

VIMS Industry Partnership Meeting
February 23, 2007
Notes

Present:

VIMS: John Wells (Dean and Director), John Brubaker (Physical Sciences), David Forrest (Physical Sciences), Carl Friedrichs (Physical Sciences), Steve Kaattari (Environment and Aquatic Animal Health), Mark Patterson (Biological Sciences), Mike Unger (Environment and Aquatic Animal Health)

W&M Main Campus: Dennis Manos (Vice Provost), Bill Bean (Technology and Business Center), Jim Golden (Economic Development), Leonard Sledge (Economic Development), John van Rosendale (Computational Science).

Industry: Jason Miller (INCOGEN), Rik Obiso (Luna Innovation), Steve Keeter (Pressure Systems), Don Bradway (Oceana Sensor), Rick Lally (Oceana Sensor), Tucker Pierce (Tellus Applied Science), Eric Weisel (Werner Anderson)

Government/Non-Profit: Doug Meredith (Gloucester, Economic Development), David Smith (Deputy Secretary of Commerce and Trade)

Discussion:

Welcome and Introductions (Jim Golden, John Wells)

Sensors

Overview of the Hampton Roads Sensors Cluster (Bill Bean) –

The Cluster operates under the auspices of the Hampton Roads Research Partnership with support from the U.S. Department of Commerce. The goal is to link sensors companies to collaborative research opportunities with regional universities, JLab and NASA Langley.

Bill also coordinates the related Sensor Science and Technology Forum of the Hampton Roads Technology Council. Their next meeting will be on May 1 at the Williamsburg Marriott on McLaws Circle near Kingsmill. The meeting will focus on the use of sensors in critical environmental areas – including atmospheric and water quality sensing. VIMS will have several presenters and Roger Mann will give the keynote address. The session will go from 8:30 to 4 p.m. Further details to follow.

Bill tries to identify funding opportunities for companies and researchers. The annual February Technical Support Working Group (TSWG) meeting in D.C. is an excellent way to get information about funding opportunities in the homeland security area. A typical award is \$600K so these are worth looking at and all you need for the initial response is a quad chart! Contact Bill if you are looking for a partner. The BAAs are at <https://www.bids.tswg.gov/tswg/bids.nsf/Main?OpenFrameset&6Z5AWY>

Marine Science Sensor Needs: Sensors now in use at VIMS and the most critical needs for improvement (Carl Friedrichs) – Sensors are now deployed on buoy/benthic, weather, water quality and stream gauging stations (Brubaker, Friedrichs, Moore, Reay), high frequency spatial water quality mapping (Ken Moore, et al.), ACROBAT platforms (Iris Anderson, Larry Haas, et al.), and AUVs (Mark Patterson et al.). Sensors are under development for aquatic contaminants (Bromage, Kaattari, Unger, et al.). Common useful characteristics include the following: small/non-intrusive, low power, inexpensive, accurate/quantitative, stable/robust and resistant to bio-fouling. The Alliance for Coastal Technologies (ACT -- <http://www.act-us.info/>) is a NOAA-funded partnership to foster the development of effective and reliable sensors and platforms. They sponsor periodic workshops in critical sensor/platform areas – biology/ecology, biochemistry/chemistry, platforms/technology, and physical. Carl felt that some of the most cutting edge work in the field was being conducted at VIMS in the area of biocontaminants.

Marine science sensor development at Luna Innovation (Rik Obiso) – Rik has been at Luna for six months, and during that time there has been a substantial expansion in the life sciences, with new emphasis on environmental toxicology and protein biochemistry. During that period Luna also went public and it is now listed on the NASDAQ. Luna has facilities in Roanoke, Blacksburg, Charlottesville, Hampton, Danville and McLean. He described the work underway in areas including multiplex lateral flow assays and surface acoustic wave biosensors. Rik is actively looking for academic-industry partners and industry-industry partners for some of the sensor work that is currently in development. Contact Rik if you are looking to partner or co-write a proposal. (<http://www.lunainnovations.com/>)

Marine science sensor development at Oceana Sensor (Rick Lally, Don Bradway) – Rick Lally, founder and president, and Don Bradway, government programs director, outlined the company's business focus. In the commercial/industrial area the emphasis is on industrial sensors and Wireless d-Diagnostic ® products. They produce over 100,000 piezoelectric vibration sensors a year. For the government market they pursue wireless sensor R&D, machine monitoring diagnostics and prognostics, engineering services, and corrosion detection and structural integrity applications. In the latter area they have been working with Professor Mark Hinders at W&M. Rick and Don described their intelligent component health monitor, their Structural Interrogator™ corrosion and crack detection, their wireless sensor electronic module, and their new initiatives in Thinfilm Sensors and light frequency identification. (<http://www.oceanasensor.com/>)

Sensor developments at Pressure Systems (Dave Marsell) – Steve Keeter briefly summarized recent work in environmental, industrial and aerospace applications. Pressure Systems has just introduced an enhanced KPSI Series 705 submersible level transducer with static accuracy of $\pm 0.25\%$ FSO. (<http://www.pressuresystems.com/>)

Introduction to Tellus Applied Sciences, the NOAA Bay Watershed Education and Training project (Captain John Smith Trail), and discussions with VIMS -- Tucker Pierce, the CEO of Tellus, outlined The Chesapeake Bay Interpretative Buoy System

project, which is a sensor to user information acquisition, management and delivery system with an initial target audience in the education, observing, and trail user community. The system, funded by NOAA, will deliver water quality data, historical and cultural content, meteorological information and other content as required by users. System development started in September 2006 and phase one (three AXYS “Watchkeeper” buoys, sensors, middleware, internet and cell phone content delivery) will be completed in May 2007. Carl Friedrichs and Tucker have already identified several opportunities for collaboration between CBIBS and VIMS, and conversations continued after the formal meeting to identify other possibilities. (www.tellusappliedsciences.com)

Updates

DHS Center for the Study of Natural Disasters, Coastal Infrastructure and Emergency Management (Jim Golden, John Brubaker, Carl Friedrichs). Old Dominion University/VMASC and W&M/VIMS, along with eight other universities are partnering in a response to the broad areas announcement of a Center to be funded at \$3M per year for five years. John Wells will be the Co-PI for the project. An initial White Paper expressing interest has now been submitted to DHS, and the full proposal will be due in April. The submission is part of an effort to link modeling and simulation work being done at VIMS and VMASC (the Virginia Modeling, Analysis and Simulation Center).

Funding for VIMS through The Virginia Coastal Energy Research Consortium (VCERC) – John Wells described potential funding for this effort. Subsequently the General Assembly included \$1.5M in the Higher Education Research Initiative Program to implement research and development of Virginia’s marine renewable energy resources through VCERC, a consortium that is expected to include VIMS, ODU, VT, JMU, UVA and NSU. John said that the VIMS work would likely include issues in marine biology and coastal physical geography.

HREDA marine science industry promotional materials – Doug Meredith reported that HREDA is working on a marine science “flip book”, similar to those created for modeling and simulation and other technology areas. HREDA uses the books during marketing visits to prospective companies. The books are well done, and VIMS may find other applications for them. Doug hoped that HREDA representatives would come to all VIMS-Industry meetings to get a sense of the scope of the collaborations that are underway.

Open Discussion

Deputy Secretary of Commerce and Trade David Smith told the group that he is serving on the Secure Commonwealth Panel, and that many of the issues the participants discussed were very relevant to that Panel. He mentioned in particular the issues of pandemics and hurricane warning.

Closing Comments – John Wells adjourned the meeting at noon.

Next Meeting: Modeling and Simulation Focus (Perhaps with VMASC) – Late April