1st Arab-American Frontiers of Sciences, Engineering, and Medicine Symposium
Kuwait Institute for Scientific Research * U.S. National Academies
October 17-19, 2011 in Kuwait City

PROGRAM - (Sessions listed in alphabetical order)

**Agriculture**
Organizers:
Ahmad Al-Salman, Sultan Qaboos University, Sultanate of Oman
Asaad Khalid, National Research Center, Sudan

Speakers:
*Use of Mathematical Models in Developing Strategies for Sustainability*
Yaseen Al-Mulla, Sultan Qaboos University, Sultanate of Oman

*Addressing Climate Change Impacts in the Context of Multiple Stresses in North Africa Region*
Balgis Osman Elasha, African Development Bank, Tunisia

*Role of GABA Shunt Pathway in Plant Abiotic Stress Tolerance*
Nisreen Al-Quraan, Jordan University of Science and Technology, Jordan

*Using Modern Tools to Investigate Control of and Engineer Specialized Metabolism in Medicinal and Invasive Plant Species*
David R. Gang, Washington State University, USA

**Diabetes**
Organizers:
Hari Pujar, Merck & Co., Inc, USA
Lama Yousef, Damascus University, Syria

Speakers:
*Alarming High Prevalence Rates of Diabetes and Metabolic Syndrome in Arab countries: Data from Jordan*
Yousef Khader, Jordan University of Science and Technology, Jordan

*Diabetes Mellitus in the Middle East: Challenges for the Clinician*
Marie Merheb, Mount Lebanon Hospital, Lebanon

*Designing Antigen-specific Immunotherapy for Treatment of Type 1 Diabetes*
Kristin Tarbell, National Institutes of Health, USA

*Regulation of Systemic Energy Balance and Glucose Homeostasis by Protein-Tyrosine Phosphatase 1B*
Fawaz G. Haj, University of California Davis, USA

Support of the 1st Arab-American Frontiers Symposium is provided by the Kuwait Foundation for the Advancement of Science, the Richard Lounsbery Foundation, and the U.S. Agency of International Development.
Energy
Organizers:
Fajhan Al-Mutairi, KISR, Kuwait
Ghada Amer Benah University, Egypt

Speakers:
* Waste to Energy via Thermochemical Pathways*
  Isam Janajreh, Masdar Institute, UAE

* Developing Contacts for Improved Performance and Lifetime in Organic Photovoltaics*
  Dana C. Olson, National Renewable Energy Laboratory (NREL), USA

* Molecular Materials for Electronic and Solar Energy Applications*
  Aram Amassian, KAUST, Saudi Arabia

Linkages
Organizers:
Habibah Al-Manaie, KISR, Kuwait
Rula Deeb, ARCADIS U.S., Inc., USA

Speakers:
* Recovering Ammonia for Hydrogen Biofuel Production during Anaerobic Digestion*
  Donna Fennell, Rutgers University, USA

* Virtual Water Trade for Agriculture Water Demand Management under Climate Change in the Middle East*
  Mutasem El-Fadel, American University of Beirut, Lebanon

* Mycological Linkages between Renewable Energy and Agriculture*
  Scott Baker, Pacific Northwest National Laboratory, USA

* Management of Obesity in Diabetes: Making the U turn*
  Ebaa Alozairi, Kuwait University, Kuwait

Support of the 1st Arab-American Frontiers Symposium is provided by the Kuwait Foundation for the Advancement of Science, the Richard Lounsbery Foundation, and the U.S. Agency of International Development.
Water
Organizers:
Sherien Elagroudy, Ain Shams University, Egypt
Ziad Mimi, Birzeit University, Palestine

Speakers:
Probing Shallow Aquifers in Northern Kuwait Using Airborne Sounding Radars
Essam Heggy, NASA Jet propulsion Laboratory, California Institute of Technology, USA

Latest Technologies in Water Desalination
Amy Childress, University of Nevada, USA

Water Reuse – Overview, Technologies, Public Awareness and Obstacles
Pascal Saikaly, KAUST, Saudi Arabia

Sustaining Financial Investment in the Field of Water Management
Mohamed A. Dawoud, Environment Agency-Abu Dhabi, UAE