Biomedical Sensors and Subsystems Projects

**A Near Infrared Opto-mechanical Intracranial Pressure**  
Mostafa Ghannad-Rezaie and Nikos Chronis

**BioBolt: A Minimally-Invasive Neural Interface for Wireless Epidural Recording by Intra-Skin Communication**  
Sun-Il Chang, Khaled AlAshmouny, and Euisik Yoon

**Braille-Driven Aqueous Two-Phase System Droplet Microfluidic System**  
David Lai, John P. Frampton, Hari Sriram, and Shuichi Takayama

**Micro- & Nanofluidics and Cellular Environomics**  
Toshiki Mastuoka, Byoung Choul Kim, and Shuichi Takayama

**Constant Flow-Driven Microfluidic Oscillator for Different Duty Cycles**  
Sung-Jin Kim, Ryuji Yokokawa, Sasha Cai Lesher-Perez, and Shuichi Takayama

**A 4 µW/Ch Fully Integrated Analog Front-End Scaled Toward Massive Parallel Neural Recording**  
Khaled Al-Ashmouny, Sun-Il Chang, and Euisik Yoon

**Silicon and Parylene Intracortical Neural Probes for Chronically-Stable Recording**  
Daniel Egert, Rebecca L. Peterson, and Khalil Najafi

**CD4+ T-Cell Counting Biochip for Monitoring HIV/AIDS in Resource Limited Settings**  
Anurag Tripathi and Nikos Chronis

**High-Throughput Photodynamic Therapy (PDT) Screening Chip with Oxygen, Photosensitizer and Light Exposure Controls**  
Xia Lou, Gwangseong Kim, Yong-Eun Lee Koo, Raoul Kopelman, and Euisik Yoon

**Ultrasound Microresonators for Neuron Stimulation**  
Rahman Sabahi-Kaviani and Nikos Chronis

**Microrheometers for Simple and Complex Fluids**  
Eric Livak-Dahl and Mark A. Burns

**Micro- and Nano-structured Dynamic Fluidic Systems**  
Ramsey Zeitoun, Thomas Westrich, and Mark A. Burns

**Dynamic Control of Nanoliter Droplet Volume and Composition**  
Ramsey Zeitoun, Marcus Goudie, and Mark A. Burns

**Microdroplet Enabled Parallel Co-Cultivation of Symbiotic Microbial Communities**  
Jihyang Park and Mark A. Burns
Multi-Analyte Detection Using Asynchronous Magnetic Bead Rotation
Irene Sinn and Mark A. Burns

Single Cells to Spheroids: Adaptable Single Cell Handling in Microfluidics for Cancer Stem Cell Screening
Patrick Ingram, Jaehoon Chung, Kun Yang, Ronald Buckanovich, Max Wicha, and Euisik Yoon

Smart Rapid Palatal Expander for Pediatric Cleft Lip and Palate Patients
Venkatram Pepakayala, Dongmin Yoon, Yoonmyung Lee, Tao Li, Yogesh Gianchandani, David Blaauw, Sunil Kapila and Jeanne M. Nervina