistry from the Lebanese University in Beirut. In 2002, Ali moved to Strasbourg, France, where he obtained his Master's and PhD in Analytical Chemistry under the supervision of Dr Anne-Marie Albrecht-Gary in 2006. Ali then joined the group of Professor Fraser Stoddart at UCLA as a postdoctoral scholar where he spent one year before moving with the Stoddart group to Northwestern University in Evanston, IL. At the end of 2009, Ali joined KAUST in Saudi Arabia as a Research Scientist in the Advanced Membrane and Porous Materials Center where he stayed two years. In August 2011, Ali started his independent career as an Assistant Professor at New York University Abu Dhabi. At NYUAD, Ali's research interests are in designing Supramolecular Multifunctianol systems (Molecular switches, delivery systems) that can have applications in different fields. The Trabolsi Group is also interested in advancing the understand of nontrivial structures. Ali has co-authored more than 45 papers to date. Recently, he has been awarded the Research Enhancement Fund from NYUAD.

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Research Interest: Environmental Fluid Mechanics

Biographical sketch: Professor Subhas Karan Venayagamoorthy is an Associate Professor of Civil and Environmental Engineering and Borland Professor at Colorado State University (CSU). He received his BSc (summa cum laude) and MSc (cum laude) degrees in Civil Engineering from the University of Natal in Durban, South Africa in 2000 and 2002, and his PhD in Civil and Environmental Engineering from Stanford University, USA, in 2006. He conducts fundamental cutting-edge research in environmental fluid mechanics (e.g. flow turbulence and modeling) related to broader applications in engineering, oceanography, and atmospheric science. His research expertise is primarily in computational flow modeling in combination with theoretical and experimental methods. This ranges from fundamental studies on turbulent mixing in natural flows such as in rivers, estuaries, and the coastal oceans to applied research on mixing disinfection tanks for drinking water treatment and modeling of flow around wind farms for energy production. He is a recipient of several awards including the NSF CAREER Award, the Office of Naval Research Young Investigator Award and the CSU Best Teacher Award.

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Research Interest: Environmental nanotechnology

Biographical sketch: Professor Peng Wang received his PhD in Environmental Science and Management from University of California at Santa Barbara (UCSB) in 2008. He joined King Abdullah University of Science and Technology (KAUST) in 2009 and is currently an Associate Professor and the Program Chair of Environmental Science and Engineering (EnSE) at KAUST. He is the principal investigator of the Environmental Nanotechnology Laboratory at KAUST and his current research focuses on: (1) development of multifunctional porous nanomaterials for highly efficient and selective removal of water decontaminants; (2) interfacial materials with controllable surface wettability for oil/water separation, water collection, oil spill cleanup, and anti-fouling surfaces; (3) photoelectrocatalysis and photocatalysis for water purification and water splitting.

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Research Interest: Photonics for ICT

Biographical sketch: Mourad Zghal is a Professor at the University of Carthage, Tunisia. He received his PhD in Electrical Engineering from Tunis El-Manar University in 2000. His scientific activities are mainly focused on integrated optical devices, design and characterization of photonic crystal fibers, and nonlinear propagation of ultrashort pulses. Prof. Zghal has served on numerous program and steering committees of international scientific conferences and was co-chair of the 2013 edition of the ETOP (Education and Training in Optics and Photonics) Conference. In addition to his research activities, Prof. Zghal has been active in promoting photonics in Tunisia and Africa. He was a 2002 co-founder and current president (2012-2015) of the Optical Society of Tunisia, a member of the ICO family. He also co-founded the African Laser Center, an organization encouraging the exchange of researchers and students across Africa. Prof. Zghal has been awarded the 2008 ICO/ICTP Gallieno Denardo prize for "his original work in the development of numerical modelling techniques for photonic crystal fibres, and for his active commitment aimed at the diffusion of research in optics in Africa." Prof. Zghal is senior member of OSA and a SPIE Fellow.

Guests

Dr. Teofilo (Jun) Abrajano
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Biographical sketch: Dr. Jun Abrajano is the Director of the Office of Competitive Research Funds (OCRF) at KAUST. He came to KAUST from the US National Science Foundation (Arlington, VA), where he held various positions including Program Director of Geobiology and Low Temperature Geochemistry, Head of Surface Earth Processes Section, Division Director of Earth Sciences, and Deputy Assistant Director of the GEO Directorate. Prior to joining NSF, Dr. Abrajano was a Professor of Earth and Environmental Sciences at Rensselaer Polytechnic Institute (Troy, NY) and the Director of its Environmental Sciences Program, Professor and Chair of Environmental Sciences at Memorial University (St. John's, Canada), and Scientist at the Chemical Technology Division of Argonne National Laboratory (Lemont, IL). His research focused on analytical developments in continuous flow-stable isotope mass spectrometry and elucidating the biogeochemistry and geomicrobiology of modern and ancient aquatic systems. Dr. Abrajano received his PhD in Earth and Planetary Sciences from Washington University (St. Louis, MO) in 1984. He is a Fulbright Fellow and a Fellow of the Geological Society of America.

Yara Abu Laban
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Mrs. Abu Laban joined the Regional ESTH Office on November 2008. Mrs. Abu Laban holds a BSc. in Water Management and Environment and has more than ten years of experience focused on outreach and policy in environmental issues. Prior to joining the embassy team, Mrs. Abu Laban worked for CDM Smith; an American consultancy company managing the outreach campaign of a USAID funded program focused on integrated water management and pollution prevention.

From 2004 to 2006 Mrs. Abu Laban worked for the Jordan Football Association implementing a “children in conflict zones” program funded by the Danish government. The program engaged trainers and children from Jordan, Syria and Lebanon in grassroots sports as a tool for social cohesion in societies torn by conflicts, offering capacity building, and community development through sports.

Mrs. Abu Laban also worked briefly for the Greater Amman Municipality as an environmental and health inspector.

Haifa Al-Attia
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Since 2012, Haifa Dia Al-Attia has been leading the Queen Rania Foundation for Education and Development, an NGO that is charged with leading innovation in education with the goal of improving its quality and state in Jordan. Haifa received her BA from the American University of Beirut and also enrolled in the Bath University MA in International Education program. From a teaching post at the Ministry of Education, she moved to the Royal Court where she then became Deputy Director of the Office of the Crown Prince in 1994 and Education Adviser until July 2005. She helped found the Amman Baccalaureate School and served for 23 years on its Board of Trustees. Mrs. Al-Attia was elected Vice President of the International Baccalaureate Organization's Council of Foundation where she championed equal access to IB programs worldwide and also acted as the IBO's Regional Representative for the Middle East for over 20 years. In 2006, Haifa joined the Aga Khan Academies as a Consultant and worked to set up 18 schools in 14 developing countries. Over those years she was also involved with the United World Colleges Movement and with the European Council for International Schools. A member of the International Women's Forum, she served on its Global Board for two years and was Treasurer of IWF/Jordan, chairwoman of its communications committee, and a member of its Leadership Enhancement and Mentoring Program (LEMP).

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Biographical sketch: Prof. Ahmed Al-Harrasi received his BSc in Chemistry from Sultan Qaboos University (Oman) in 1997. Then he moved to the Free University of Berlin from which he obtained his MSc in Chemistry in 2002 and then his PhD in Organic Chemistry in 2005 as a DAAD-fellow under the supervision of Prof. Hans-Ulrich Reissig. His PhD work was on New Transformations of Enantiopure 3,6-Dihydro-2H-1,2-oxazines. Then he received the Fulbright award in 2008 for postdoctoral research in chemistry for which he joined Prof. Tadhg Begely's group at Cornell University where he worked on Synthesis of isotopically-labeled thiamin pyrophosphate. He is currently Professor of Organic Chemistry and Dean of Research at the University of Nizwa, Oman. He has several funded projects with a budget that exceeds three millions USD. He is a referee for more than 15 International chemistry and biotechnology Journals. He has authored and co-authored over 100 scientific papers.

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Nafez is a the founding director of Edraak.org, an online education effort of the Queen Rania Foundation aiming to provide free high quality online and blended education to Arabic speakers across the region. Edraak is the first Arabic instance of the OpenEdx platform developed by Harvard and MIT. In less than 6 months, Edraak has managed to reach over 110,000 Arabic-speaking learners across the region and a course completion rate of approximately 10%. Edraak's learners come from all across the region and include disadvantaged youth in Gaza, Syria, and Iraq.

Previously, Nafez was a strategy consultant with PwC's Education Practice working with different governments across the GCC, focusing on education to employment transitions. Nafez is a member of the World Economic Forum's Global Shaper community (attending the Global Agenda Council Meeting in Dubai in 2012 and the Annual Summit in Davos in 2013). Nafez writes on education reform and technology regularly on different Arabic and English publications. At Yale he completed a yearlong, award winning, thesis on the Obstacles towards Curriculum Reform in the Middle East, using Jordan and the UAE as case studies, of which the Mohammad Bin Rashed School of Government (formerly Dubai School of Government) published a summary. He recently completed a 6 week fellowship with New America in Washington D.C. working on the crossroads of Islamic education and Arab identity after the 2011 revolutions.

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Biographical sketch: Kyriacos completed his PhD at the University of California, San Francisco. His work focused on Neglected Tropical Diseases (NTDs), with an emphasis on drug development, target identification and high-throughput screening. After completing his doctoral work he worked at the U.S. Department of State as a Management Analyst. In this role, he managed multiple foreign assistance instruments to support projects in energy, environment, climate change mitigation/adaptation, and economic growth in Latin America and the Caribbean. He is currently an American Association for the Advancement of Science (AAAS) Science and Technology Policy Fellow at the US Agency for International Development, fulfilling the role of Science and Technology Advisor for the Middle East Bureau.

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Biographical sketch: Dr. Moody Ebrahem Altamimi is the Internal Funding Team Lead in the Office of Competitive Research Funds (OCRF) at King Abdullah University of Science and Technology (KAUST) in Saudi Arabia. She is a founding member of the OCRF (formerly Global Collaborative Research) and is responsible for the management of a diverse portfolio of international cross-disciplinary science and engineering research funding programs. In her role as a founding member, Dr. Altamimi played an integral role in engaging an extensive network of over 30 top universities across the globe. Prior to joining KAUST, Dr. Altamimi was a Systems Developer at a privately held IT consulting firm where she developed software solutions for clients across multiple industry sectors, including government, finance and communications. Dr. Altamimi received her MSc in Software Engineering and her PhD in Computer Science, both from The George Washington University in Washington, DC. Her dissertation research focused on the search and retrieval of mathematical content. She is the recipient of the King Abdullah Scholar Award in recognition of her outstanding research efforts during her doctoral studies. Dr. Altamimi graduated with high honors from the King Abdulaziz University with a BSc in Computer Science.

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Following two years in the private sector, Mr. Reynolds, a career civil servant, has worked at the U.S. Department of Energy (15 years) and State Department (25) in a range of science, technology and engineering fields and related strategic planning, technology forecasting and assessment, non-proliferation, export controls and cooperative research, among other areas of responsibility. He served as DOE Representative for Western Europe at the US Mission to OECD in Paris from 1983-1986 and as Science and Technology Counselor in the US Embassy in Rome from 1996-2000 under a limited Foreign Service appointment.

Before assuming his current position, Reynolds was Deputy and Chief of Staff in the Office of the Science and Technology Adviser to the Secretary of State from 2000-2011, where he supported four successive Advisers. He led efforts to increase S&T personnel and literacy at State and the U.S. Agency for International Development, strengthen outreach to the U.S. and global S&T community, and foster mid- to long-term strategic planning at State, USAID and across the U.S. government, including the defense and intelligence communities. Mr. Reynolds has been a strong advocate for the seminal role of science and engineering in diplomacy, development and international relations. He has received Meritorious and Superior Honor Awards for his service.

As Senior Advisor for Space and Advanced Technologies, Office of International Communications and Information Policy, Bureau of Economic Affairs, Mr. Reynolds concentrates on the use of information and communications technologies and space assets for development; S&T and engineering for urbanization and resilient infrastructure; natural hazards mitigation and recovery; disruptive technologies; innovation, Internet governance and cybersecurity. In 2013-2014, he served as Chairman of the UN Commission on Science and Technology for Development, in Geneva. He is also a member of engineering advisory councils at Virginia and Purdue Universities and Engineers Without Borders, North America.

Mr. Reynolds earned a BA from the University of Virginia, combining pre-medical studies and international relations, including a year at the University of Copenhagen and Goethe Institute. He earned MS degrees in engineering and applied science from George Washington University and strategic intelligence from the National Intelligence University. Mr. Reynolds speaks and reads Spanish, Italian, French, and some German.

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Biographical Sketch: Dr. Jason P. Schrum is the Lead for Integrative Activities in the Office of Competitive Research Funds at the King Abdullah University of Science and Technology. In this role, Dr. Schrum identifies new innovative research opportunities where results may translate into meaningful Education and Economic Development outcomes. Prior to joining KAUST, Jason was the Scientific Affairs Manager in the Pfizer BioTherapeutics R&D Division Office of the SVP and Cambridge Site Head where he established and managed collaborations and partnerships with industry and academic partners, including the MIT Synthetic Biology Center and 23andMe. Before joining Pfizer, he was Senior Project Manager at NAXION, a former division of Booz Allen Hamilton, where he managed business intelligence, strategy, and lifecycle management cases with large pharmaceutical and biotech companies. Prior to NAXION, Jason was the Founding Scientist of Moderna Therapeutics, the mRNA Therapeutics company, where he developed the founding IP estate with Flagship Counsel, seed financing, operations, and scientific programs in chemistry, manufacturing, and biological platform expansion and led the preclinical development of the lead drug candidate compound ultimately leading to a $420M strategic partnership with AstraZeneca. Dr. Schrum spun Moderna Therapeutics out of the Venture Creation innovation arm of Flagship Ventures, a life science venture capital firm where he was a Flagship Entrepreneurial Fellow. He has authored publications in the journals Nature, JACS, JBC, and Cold Spring Harbor Lab Press. He has numerous issued US Patents and pending patent applications. He completed his PhD at Harvard Medical School in Biological Chemistry and Molecular Pharmacology with Jack W. Szostak, 2009 Nobel Laureate in Medicine. Jason graduated with high honors from the University of Michigan with degrees in Cellular and Molecular Biology, Music History, and Harpsichord Performance.

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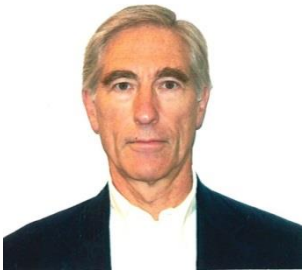

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