



## News From VIMS

### NEW EASTERN SHORE SEAWATER LAB BRINGS OPPORTUNITIES

A large crowd of dignitaries and friends helped dedicate the new seawater facility (pictured above) at VIMS' Eastern Shore Laboratory in Wachapreague on June 23rd, with William and Mary President Taylor Reveley praising "a truly unique facility" and recognizing its promise of "vital contributions to the health of the coastal ocean, Chesapeake Bay, and Virginia's fisheries."

VIMS Dean and Director John Wells says the 7,597 square-foot facility will "bring the Eastern Shore Lab to a new level of scientific excellence and create opportunities for faculty and students to expand VIMS' mission of research, education, and advisory service." The ESL serves as a field station for VIMS faculty and graduate students, undergraduates from W&M and other colleges and universities, local student interns, and for visiting scholars and students from across the U.S. and abroad.

Dr. Mark Luckenbach, VIMS professor and ESL Director, says "Our new facility is unique in its easy access to clean, high-salinity seawater." That access—provided by up to 8 pumps at a top rate of 1,840 gallons per minute—allows researchers to rear, maintain, and observe marine organisms under conditions that mimic those of the coastal and open ocean.

The new facility is already busy with research projects, including studies of how changes in fishing gear might reduce the inadvertent capture of sharks and endangered sturgeon, how hearing and vision differ among various kinds of Virginia sport fishes, and how predation impacts the survival of juvenile scallops. The latter is part of a broader effort to restore bay scallops to nearby coastal lagoons, which once supported a valuable commercial fishery for the species. The ESL is already well known for its groundbreaking work in hard clam aquaculture, now a mainstay of the Eastern Shore economy.

Joining Wells and Reveley as dedication speakers were Nicholas DiPasquale, Director of the Environmental Protection Agency's Chesapeake Bay Program Office; Delegate Lynwood Lewis of Virginia House District 100; Michael Maul, Associate Director of the Virginia Department of Planning and Budget;



*ESL Director Mark Luckenbach led planning of the facility. Photo by Jay Paul.*

and Dennis Liberson, a member of the VIMS Council and Secretary of the Board for the W&M Board of Visitors who read a letter from U.S. Senator Mark Warner. —<http://bit.ly/esslded>



*ESSL Ribbon Cutting: From L-R: John Wells; Nicholas DiPasquale; Delegate Lynwood Lewis; Dennis Liberson; Mark Luckenbach; Donna Phaneuf, founding principal of VIA design architects, pc; Michael Maul; and W&M President Taylor Reveley. Photo by Jay Paul.*

### DONOR JUMPSTARTS ESL ENDOWMENT

An anonymous donor has pledged \$100,000 to start an endowment for VIMS' Eastern Shore Laboratory in Wachapreague. This challenge grant will provide an initial gift of \$25,000, to be followed by a second \$25,000 after the first is matched, and so on, until the match requirement of \$100,000 is met. As of August 2012, four "Founding Donors" have raised \$55,000 in gifts and pledges towards the challenge. The long-term goal is to grow the endowment to support research and education at the Lab. For information on how to contribute, contact Anne Marshall, Director of VIMS Development, at 804-684-7107.

## VIMS BRINGS OUTREACH OUTSIDE

Outreach staff at VIMS charted a new course this summer, expanding the Institute's educational offerings from labs and campus grounds to local beaches, parks, and waterways.

Susan Maples, VIMS' Public Outreach Coordinator, says "we've always supplemented our on-campus events with talks to civic groups, presentations at schools, and participation at local festivals and fairs, but this year we decided to bring programs right to the places where people are enjoying Chesapeake Bay and its watershed."

Maples and outreach specialist Kattie McMillan designed and planned a number of new off-campus activities—including "VIMS at the Beach" and "Sharks in the Park," as well as a hybrid on-campus/off-campus program called "Inside to Seaside." They also worked with Yorktown Sailing Charters to enhance the "Science Under Sail" partnership first offered in summer 2011.

Despite this summer's heat and thunderstorms, the programs proved popular among both local residents and tourists—with 28 off-campus sessions helping hundreds of people better understand Chesapeake Bay, its marine life, and the steps they can take to help protect and restore Bay waters.

Counting those who visited VIMS for recent on-campus events—Marine Science Day, After Hours lectures, hands-on Discovery Labs, summer public tours, summer camps, and workshops—Maples estimates that faculty, staff, and students at VIMS have interacted with nearly 5,000 people between mid-May and mid-August, through a total of 76 on- and off-campus outreach events.

"We've had a ton of fun this summer," says Maples, "and made lots of new



VIMS outreach specialist Kattie McMillan interacts with participants in the inaugural "Inside to Seaside" event on the VIMS beach in Gloucester Point.

friends. We designed our new programs to help residents—children and adults—better appreciate the Bay and its marine life, and the feedback we've gotten suggests we've made a good start toward that goal." —<http://bit.ly/outreachvims>

## VIMS WELCOMES INCOMING CLASS OF 2012

VIMS welcomed 20 new graduate students to Gloucester Point on August 27th, bringing total enrollment in the College of William and Mary's School of Marine Science at VIMS to 110 students.

VIMS Dean and Director John Wells says the quality of this year's class continues "a long-standing tradition of excellence in scholarship and research among our matriculating students."

Professor Linda Schaffner, VIMS' Associate Dean of Academic Studies, says "The depth and breadth of our students' experiences is truly astonishing. They're an extremely talented and well-rounded group that will contribute great things to VIMS, the local community, and our knowledge of Chesapeake Bay and the global ocean."

One incoming student, Kristen Omori, was a Pac-12 gymnast who has tagged sockeye salmon in Alaska and studied the effects of dam removal in the Pacific Northwest. Another, Randy Jones, has sailed as an assistant scientist with the study-abroad program "Sea Semester," with voyages in both the Atlantic and Pacific oceans. Lisa Ailloud, fluent in French, has studied sharks at NOAA's Panama City Laboratory in Florida and sustainable-seafood practices at the New England Aquarium. Michael Kuschner is an Olympic hopeful in 49er-class sailing, and a winner of a student presentation award from the American Chemical Society.

Several students have already earned authorship on articles in respected research journals, and many bring experience in environmental policy and education.

The incoming class also features two Chinese students, Zhou Liu and Jiabi Du. Liu and Du join 12 other international students at VIMS, a group that makes up 11% of the overall student population.

A total of 120 students applied for admission in 2012, a



School of Marine Science incoming class of 2012.

## UPCOMING EVENTS

### September 27th, 7 p.m.

After Hours Lecture—Natural selection in Chesapeake Bay oysters: Disease-resistance and restoration

### October 23rd, 6 - 8 p.m.

Discovery Lab—Mad Lab!

### October 25th, 7 p.m.

After Hours Lecture—The secret social lives of shrimp: cooperation and homeland defense on the reef

### November 2nd, 10 a.m. - noon

VIMS Associates Day Reception

### May 18, 2013 10 a.m. - 3 p.m.

Marine Science Day

Please visit:  
[www.vims.edu/public](http://www.vims.edu/public)  
for more information  
about these events

17.6% increase from the previous year.

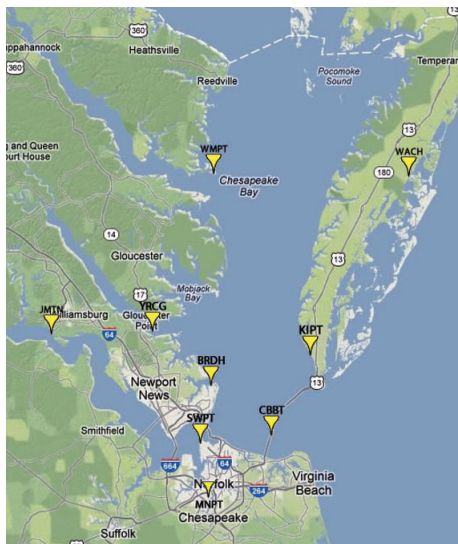
VIMS' School of Marine Science awarded its first Master's degree in 1943 and inaugurated a Ph.D. program in 1964. Nearly 900 marine scientists have now earned graduate degrees through the program, moving on to leading roles in academia, government, and industry.  
—<http://bit.ly/vims12mat>

## TIDEWATCH FORECASTS GO PUBLIC: NEWS YOU CAN USE

Researchers at the Virginia Institute of Marine Science have added forecast capabilities to their network of Tidewatch water-level stations, giving area residents a new on-line tool for gauging the magnitude of coastal flooding and minimizing its impacts.

The public launch of the Tidewatch forecast system comes just in time for the height of the Atlantic hurricane season.

Emeritus professor John Boon, Tidewatch lead developer, says the forecasts will give citizens “timely guidance on what the time and height of the next three high waters are expected to be.” He adds “They can use that information to prepare for coastal flooding, whether that involves gathering sand bags, moving possessions to higher ground, adjusting mooring lines for their boat, or choosing an evacuation route.”



Tidewatch generates forecasts for nine water-level stations in Virginia and one in Maryland.

VIMS Dean and Director John Wells calls the system “an outstanding example of translating research results into products that benefit the citizens of the Commonwealth.”

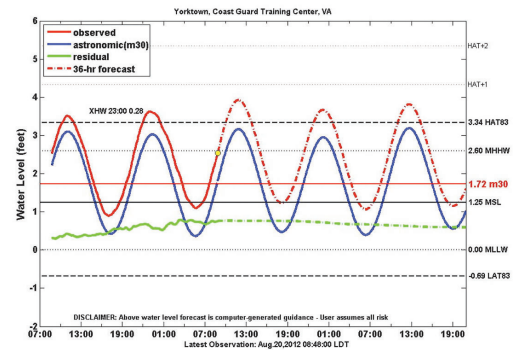
Boon and his colleagues at VIMS—associate professor John Brubaker and assistant research scientist David Forrest—decided to make the forecasts public after testing and refinements increased their confidence in the forecasts’ accuracy.

“We worked with Virginia Sea Grant, emergency managers, the National Weather Service, and selected waterfront property owners to test and refine the system over the last three years,” says Boon. “Now we think it’s good to go.”

Tidewatch is unique in incorporating a 30-day running average of the observed water level into its forecasts. Also unique is its referencing of storm tides to the “highest astronomic tide” or “HAT”—the peak value in the current version of the tide tables for a given location.

Comparing extreme water levels to HAT best indicates how storm tides will affect coastal residents, says Boon, as it provides a natural benchmark that people have used to site waterfront structures such as docks, boathouses, and dwellings.

Referencing storm tides to HAT also removes the effect of tidal range—an independent factor that varies from place to place. —<http://vims.edu/tidewatch>



A Tidewatch forecast.

## QUIDORT CHOSEN AS INAUGURAL TOGA FELLOW

A faculty committee has selected Ph.D. student Wendi Quidort as the initial recipient of the TOGA Fellowship at VIMS. The Tidewater Oyster Gardeners Association launched the TOGA Fellowship Endowment in 2011 with an initial gift of \$27,000, and reached the full endowment milestone in April 2012 when contributions from some 90 donors brought the endowment to \$51,500.



TOGA president David Turney says “We were glad that there’s a vehicle in the VIMS Foundation to support future shellfish and Bay studies, so that our

understanding of the best ways to manage oysters in the Bay will continue to grow.” Quidort is developing genetic techniques to detect and monitor adenoviruses in Chesapeake Bay waters and shellfish. Adenoviruses—associated with wastewater effluent—can cause respiratory and gastrointestinal illnesses in humans.

## SUNTRUST GIFT SUPPORTS VIMS GRADUATE STUDENT

A gift from the SunTrust Mid-Atlantic Foundation will support a unique study of the Chesapeake Bay ecosystem by VIMS Ph.D. student Sikai Peng.

The \$20,000 gift is the culmination of a 5-year, \$100,000 commitment to establish an endowed fellowship for graduate students enrolled in the College of William and Mary’s School of Marine Science at VIMS. Part of the gift—\$2,500—represents expendable funds for use by this year’s fellowship recipient. The remainder—\$17,500—completes a SunTrust Fellowship Endowment Fund and will help provide annual support to one or more students for many years to come.

Peng, co-advised by faculty mentors Ryan Carnegie and Kam Tang, plans

to use his funds to support studies of food-web dynamics in Chesapeake Bay. His research focuses on copepods—small crustaceans the size of a rice grain that form a key link in the Bay food web—and the even smaller “epibionts” that have



VIMS graduate student Sikai Peng describes his research to SunTrust officials at VIMS.

been found to live on the body surface of copepods and other zooplankton.

Among the SunTrust executives present were Leroy Abrahams, newly appointed President and CEO, SunTrust Hampton Roads, and Bernard Ngo, City President, SunTrust Williamsburg and Gloucester, and members of the SunTrust Gloucester/Williamsburg Advisory Board.

Peng gratefully acknowledges the SunTrust Fellowship, saying he was honored to receive it and excited to put it to use. He’ll use his funds to purchase research supplies, rent boat time, acquire reference books, and travel to scientific conferences to share findings with colleagues. —<http://bit.ly/suntpeng>

## UNDERGRADUATE STUDENTS GAIN RESEARCH EXPERIENCE AT VIMS

A dozen students from colleges and universities around the nation spent 10 weeks at the Virginia Institute of Marine Science this summer as part of VIMS' "Research Experience for Undergraduates" program.

The program, now in its 23rd year at VIMS, is funded by the National Science Foundation. Its goal is to give undergraduates a taste of authentic research by allowing them to work with faculty, staff, and graduate students on a project of mutual interest.

This summer's REU students came from as far as Florida, Iowa, Massachusetts, and Tennessee; and as near as the Carolinas and Virginia, with in-state participants from the College of William and Mary, Old Dominion, the University of Mary Washington, and Virginia Tech.



*Summer Intern Class of 2012.*

The students' research topics were as diverse as those of their mentors, with studies of clams and clam aquaculture, blue crabs, cownose rays, oysters, southern flounder, seagrasses, and sediments.

Madeline Karp, a rising senior at the College of William & Mary, pursued a

particularly novel project, working with professor Jim Perry and graduate student Lori Sutter to compare insect diversity in three marshes in the Pamunkey River. To learn more about Karp and the early results of her project, visit [www.vims.edu/topstories](http://www.vims.edu/topstories)

## EASTERN SHORE INTERNS PURSUE MARINE RESEARCH

Support from the VIMS Council and local community members gave five high-school and college students from Virginia's Eastern Shore an opportunity to pursue marine research close to home this summer at VIMS' Eastern Shore Laboratory in Wachapreague.

The interns collaborated on a wide range of projects including restoration of bay scallops, quantifying ecosystem services provided by oyster restoration, investigating interactions between clam aquaculture and the environment, studying stress response and mortality in shark by-catch, and exploring filtration rates of organisms associated with oyster reefs.

The intern program is entirely funded by private donations. Private donors are Marsha and Rick Amory, Cynthia Bailey, Chris and Kirkie Bosworth, Barbara and Steve Johnsen, the E. Polk Kellam

Foundation, E. Polk Kellam, Jr. and Roberta Kellam, Caramine Kellam, Debbie and Peter Lalor, Page and Tom Young, H.M. Terry Company, Inc., J.C. Walker Brothers, Inc., and Dr. Lucy Spigel Herman.



*This year's interns: John Keyes (Onancock, Salisbury University); Emilee Dize (Onancock, James Madison University); Lauven Matthews (Onancock, Nandua High School); Rebecca Turner (Onancock, James Madison University); and Michael Byrd (Mears, Old Dominion University).*

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