

## IMS/RFIC 2016 Workshop Information

# Workshop WSK- e-Health: Implantable Systems and Communications in the Human Body

### Workshop Information:

All- Day Workshop organized under IMS and RFIC 2016.

Date: Sunday May 22, 2016 (8am-5pm)

Workshop Organizers:

Amin Arbabian (Stanford University) and Francois Rivet (University of Bordeaux)

### Workshop Abstract:

This workshop aims to provide an overview of various in-body electronic systems, from applications to devices, with an emphasis on new technologies and emerging applications. Experts will discuss topics related to medical applications of implantable systems, device technologies to enable safe and long-term use of these technologies, in-body communication schemes and related tradeoffs, energy harvesting in the body, sensing and stimulation mechanisms for closed-loop operation, and future directions in the field. Various technological and legal questions are raised and the role of electronics and communication capabilities are assessed.

### Speakers:

- ***Advanced Implantable Neuromodulation Systems***  
**Kevin Kilgore**- Professor, Department of Orthopaedics at MetroHealth Medical Center and School of Medicine, Case Western Reserve University
- ***An Ultrasonic Pillcam***  
**Pierre Khuri-Yakub**- Professor, Department of Electrical Engineering, Stanford University
- ***Photovoltaic Restoration of Sight in Animals with Retinal Degeneration***  
**Daniel Palanker**- Professor, Department of Ophthalmology and the Hansen Experimental Physics Laboratory, Stanford University
- ***Brain Stethoscope: A Tool for Listening to the Tone of the Human Brain***  
**Josef Parvizi**- Associate Professor, Department of Neurology, Stanford University
- ***Optimizing Devices and Processing at the Bio-Electronic Interface***  
**Sylvie Renaud**- Professor, Bordeaux Institute of Technology
- ***Ultrasonically Powered mm-Sized Implantable Devices With Applications in Closed-Loop Neuromodulation***  
**Amin Arbabian**- Assistant Professor, Department of Electrical Engineering, Stanford University
- ***Intra-Body Communications - Radio-Frequency versus Ultrasonic***  
**Yann Deval**- Professor, University of Bordeaux
- ***Applications of Signal Propagation Through the Human Body***  
**Daniel Lai**- Senior Lecturer, Victoria University
- ***Soft Bio-integrated Sensors***  
**Roozbeh Ghaffari**, Chief Technology Officer, MC10 Inc.