

Sensors in BioScience – from Research to Products

Presented by

Hampton Roads Technology Council's Sensor Science & Technology Forum Hampton Roads Research Partnership's Sensor and Bioscience Clusters

Date: 17 February

Location: Virginia Modeling Analysis & Simulation Center, Suffolk

Time: Registration and Networking: 7:30 – 8:30

Program: 8:30 – 12:30

Sensor development is a critical and integral component of bioscience. There is considerable effort going on in Hampton Roads both local universities, federal laboratories, and industry. This exciting and unique event will feature some of the extraordinarily advanced research under way, will review needed sensor development, and will highlight several opportunities for collaborative funding opportunities with some of the more advanced development projects.

The event will consist of two panels. Panel 1 will discuss bio-sensor research, general biosensor considerations/approaches and needs/opportunities in medicine. Panel 2 will highlight several specific applications, reviewing some exciting biosensor projects that are in the development stage and which create opportunity for collaboration with academia and industry.

8:30 – 8:40

Welcome and Introduction

8:40 – 10:00 Panel 1 Bio-Sensor Research and Considerations

Moderator: William Wasilenko, EVMS

Frank Lattanzio, PhD, Associate Professor Physiological Sciences, EVMS

“Biosensor development considerations and issues”

An overview of biosensor applications, signal processing and integration for tissue and cellular biomonitoring will be provided.

David Oelberg, MD, Professor Dept of Pediatrics, EVMS and Director, Division of Neonatal-Perinatal Medicine, Children's Hospital of the King's Daughters

“ Biosensor needs and challenges in medicine”

A discussion about some real clinical needs and applications for novel biosensors will be presented from a physician perspective.

Dr. Howard Kator, Associate Professor and Chair, Department of Environmental and Aquatic Animal Health, Virginia Institute of Marine Science

“Bioscience related-advanced technological application work at VIMS”

One area where technology and bioscience clearly intersect is a need to develop and apply new technologies to water quality monitoring and detection of contaminants. A. An instrumented tow-body named ACROBAT that can “map” water quality parameters in 2-D space will be presented.

Continuing population growth in the coastal zone creates increased risk of disease transmitted through consumption of shellfish contaminated with human pathogens, exposure to polluted recreational waters and harmful algal blooms. The many needs for biosensors that can accurately monitor overall water quality and pathogen assessment will be discussed.

10:15 – 11:40 Panel 2 Applications and Projects

Moderator: Douglas Dwoyer, Hampton Roads Research Partnership

Thomas Hubbard, MD, Professor Dept of Pediatrics, CHKD

“Health iManage (HiM) Program for Diabetes Monitoring”

Learn about a novel iPhone-based sensor for diabetes disease management with potential applications to other illnesses.

Cynthia Keppel, PhD, MD, University Endowed Professor of Physics

"Dr. Keppel will speak about sensors developed at the Hampton University (HU) Center for Advanced Medical Instrumentation, which include devices for breast cancer imaging, prostate and breast brachytherapy, and others. Additionally, she will overview sensor ideas and opportunities at the new HU Proton Therapy Institute."

Chris Edwards, Head, Laser Technology Branch, NASA Langley

An overview of remote sensing technology development at NASA Langley will be presented

11:40 – 11:45 – Center for Applied Sensor Science and Technology

Mona Rizvi, PhD, Assistant Professor of Computer Science, Norfolk State University

Dr. Rizvi will present the emerging Center for Applied Sensor Science & Technology at NSU.

11:45 – 12:00 Opportunity Wrap-Up

William Wasilenko, PhD., Associate Dean for Research, EVMS

“Biosensor Innovation-Regional Opportunity”

Current technologies and projected areas of growth and hence funding opportunities in biosensors will be summarized.

12:00 – 1:00

Adjourn and Networking

There is no charge for this event.

Registration is required at: www.HRTC.org.