

Attendees

Jim Barton, Lee Beach, David Forrest, Bill Francisco, Bill Goggins, Jim Golden, Troy Hartley, Carl Hershner, Virginia Jones, Steve Kaattari, Jane Lopez, Dennis Manos, Hank Majdeski, Dave Marsell, Doug Meredith, Mark Patterson, Paul Panetta, Susan Park, Jim Schultz, Al Smith, Mike Unger, John Wells.

Purpose

The purpose of this meeting was to cover:

- **VIMS Update** (John Wells)
- **Algal Fuel Research – ChAP Interim Progress Report** (Hank Majdeski)
- **Contaminant Accumulation in Algae** (Mike Unger)
- **Hampton Roads Eco Dev. Strategic Plan and the Role of Hampton Roads Research Partnership: Opportunities for VIMS** (Lee Beach)
- **VA Sea Grant (VASG) Seed Research Awards** (Troy Hartley)
- **Robotics Workshop Update** (Mark Patterson)

Note: These notes and presentations from **Hank Majdeski, Lee Beach, Troy Hartley** and **Mark Patterson** are posted at:

<http://www.wm.edu/offices/economicdevelopment/regionalprojects/chesapeakebay/vimsinduspartner/index.php>

Agenda

John Wells chaired the meeting and Jim Golden facilitated the agenda.

PRESENTATIONS:

John Wells. (VIMS Update)

Announcement:

Special congratulations to **Mark Patterson, one of 12 Virginia professors**, to receive the *Commonwealth's Outstanding Faculty Award* presented before the VA General Assembly. Mark also received the sole *Teaching with Technology Award*. This award is given to a professor with a "record of superior accomplishment in the use of innovative educational/instructional technologies" for instruction.

Budget. John reported that specific details on the General Assembly cuts are still pending. VIMS has been hit hard by recent cuts and lost several positions. Higher education remains vulnerable to further cuts, particularly in Fiscal Year 2011-2012.

John is discussing the ramifications with **state representatives** and has also met with **Governor McDonnell** at W&M's Charter Day. John was impressed with the governor's knowledge of VIMS' contributions to the state.

On the Federal front, **Congressman Whitman** has confirmed that he will not be supporting any "earmarks," except perhaps for defense projects. VIMS will discuss possibilities with Senators Webb and Warner.

Strategy. John is preparing a VIMS "**briefing**" paper for the incoming Secretary of Natural Resources, the Secretary of Commerce and Trade, and the VA General Assembly. The paper will lay out a research and regulatory agenda. John proposed that the VIMS-Industry Partnership develop a similar paper that would lay out an agenda of potential collaborative research over the next four years. The paper could help solidify the traditional support the Secretary of Commerce and Trade has provided to the Partnership. Mark Patterson and Paul Panetta volunteered to assist in drafting that paper.

Agenda

Hank Majdeski. (Algal Fuel Research – ChAP Interim Progress Report)

Hank presented a series of visual updates supporting ChAP's goal of developing an in-water system

designed to cultivate and harvest algae.

Agenda, cont.

PRESENTATIONS:

Hank Majdeski. (Algal Fuel Research – ChAP Interim Progress Report) cont.

One focus has been the design of the screens. One of the interesting research discoveries showed that the **oil content** found in the algae studied is **lower than** expected and that there was **higher** potential for Omega 3 and butanol. Hank showed photos of the VIMS Floway in the York River Boat Basin, the VIMS All-Terrain Unit (Scrubber), comparisons of 2D and 3D algae screens prior to harvest, and boat basin screens showing growth activity.

Potential Applications. A draft of Chesapeake Bay Executive Order 13508 would require sharp reductions in phosphorus and nitrogen. A 3,000 acre land-based system has the capability to approach the target levels by retrieving annually from the Bay **1.2 million lbs. of prosperous** and **8.6 million lbs. of nitrogen**. It would also increase oxygen and reduce hypoxia.

Other algae initiatives are being considered: two in Maryland, and others at Jamaica Bay, a Potomac River generating plant in Alexandria, Fort Eustis, Hopewell and Fort Eustis. Funding is being sought for a project with the Constellation Energy, C.P. Crane Station located in Baltimore, Maryland. That project could combine 1-3 or more acres on land, some in-water cultivation, and on-site generation of biodiesel, essentially providing a proof of concept. Hank noted the potential for a number of small sites at key locations around the Bay and the need to model the optimal locations. Dennis Manos highlighted the potential national security links in providing fuel for mobile units.

Next Steps. Complete progress report for Statoil. Push for funding for the Constellation Project. Consider development of larger, perhaps 100-acre sites.

Mike Unger. (Contaminant Accumulation in Algae)

Mike gave a brief update of his ongoing research on the ability of algae to capture contaminants. Preliminary results suggest that algae are very efficient in reducing and degrading some contaminants such as tri-butyl tin. There may, however, be some issues related to the concentrations of the contaminants in the algae.

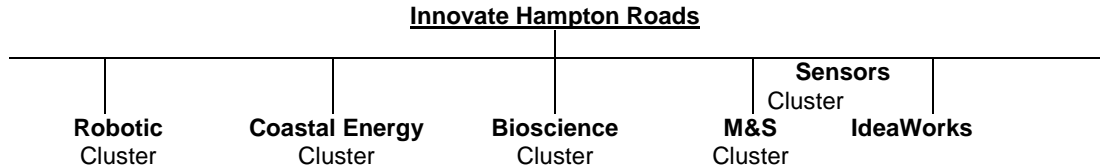
Next Step. Mike will report further findings as the research continues.

Lee Beach. (Hampton Roads' Comprehensive Eco Dev Strategic Plan (CEDS) and the Role of Hampton Roads Research Partnership: Opportunities for VIMS)

Background. Lee discussed the CEDS strategic plan, titled Vision Hampton Roads. The public comment period will be complete at the **end of February 2010**. Currently there are three main economic drivers in Hampton Roads - **tourism**, the **Port**, and the **military** (representing 50% of HR revenues). The plan identifies a fourth component as **opportunities** including technology-based businesses, medical organizations, banking, finance and energy. The plan proposes a new organization named "**Innovate Hampton Roads**" to promote expansion in those **opportunities**. The Hampton Roads Research Partnership would transition into "Innovate Hampton Roads," which would include participation by business and government as well as universities and federal laboratories. The organization would include an expanded set of cluster groups focused on particular technologies as well as an "IdeaWorks" organization to promote innovation and incubation. "Innovate Hampton Roads" would come under the Hampton Roads Partnership umbrella.

Note: The CEDS plan, entitled *Vision Hampton Roads*, is online at **VisionHR.com**.

Proposed Org Chart.



Agenda, cont.

PRESENTATIONS:

Lee Beach. (Hampton Roads' Comprehensive Eco Dev Strategic Plan (CEDS) cont.

Implications. Lee stated that not only universities, but HR corporations would lead this effort and that he sees the VIMS Industry Partnership easily evolving into this proposed model.

Dennis Manos asked if core funding sources had been identified for IHR. Lee explained that regional funding would be expected to come from the participating groups, foundations, etc.

Jim Golden reminded the Partnership attendees that many of the ideas already helping link industries and labs into partnerships (especially to establish cluster groups) has been a result of the VIMS Industry Partnership's input. He also noted that the CEDS material could be very useful in supporting VIMS/W&M and business grant requests by developing the links between any proposal and the regional economic development strategy. We will not have to draft that material for every proposal, but we can instead refer to the appropriate sections of the CEDS plan on line.

Next Steps. As a regional goal, Lee felt sorting and integrating resources to identify energy issues needs to come first.

Troy Hartley. (Virginia Sea Grant's (VASG) Seed Research Awards)

Troy explained that Sea Grant is a national network (administered through NOAA), of 32 university-based programs that work with coastal communities. It supplies science-based information to citizens, businesses, educators, resource managers and policy makers dealing with the well-being of coastal and marine ecosystems and the communities they serve. Sea Grant has 26 affiliated staff at VIMS and Virginia Tech.

VASG Funding Focus Areas:

- Safe and sustainable seafood
- Healthy coastal and ocean ecosystems
- Sustainable and resilient coastal communities
- Coastal and ocean literacy

VASG 2010 Strategic Plan. Will be issuing **two RFPs in 2010**. The first RFP is a one-year pool of **\$650,000** to start in 2/11. That will be divided among larger awards of up to \$120K and smaller seed awards of up to \$40K. Pre-proposals are due by March 15. VASG's second RFP will be issued in January 2011 for a two-year cycle.

Mark Patterson. (Robotics Workshop Update)

Workshop: *Hampton Roads Technology Cluster Workshop.* January 25-26, 2010.

Goal. This technology cluster workshop was **to help bring high technology jobs to Hampton Roads** in the area of robotics for port and harbor security. This is one of three national clusters designated by the White House last fall.

Attendees included small business, representatives from the Office of Defense, congressional representatives, academia, Langley, and NASA.

The workshop panels focused on unmanned systems and enhancing sensors. **Mike Unger** and **Steve Kaattari** were on two of these panels.

Mark explained that a robotics cluster is "place-based" and similar cluster activity is underway in Hawaii and Michigan. The **Department of Defense** is especially interested because **1 million tons of unexploded ordinances** can be found in both the Michigan and Chesapeake Bays. These robotic vehicles can help to remove this dangerous debris.

Next Steps. Create a business plan for the cluster and seek funding,

Agenda, cont.

PRESENTATIONS:

Mark Patterson. (Robotics Workshop Update) cont.

Tom Cellucci, Chief Commercialization Officer, US Dept of Homeland Security – Science and Technology. Tom was a speaker at this workshop and Mark found him to be both interested and supportive of VIMS' security initiatives.

The American Security Challenge is a new Department of Homeland Security (DHS) initiative that began in 2009 with 200 companies competing for **\$20 million in funding** – especially in the areas of **sensors, models, and robotics**. Those interested in participating are to submit a one-page proposal that identifies a product or service idea that can be commercialized. This idea must be identified in the requirements issued

Deadline for submitting a proposal is **April 2010**.

CLOSING COMMENTS:

John Wells thanked the participants and adjourned the meeting at noon.

Next Meeting

Friday, May 21, 2010. VIMS Director's Conference Room, Watermen's Hall. 10:00am – Noon.

Tentative Agenda:

- **Real-Time Marine Toxin Detection** (Steve Kaattari)
 - **Contaminant Accumulation in Algae Update** (Mike Unger)
 - **Automated Data Quality Assurance/Quality Control (QA/QC)** (Tucker Pierce)
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