

# Speaker Sessions

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## **Sensor Processes, Circuits, and Networks**

Nader Behdad, University of Wisconsin – Madison, United States  
Yousef Bentoutou, Algerian Space Agency, Algeria

*Pushing the Envelope for Wireless Sensor Networks*  
Mohamed-Slim Alouini, KAUST, Saudi Arabia

*Terahertz Sensing Technologies and Applications*  
Mona Jarrahi, University of California Los Angeles, United States

*Blind Multi Sensor Processing: Concepts and Some Applications*  
Adel Belouchrani, Ecole Nationale Polytechnique, Algeria

*On Joint k-Coverage and Data Gathering in Mobile Wireless Sensor Networks: Challenges and Opportunities*  
Habib M. Ammari, Taif University, Saudi Arabia

## **Advanced Materials and Assemblies for Sensing**

Aram Amassian, KAUST, Saudi Arabia  
Baratunde Cola, Georgia Tech, United States

*3D Electronics Integration for Computing, RF, and Biological Sensing Applications*  
Muhammad Bakir, Georgia Tech, United States

*In-situ Reservoir Sensing and Intervention: The Concept of Reservoir Nanoagents*  
Mohammad Al Askar, Saudi Aramco, Saudi Arabia

*Reconfigurable Metamaterials for Remote Optical Sensing*  
Jon A. Schuller, UC Santa Barbara, United States

*Dynamics of Shallow Arched Microstructures*  
Mohammad I. Younis, KAUST, Saudi Arabia

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### **Advances in Biomedical Sensing Technology**

Mandë Holford, Hunter College, United States  
Rihab Nasr, American University of Beirut, Lebanon

*Democratization of Next-Generation Biomedical Imaging, Sensing, and Diagnostics Tools*  
Aydogan Ozcan, University of California, United States

*High Speed DNA-based Motors for Sensing Applications*  
Khalid Salaita, Emory University, United States

*Extracellular Space Volume Measured by Two-Color Pulsed Dye Injection with Microfiberoptic Fluorescence Detection*  
Mazin Magzoub, New York University Abu Dhabi, United Arab Emirates

*Edible Electronics: Materials and Structures for Next-Generation Medical Devices*  
Christopher Bettinger, Carnegie Mellon University, United States

### **Advances in Environmental Sensing**

Elizabeth Wilson, University of Minnesota, United States  
Mourad Zghal, Sup'Com – Tunis, Tunisia

*Data-Driven Social Sensor Networks (with applications in Mobile Health, Education and Public Safety)*  
Ahmed Helmy, University of Florida, United States

*Sensing and Modeling the Urban Microclimate Regime in Desert Cities*  
Prashanth R. Marpu, Masdar Institute of Science and Technology, United Arab Emirates

*SmarTrAC: A Smartphone Solution for Context-Aware Travel and Activity Capturing*  
Yingling Fan, University of Minnesota, United States

*Sensing in Smart Cities: Technology Advancements and Case Studies*  
Fethi Filali, Qatar Mobility Innovations Center (QMIC), Qatar

## Keynote Address

*Advances in Sensor Innovation enabled by Carbon Nanotechnologies: from Biomedical Tissue Implants to Plant Nanobionics*

Michael S. Strano, Massachusetts Institute of Technology, United States

## Sensors to Maintain Agroecosystem Health

Moncef Bouaziz, University of Sfax, Tunisia

James Harwood, University of Kentucky, United States

*Using Space-Borne Spectral, Thermal and Radar Remote Sensors together with GPR for Sustainable Agriculture Monitoring and Development*

Ahmed Gaber, Port-Said University, Egypt

*On the Link between Aridity and Hydrological Extremes: Lessons from Hyper-Arid Climates Could Help in Understanding Global Aridification*

Annalisa Molini, Masdar Institute of Science and Technology, United Arab Emirates

*Internet of Underground Things*

Mehmet Can Vuran, University of Nebraska-Lincoln, United States

## Integrated Approaches to Sensing Across Modalities

Jason P. Schrum, KAUST, Saudi Arabia

Joy Ward, University of Kansas, United States

*Smart-Pixel Designs for Advanced Imaging Applications*

Munir ElDesouki, King Abdulaziz City for Science and Technology, Saudi Arabia

*Music Recommendation through Multimodal Sensing*

Gert Lanckriet, UC San Diego, United States

*Carbon Nanotube Transistors for Sensing Applications*

Mohammed Amer, King Abdulaziz City for Science and Technology, Saudi Arabia

*Biosensing across Modalities: The Electrical, Chemical & Physical Senses of Neural Cells*

Amina Qutub, Rice University, United States