# Scientific Program

## 2nd International Conference and Exhibition on

# Biosensors & Bioelectronics

June 17-19, 2013 Hilton Chicago/Northbrook, USA



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## Day 1 June 17, 2013

**08:30-09:30** Registrations

**Oak**

OMICS Group Conferences
Accelerating Scientific Discovery

**09:30-09:55** **Opening Ceremony**

## Keynote Forum

**09:55-10:00** Introduction

**10:00 -10:25** **George W. Gokel**
University of Missouri, USA

**10:25-10:50** **Ian Pepper**
University of Arizona, USA

**Coffee Break 10:50-11:05**

**11:05-11:30** **Jean-Pierre Leburton**
University of Illinois, USA

**11:30-11:55** **Sergey Y. Yurish**
International Frequency Sensor Association, Spain

### Track 1: Security and Sensing

**Session Chair: Hector Fernandez, University of Rio Cuarto, Argentina**
**Session Co-Chair: Jeffrey T. La Belle, Arizona State University, USA**

**Session Introduction**

**11:55-12:15** **The development of a multimarker, label-free electrochemical impedance based point-of-care technology**
**Jeffrey T. La Belle,** Arizona State University, USA

**12:15-12:35** **Real-Time sensing of microbial contaminants in potable water**
**Ian Pepper,** University of Arizona, USA

**12:35-12:55** **Rapid system integration of biosensors into bio-systems**
**Joanne Elizabeth DeGroat,** The Ohio State University, USA

**Lunch 12:55-13:40 @ Pond View**

**13:40-14:00** **Electrochemical detection of Avian Influenza Virus genotype using ssDNA probe modified gold electrode**
**Jerzy Radecki,** Institute of Animal Reproduction and Food Research of Polish Academy of Sciences, Poland

**14:00-14:20** **Prototype design of a wireless system for the equine industry**
**Tharshan Vaithianathan,** University of Melbourne, Australia

**14:20-14:40** **Electrochemical biosensors for the determination of analytes related to the agro alimentary and animal health system**
**Hector Fernandez,** University of Rio Cuarto, Argentina

**14:40-15:00** **Development of fetal phonocardiography system for twin and multi pregnancy**
**Jamel A Smida,** Majmaah University, Saudi Arabia

**15:00-15:20** **Wireless surface electrical stimulation with knee joint angle measurement system using gyroscope and flex bend sensors**
**Babul Salam,** Universiti Tun Hussein Onn Malaysia, Malaysia

**Panel Discussion**

### Track 2: Photonic Sensors

**Session Chair: Tigran Galstian,** Universite Laval, Canada
**Session Co-Chair: Miguel Holgado,** Universidad Politecnica de Madrid, Spain

**Session Introduction**

**15:20-15:40** **The challenges of developing and commercializing microfluidic devices for In vitro diagnostics applications**
**Peng Li,** Rheonix, USA

**15:40-16:00** **Quantum-Dot-Based biosensor of matrix metalloproteinase activity**
**Marek Osiński,** University of New Mexico, USA

**16:00-16:20** **Force-controlled injection and dispensing in liquid using the FluidFM**
**Tomaso Zambelli,** ETH Zurich, Switzerland

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|---|---|
| | **Coffee Break 16:20-16:35 @ Birch** |
| 16:35-16:55 | **Biophotonic Sensing Cells for measuring biological agents**<br>**Miguel Holgado,** Universidad Politecnica de Madrid, Spain |
| 16:55-17:15 | **Bioelectronics for Therapeutics based on the Integration of Micro-Electro-Mechanical-Systems (MEMS) and biomaterials**<br>**Noel. M. Elman,** Massachusetts Institute of Technology, USA |
| 17:15-17:35 | **All dielectric disposable micrometric temperature sensors for biomedical applications**<br>**Tigran Galstian,** Universite Laval, Canada |
| | **Panel Discussion** |
| **18:00-19:00** | Cocktails - Sponsored by **Journal of Biosensors & Bioelectronics** **@ Birch** |

## Day 2 June 18, 2013

### Oak

**Track 3: Nanobiosensors**

**Session Chair:** **Eric M. Vogel,** Georgia Institute of Technology, USA
**Session Co-Chair:** **Wan W. Amani Wan Salim,** Purdue University, USA

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| | **Session Introduction** |
| 09:00-09:20 | **Fabrication, characterization, and modeling of silicon-on-insulator fieldeffect- transistor nano-ribbon biosensors**<br>**Eric M. Vogel,** Georgia Institute of Technology, USA |
| 09:20-09:40 | **Development of a digital system for impulse noise generation and characterization on research of noise induced hearing loss (NIHL)**<br>**Jun Qin,** Southern Illinois University, USA |
| 09:40-10:00 | **Selection of inorganic binding peptides with electroactive properties by phage display techniques for biosensor applications**<br>**Ya-Wen Yeh,** University of Florida, USA |
| 10:00-10:20 | **Thin film bulk acoustic resonator biosensors with femtogram mass sensitivity**<br>**Andrew J. Flewitt,** University of Cambridge, United Kingdom |
| 10:20-10:40 | **CEL-C advanced bioCD - A Lab-on-a-Chip centrifuge platform for single-cell electrophysiology study**<br>**Wan W. Amani Wan Salim,** Purdue University, USA |
| | **Coffee Break 10:40-10:55 @ Birch** |
| 10:55-11:15 | **Cost-effective bionanocomposites as a route to scale-up construction of enzymatic biofuel cells**<br>**Jaroslav Filip,** Slovak Academy of Sciences, Slovakia |
| 11:15-11:35 | **Plasmonic-coupling-based advanced optical biosensing models**<br>**Dong Ha Kim,** Ewha Womans University, Korea |
| 11:35-11:55 | **Affinity based nanoparticles for quartz crystal microbalances sensors for thromboplastin time of Human whole blood**<br>**Munawar Hussain,** Tuebingen University, Germany |
| 11:55-12:15 | **Automated detection of biological threats with a centrifugal Lab-on-a-Chip system**<br>**Thomas van Oordt,** HSG-IMIT, Germany |
| | **Panel Discussion** |

**Track 4: Biosensors for Theranostics**
**Track 5: Biosensors for Imaging**
**Track 6: Bioinstrumentation**
**Track 7: Environmental Biosensors**

**Session Chair:** **Nazeih Botros,** Southern Illinois University, USA
**Session Co-Chair:** **Igor Sokolov,** Tufts University, USA

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| | **Session Introduction** |
| 12:15-12:35 | **Smart wireless system for monitoring and analyzing the health of the fetus**<br>**Nazeih Botros,** Southern Illinois University, USA |
| 12:35-12:55 | **A nontoxic, highly efficient method for transformation and transfection**<br>**George W. Gokel,** University of Missouri, USA |
| | **Lunch 12:55-13:40 @ Pond View** |
| 13:40-14:00 | **Molecular probe for visualization of HIV-1 protease inhibitor in living cells**<br>**Sha Jin,** University of Arkansas, USA |
| 14:00-14:20 | **AFM imaging of mechanical properties of cell surface for earlier and more reliable detection of cervical cancer**<br>**Igor Sokolov,** Tufts University, USA |
| 14:20-14:40 | **Tomgsynthesis imaging configuration optimization based on computer simulation**<br>**Ying Chen,** Southern Illinois University, USA |
| 14:40-15:00 | **Derivation of optimal molecular sensor dose for the detection of malignancies and technique optimization**<br>**Nasser Ali Aljarallah,** Majmaah University, Saudi Arabia |
| 15:00-15:20 | **SERS over ELISA for rapid and label-free detection of the response of stress markers to environmental toxins**<br>**Vinay Bhardwaj,** Florida International University, USA |
| | **Coffee Break 15:20-15:35 @ Birch** |

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| 15:35-15:55 | **A method for incorporating peptides into homogenous biosensors**<br>**Saurabh Rajendra Nirantar,** p53Lab, Singapore |
| 15:55-16:15 | **Electrochemical Immunosensors for detection of different type of viruses**<br>**Hanna Radecka,** Polish Academy of Sciences, Poland |
| 16:15-16:35 | **Biomedical fiber optics-Latest trends in high resolution imaging for medical diagnostics applications**<br>**Murukeshan Vadakke Matham,** Nanyang Technological University, Singapore |
| 16:35-16:55 | **Monitoring Biogeochemical Changes in the Subsurface**<br>**Charles E. Turick,** Savannah River National Laboratory, USA |
| 16:55-17:15 | **Multiplexed Protease activity assay for accurate diagnosis using droplet based microfluidics**<br>**Chia-Hung Chen,** National University of Singapore, Singapore |
| | **Panel Discussion** |
| 17:00-18:00 | **Poster Presentations** |
| 18:00-19:00 | Cocktails - Sponsored by **Journal of Bioengineering & Biomedical Science** @ Birch |

## Day 3 June 19, 2013

**Track 8: Biosensors for Live Imaging**
**Track 9: Advancement of Nanotechnology**
**Track 10: Biosensors in Drug Delivery**
**Track 11: Biosensors in Clinical Chemistry**

**Session Chair: Han-Kuan Anthony Tsai,** Hitachi Chemical Research Center, USA
**Session Co-Chair: Chia-Hung Chen,** National University of Singapore, Singapore

**Session Introduction**

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| 09:00-09:20 | **Supercritical Angle Fluorescence Technology: A high resolution tool to detect affinity binding, adsorption and aggregation at artificial and cellular surfaces**<br>**Stefan Seeger,** University of Zurich, Switzerland |
| 09:20-09:40 | **Novel Ionic polymer nano-composite (IPNC) actuator and sensor for biomedical applications**<br>**Han-Kuan Anthony Tsai,** Hitachi Chemical Research Center, USA |
| 09:40-10:00 | **Nanotechnology approaches to study amyloid toxicity in relation to Alzheimer's disease.**<br>**Zoya Leonenko,** University of Waterloo, Canada |
| 10:00-10:20 | **Penetration of Ni-P Metal into polymer by Electroless deposition utilizing supercritical carbon dioxide**<br>**Masato Sone,** Tokyo Institute of Technology, Japan |
| | **Coffee Break: 10:20-10:35 @ Birch** |
| 10:35-10:55 | **Designing of magnetic nanoparticle based diagnositic kit for direct detection of enteric fever: Evanescent-wave optical illumination approach**<br>**Mohita Upadhyay,** Indian Institute of Technology, India |
| 10:55-11:15 | **Dose optimization of molecular probes for young children and pediatrics for fMRI and FDG PET**<br>**Santhanaraj Balakrishnan,** Majmaah University, Saudi Arabia |
| 11:15-11:35 | **Biodegradable polymeric vesicles for multifunctional magnetic resonance imaging and in vitro fluorescence Imaging**<br>**Khalid M. Abu-Salah,** King Abdullah Institute for Nanotechnology, Saudi Arabia |
| 11:35-11:55 | **Immuno-sensing approach towards early lung cancer diagnosis and prognosis**<br>**Kavita Arora,** Jawaharlal Nehru University, India |
| 11:55-12:15 | **Intriguing application of nanoporous graphene oxide composite membrane in electrochemical nanobiosensing**<br>**Krishna P. Singh,** G. B. Pant University of Agriculture & Technology, India |
| 12:15-12:35 | **Telehaptic 3D Biomanipulation workstation for mechanical interactions with microstructures**<br>**Vijay Pawar,** University College London, UK |
| 12:35-12:55 | **Glucose microbiosensors based on single-stranded DNA wrapped single walled carbon nanotubes through layer-by-layer electrostatic self-assembly**<br>**Zhuo Kang,** University of Science and Technology Beijing, China |
| | **Panel Discussion** |
| | **Award Cermony** |
| | **Lunch: 13:30-14:15 @ Pond View** |


**Bookmark your dates**

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August 11-13, 2014 San Antonio, Texas, USA

OMICS Group Conferences
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