

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 μ W/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

Ultrasonic 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