VIMS Premieres New Ocean Observatories Course

A new course in VIMS' School of Marine Science gave fall-semester students an exceptional opportunity to learn about ocean observing systems, the latest tool in the world of marine research.

The course, *Ocean Observing Systems: Technology and Applications*, is one of only a handful of such courses currently being offered in the U.S. It was developed and taught by VIMS Associate Professor Dr. Mark Patterson, a leading expert in the design and use of autonomous underwater vehicles, or AUVs.

Implementation of a nationwide ocean-observing network was one of the twelve critical actions recommended by the President's Commission on Ocean Policy in their 2004 report. Integrated ocean observatories will provide services at sea similar to those now provided by the global network of weather sensors, helping society to better deal with episodic events such as tsunamis and hurricanes, and to better understand and predict the ocean's long-term impacts on climate, shipping, and fisheries production.

The goal of the course, says Patterson, is "to prepare students for their likely role in future research by making them expert in ocean observing system technology and applications."

The seven students who enrolled in the fall's inaugural course offering got the chance to explore the nuts and bolts of ocean observatories, including hardware components, sensors and navigation techniques for mobile platforms, integration of observatory data with computer models, and data management. They also examined the important policy issues and societal expectations for these systems.

The course included hands-on experience with the AUV *Fetch*, a 6-foot robot sub that Patterson helped develop through his technology spin-off company Sias Patterson LLC. Vehicles like *Fetch* are finding increasing use in applications as diverse as fisheries management, homeland security, and assessment of harmful algal blooms. Sias Patterson LLC provided *Fetch* at no cost through a cooperative arrangement with the College of William and Mary.

Students also gained hands-on experience by working with VIMS' York River data buoy and other fixed sensor platforms, as well as the data available on-line via other ocean observatories around the world. These include the Chesapeake Bay Observing System (CBOS), SEA-COOS along the Southeast Atlantic coast, TABS in the Gulf of Mexico, CalCOFI on the West Coast, NEPTUNE Canada, and the European Seafloor Observatory Network (ESONET). The research community's ultimate goal is to create a Global Ocean Observing System, or GOOS.

From L: Graduate students Lorraine Brasseur, Justin Vandever, Rob Condon, and Jarrell Smith pose with Professor Mark Patterson and classmate Taiping Wong before launching Fetch *from the Yorktown waterfront. Classmates J. Paul Reinheimer and Pat Dickhudt were aboard the chase boat.*

Dean of Graduate Studies Iris Anderson praises the course, noting that "it provides our students with an exciting opportunity to keep on the cutting edge of marine research."

Funds for course development came from VIMS, with additional contributions from members of the VIMS/Ocean Industry Partnership Group.

For more information on ocean observatories, visit the VIMS Ocean Observing System at www.vims.edu/realtime/.

Graduate student Jarrell Smith launches Fetch *into the chilly waters of the York River.*

Members of the Virginia Marine Resources Commission visited VIMS on October 28 to learn more about the services and products that the Institute provides. Here, Jim Gartland (forefront) of VIMS' Chesapeake Bay Multispecies Modeling and Assessment program shows Commission members how fish ear bones can be used like tree rings to determine a fish's age. From L to R: Commission Associate Members J. Carter Fox, F. Wayne McLeskey, and Russell Garrison; Mrs. Eleanor Garrison; Fisheries Division Chief Jack Travelstead; Commissioner William A. Pruitt (face obscured), Law Enforcement Chief and Deputy Commissioner Steve Bowman, and Gartland.