



The Center for Wireless Integrated MicroSensing & Systems

## Workshop on Microsystems Technologies and Applications for the Internet of Things — A MicRO Alliance Event

September 29-30, 2017

GM Room and EECS Atrium • North Campus, University of Michigan

All meetings will take place in the General Motors (GM) room (4<sup>th</sup> floor) of the Lurie Engineering Center (LEC) unless otherwise specified.

### Friday, September 29, 2017

7:30 AM Breakfast

8:00 AM **Welcome and Introduction**

*Yogesh Gianchandani, Center Director*

*Katsuo Kurabayashi, Director of International Academic Partnerships*

*Larry Tuttle, Industrial Liaison*

#### Session 1

8:15 AM **Connected and Automated Vehicles – Opportunities for WIMS<sup>2</sup> Members?**

*Huei Peng, Professor & Director, University of Michigan Mcity*

8:45 AM **High Performance Inertial Measurement Units**

*Khalil Najafi, Professor & Chair of EECS, University of Michigan*

9:15 AM **Non-mainstream Approaches to Wireless Energy Transfer**

*Ulrike Wallrabe, Professor, University of Freiburg*

9:40 AM **Microelectronic Technology for Autonomous Airborne Platforms**

*Kamal Sarabandi, Professor, University of Michigan*

10:10 AM Break

#### **Session II**

10:20 AM **Nanoplasmonic Biosensors for Clinical Diagnosis**

*Katsuo Kurabayashi, Professor, University of Michigan*

10:35 AM **Nanopore Fabrication on Graphene and SiO<sub>2</sub> Membrane Using Helium Ion Microscope for DNA Sensing Device**

*Kentarou Kawai, Assistant Professor, Osaka University*

10:50 AM **Nanocrystals and Nanowires: What we Learn if we go to the Limits**

*Margit Zacharias, Professor & Vice-President for Innovation and Technology Transfer, University of Freiburg*

11:15 AM **On-chip Perfusable Vascular Network for a Long-term Spheroid Culture**

*Ryuji Yokokawa, Associate Professor, Kyoto University*

- 11:30 AM **Manipulation and Sensing Techniques in Microscale Droplets Based on Novel Physiochemical Phenomena**  
*Amar Basu, Associate Professor, Wayne State University*
- 11:45 AM **Lab-on-CMOS Platforms for High Throughput, High Resolution Biomedical Sensing and Environmental Monitoring**  
*Andrew Mason, Professor, Michigan State University*
- 12:15 PM Lunch EECS Atrium

**Session III**

- 1:15 PM **MEMS Inertial Sensors and Quantifying Human Performance**  
*Noel Perkins, Professor, University of Michigan*
- 1:45 PM **MEMS Scanning Technology for Deep-Tissue Optical Endomicroscopy**  
*Kenn Oldham, Associate Professor, University of Michigan*
- 2:00 PM **Next Generation Solid-state Batteries Enabled by a New Class of Solid Electrolyte**  
*Jeff Sakamoto, Associate Professor, University of Michigan*
- 2:15 PM **Heterogeneous Integration of Power Electronics**  
*Becky Peterson, Assistant Professor, University of Michigan*
- 2:30 PM **Fracture Fabrication of a Vertical Nanogap for Energy Transport and Conversion**  
*Toshiyuki Tsuchiya, Associate Professor, Kyoto University*

**Session IV**

- 3:00 PM Poster Session/Competition EECS Atrium  
*Becky Peterson and Katsuo Kurabayashi*
- 5:00 PM Poster Awards
- 5:30 PM Dinner Johnson Rooms, LEC

**Saturday, September 30**

**Central Campus Tour and Brunch**

- 9:30 AM Tour
- 11:00 AM Brunch Pizza House  
618 Church Street