

Impact



Visit <http://bit.ly/vimsgriffin> for a recap of the W&M Griffin's epic visit to VIMS as part of One Tribe One Day.

VIMS | WILLIAM & MARY
VIRGINIA INSTITUTE OF MARINE SCIENCE



News From VIMS

MASSEY RECEIVES BOTETOURT AWARD

The College of William & Mary has honored E. Morgan Massey, chairman of Evan Energy Company and former chairman and CEO of A.T. Massey Coal Company, with the Lord Botetourt Award for his extraordinary service to VIMS.

The Lord Botetourt Award is one of the university's most esteemed. It honors non-alumni members of the W&M family who embody the spirit of Norborne Berkeley, Baron de Botetourt, a colonial governor of Virginia who was appointed rector of W&M in 1769.

As founding director and president emeritus of the VIMS Foundation, Massey has led efforts to recruit world-class marine scholars and support research to help advance the health of Chesapeake

Bay. Under his leadership, the foundation has generously gifted 34 VIMS students with scholarships and fellowships in 2014 alone and bolstered programs aimed at oyster breeding and K-12 marine science education and outreach, among others.

"Morgan's leadership at the foundation has helped propel students forward in their pursuit of environmental sustainability," says W&M President Taylor Reveley. "His generosity and vision has undoubtedly led to successful efforts to educate and train the next generation of STEM leaders, which is a state and national priority."

"Morgan has been a loyal friend and generous supporter of VIMS for more than twenty years," adds VIMS Dean and



Morgan Massey receives the Botetourt Award from W&M President Taylor Reveley during the Maury Dinner at VIMS.

Director John Wells. "We're exceedingly grateful for his unwavering leadership, dedication, and friendship.

VIMS MARKS 75TH ANNIVERSARY IN STATE CAPITAL

Virginia Governor Terry McAuliffe, Secretary of Education Anne Holton, W&M President Taylor Reveley, and other dignitaries came together at the NewMarket Corporate Pavilion in Richmond in late January to celebrate the start of VIMS 75th anniversary year.



Governor McAuliffe lauds VIMS' dedication to providing sound science for the citizens of the Commonwealth.

Hosted by Teddy Gottwald, CEO of the Richmond-based NewMarket Corporation, Cynthia Bailey, Phyllis Cothran, Clifford Cutchins, James Jones, Travis Massey, Morgan Massey, The Hon. Harvey Morgan, James Rogers, Robert Roper, Ann Samford, Gordon Smith, Vernon Spratley, and William Strickland, the event brought together state officials, business leaders, scientists, and graduate students to showcase the accomplishments of the students and faculty currently conducting research in Chesapeake Bay and around the world.

"It's a pleasure and an honor to help VIMS celebrate its 75th anniversary," said Gottwald. "We strongly believe they share our goals of supporting the communities around us and of promoting environmental sustainability."

VIMS began in 1940 as the Virginia Fisheries Laboratory in Yorktown.

The brainchild of William & Mary biology professor Donald W. Davis, the institution moved across the York River to Gloucester Point in 1950 to make way for the Coleman Bridge, and took its current name by an act of the General Assembly in 1962.

"VIMS has a rich history, a compelling vision, and a bright future," says Dean and Director John Wells. "I invite everyone to partake in the exciting slate of special events and web-based products that we've created to mark our 75th year."

The flagship digital commemoration of the anniversary is the "microsite" at 75th.vims.edu, which features videos, an interactive timeline, and historical photos and documents. It even allows well-wishers to post their own "Happy Anniversary" videos.

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MITCHELL BRIEFS CAPITOL HILL ON COASTAL FLOODING

VIMS researcher Molly Mitchell visited Capitol Hill in early March to brief congressional staffers and other concerned parties about the nation's coastal flood risk.

Joining Mitchell in an event organized by the American Meteorological Society were Jamie Rhome of the National Hurricane Center and Kristin Baja of the Baltimore Office of Sustainability.

During the briefing, Mitchell introduced the science and impacts of coastal flooding, while Rhome discussed effective strategies for communicating flood risk and Baja offered steps for helping localities become more resilient. In the audience were staffers from nine Senate and five House offices, as well as representatives from NOAA, the World Bank, the American Planning Association, the Smithsonian, the Navy, and the U.S. Geological Survey.

Mitchell was lead author of VIMS' 2013 report to the General Assembly on recurrent flooding in Tidewater Virginia. Along with Dr. Carl Hershner and other members of the Center for Coastal Resources Management at VIMS, she plays a key role in efforts by the Virginia



VIMS researcher Molly Mitchell presents the science and impacts of coastal flooding to an audience on Capitol Hill.

Coastal Policy Clinic—a partnership between VIMS, the William & Mary Law School, and Virginia Sea Grant—to help the Commonwealth respond to coastal-flooding issues and improve the resiliency of Virginia's coastal communities.

Mitchell says her take-home message was that “nuisance flooding is becoming an increasing problem, and that it is already starting to have impacts in many areas.” She cited data from two recent studies showing an increase in nuisance flooding in cities all along the U.S. Atlantic and Gulf coasts, including Norfolk and Hampton.

A SURPRISING POSSIBLE ADVANTAGE OF OYSTER DISEASE TOLERANCE

You might expect that having a stomach bug would make you more susceptible to other illnesses, but recent data have caused researchers to question this assumption in aquacultured oysters.

In a small study, VIMS researchers sought to determine whether oysters infected with the parasite *Perkinsus marinus* carried higher levels of vibrios—bacteria responsible for seafood-borne illness in humans.

The researchers hypothesized that because both the parasite and vibrios typically interact with oysters in the same place—the oyster's stomach and intestine—damage from the parasite could reduce the oyster's ability to manage its vibrio levels. Unexpectedly, the opposite may be true: in the study, the more severely an oyster was infected with the parasite, the less likely it was to harbor vibrios.

Now, with funding from Virginia Sea Grant, VIMS graduate student Lydia Bienlien and researchers Ryan Carnegie, Corinne Audemard, and Kimberly Reece are conducting a second study to further investigate this relationship.

While the parasite causes disease and death in many oysters, it does not



Virginia oysters. ©Stephanie Chavez/VASG

harm the people who eat them. Vibrios, however, can infect people who eat undercooked seafood.

“If this relationship is real, we might want to rethink the way we're breeding,” says Carnegie. Oysters have long been bred for disease resistance, but if the inverse relationship between the parasite and vibrios is real, disease-resistant oysters might be more susceptible to vibrios and, therefore, more likely to get people sick. If that's the case, it would be better to breed oysters for disease tolerance instead. —Julia Robins/VASG

STEINBERG RECEIVES OUTSTANDING FACULTY AWARD

Professor Deborah Steinberg has been selected as one of the Commonwealth's outstanding faculty members by the State Council of Higher Education for Virginia.

Steinberg, CSX Professor of Marine Science in W&M's School of Marine Science at VIMS, was one of 13 faculty members from Virginia's colleges and universities honored with a 2015 SCHEV Outstanding Faculty Award. The awards program has been sponsored by Dominion Resources since 2005.

W&M President Taylor Reveley says “These awards signal extraordinary prowess, and Debbie's accomplishments in teaching, research, and service are truly exceptional.”

VIMS Dean and Director John Wells adds, “Debbie is a gifted and remarkably dedicated teacher and mentor who is highly deserving of this award.”

Steinberg consistently receives outstanding evaluations in her courses, and since arriving at VIMS in 2001 has served as major advisor to 6 Master's students, 7 Ph.D. students, and 2 postdoctoral fellows. She has also served on the thesis committees of 28 additional graduate students and mentored 14 undergraduate and high-school students. Steinberg's students have in turn gone on to successful careers in education, government, and the private sector.

Outside the classroom, Steinberg has established an international reputation in biological oceanography. Her research focuses on the role that zooplankton play in marine food webs and the global carbon cycle, and how populations of these small drifting animals are affected by changes in climate.

Steinberg's research programs have operated in marine ecosystems from Chesapeake Bay to Antarctica. Antarctica research has been a life-changing experience for many of her students.



Deb Steinberg (R) receives her award from Hunter A. Applewhite, president of the Dominion Foundation, as SCHEV Executive Director Peter Blake and Virginia Education Secretary Anne Holton look on.

MARSH HONORED WITH PATHFINDER AWARD

Former Secretary of Army and Congressman Jack Marsh received the Pathfinder Award during VIMS' annual Maury Society dinner last fall.

The award, the highest external honor bestowed by VIMS, recognizes individuals who have displayed an enduring commitment to the Institute's three-part mission of research, education, and advisory service. Marsh has served on the VIMS Council for two decades and as the advisory board's secretary since 2002.

"We are greatly honored that Jack chose to share his wise counsel and savvy advice with the VIMS Council, our current administrative staff, and several of my predecessors," says Dean

and Director John Wells. "His incisive analysis of political and policy issues and his commitment to advancing the role of objective science in policymaking represent unparalleled examples of leadership and integrity."

W&M President Taylor Reveley adds "We're delighted to recognize Jack, who has made a real difference for the better as a member of the VIMS Council. He has been a tireless advocate for the important work taking place in Chesapeake Bay and around the world."

Secretary Marsh brings to VIMS his experience as a U.S. Congressman from Virginia's 7th district, an Assistant Secretary of Defense and National Security Advisor for President Ford, Secretary of the Army under President Reagan, and Chairman of the Reserves Policy Board. He has used his expertise as a lawyer and town judge to help VIMS develop and maintain its position as a leading research and education center, and has consistently promoted the relationship between VIMS' research programs and its mandates in the Code of Virginia.

The Pathfinder Award is named in recognition of Matthew Fontaine Maury, a son of Virginia often referred to as the "Father of Oceanography" and the "Pathfinder of the Seas."



The Honorable John O. "Jack" Marsh, Jr (L) accepts the Pathfinder award from VIMS Dean and Director John Wells as Foundation Board member Jim Rogers looks on.

UNDERWATER ROBOT MAY ASSIST IN OIL-SPILL CLEANUP

One big challenge facing cleanup crews during an offshore oil spill—such as 2010's Deepwater Horizon disaster in the Gulf of Mexico—is determining just how much oil is involved. VIMS researchers have now developed a remotely operated underwater vehicle to someday assist in this key aspect of the oil-spill response.

Project leader Paul Panetta, a scientist with Applied Research Associates, Inc., and an adjunct professor at VIMS, says "Gauging the volume of a spill, and the extent and thickness of its surface slick, are usually done by visual surveillance from planes and boats, but that can be quite difficult. Our ROV [remotely operated vehicle] uses acoustic signals to help more easily locate and focus on the thickest part of the slick."

The difficulty of assessing spill size and volume is likely to increase as oil exploration and recovery moves into Arctic waters, where ice and bad weather can hinder both access

and visibility. Funding for Panetta's work comes from the U.S. Interior Department's Bureau of Safety and Environmental Enforcement. The bureau funds research to improve the response to Arctic spills, and operates the 2.6 million-gallon Ohmsett Wave Tank in Leonardo, NJ where Panetta's robot was initially prototyped and will now be delivered for use by Ohmsett staff and other research teams.

"Our ROV will measure the thickness of experimental slicks at Ohmsett to aid in developing and testing oil-spill-response tools," says Panetta. "It will also provide a test platform for developing other sensors and for field applications. It's one step along the path to developing platforms for use in the ocean to measure slick thickness and other oil properties using acoustics."



The ROV during testing in VIMS' Seawater Research Lab.



Dale McElhone and Paul Panetta showcase the ROV in front of their 8,460-gallon testing tank.

IN MEMORIAM: PROFESSOR STEPHEN KAATTARI

Dr. Stephen L. Kaattari, CSX Professor of Marine Science, Emeritus at the Virginia Institute of Marine Science, passed away on November 11, 2014.

Steve joined the William & Mary faculty in 1993 and had retired in January 2014. He chaired the Department of Environmental and Aquatic Animal Health (now Aquatic Health Sciences) from 2002 to 2004.

Steve was a highly respected and internationally recognized researcher, as well as an extraordinary teacher and mentor. His research program melded basic research in immunology with applied goals to provide new understanding of basic immune functions and to produce vaccines for use in aquaculture. His more recent work included development of real-time sensor platforms now being used to analyze pollutants in Chesapeake Bay. Products from his research have resulted



in new patents in the U.S. and Britain and have led to new areas of research that continue today. Steve advised 20 graduate students, 11 postdoctoral trainees, numerous undergraduates, and served on more than 75 graduate-student committees.

During Steve's tenure at VIMS, he secured more than \$8 million in competitive extramural grants and

contracts. He authored or co-authored more than 90 technical articles and books, and reviewed more than 350 proposals and over 400 manuscripts for the scientific community. He also served on numerous advisory committees for professional societies. In 2004, Steve was awarded a special achievement award by the American Fisheries Society.

Steve's family has requested that any donations in his honor be made to the Williamsburg Heritage Humane Society, Habitat for Humanity, or the American Heart Association.

VIMS marks 75th anniversary in state capital continued from page 1

Most of the anniversary events will build off existing outreach programs such as the monthly After Hours lecture series, summer public tours, Speaker's Bureau, festival attendance, and annual Marine Science Day open house. VIMS also plans to host a fall homecoming for current and former faculty, staff, and students. To register and for a full listing of anniversary events, visit the VIMS website at www.vims.edu



Jim Rogers welcomes the guests.



VIMS began in 1940 as the Virginia Fisheries Laboratory in Yorktown. State funding for the lab's first year of operations was \$4,886.96.



Master's student Lydia Bienlein, winner of VIMS' inaugural 3-Minute Thesis© competition, presents to the NewMarket audience.



Dr. John Wells with Floyd, Helga, and Matt Gottwald.



The anniversary cake was enjoyed by all.



The Griffin reenacts his favorite scene from the movie Titanic.

The Matthew Fontaine Maury Society

HEY YOU...

The anonymous \$1000 lottery ticket donor...! Thanks for your generous gift and welcome to the VIMS Maury Society! Contributions like yours help support our students and faculty, provide state-of-the-art equipment, outfit research laboratories, and continue our efforts in public outreach. Maury Society members—VIMS supporters who make donations of \$1000 annually—are honored and celebrated at VIMS events, listed in the VIMS honor roll, and receive special recognition in our annual report. If any of the rest of you are interested in becoming a member, please visit www.vims.edu/impact.

CELEBRATE OUR 75TH YEAR AT MARINE SCIENCE DAY!

Marine Science Day 2015 will celebrate VIMS' 75th anniversary with a look at the Institute's past, present, and future. This will be the theme of 10-minute "fast talks" offered at various times throughout the day, and the theme of our popular Photo Booth. A special stamp cancellation will also be available on-site through the United States Postal Service.

THANKS TO OUR MARINE SCIENCE DAY SPONSORS!

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WELLS NAMED TO GOVERNOR'S CLIMATE CHANGE COMMISSION

As Dr. John Wells joined the other members of Virginia's revitalized climate change commission for its inaugural meeting last fall, Hampton Roads residents were still drying out from heavy rains that had swamped coastal areas where rising seas and sinking land leave few places for water to drain.

Wells, Dean and Director at VIMS, was named to the Climate Change and Resiliency Update Commission by Governor Terry McAuliffe last July. The Governor has given the commission—a bipartisan group made up of 41 leaders from around the state—one year to



Dean and Director John Wells addresses the Commission as U.S. Senator Tim Kaine looks on.

complete its work. Chairing the group are Secretary of Natural Resources Molly Ward and Secretary of Public Safety Brian Moran.

“We need to prepare Virginia’s coastal communities to deal with the growing threat of climate change, which is why I’ve re-convened the Climate Commission for the first time in four years,” said Governor McAuliffe. The commission was originally convened by then-Governor Tim Kaine in 2007, and issued its first report in 2008.

Wells says his main role on the commission will be to help provide concrete and prioritized recommendations for how Virginia can best respond to sea-level rise, the most immediate climate-change issue facing the Commonwealth.

“Serving on the commission provides a great opportunity for me to act as a conduit for the expertise and data available at VIMS,” says Wells. “Our faculty, staff, and students provide a wealth of knowledge concerning climate-change science—particularly in the coastal zone—and we operate several long-term monitoring programs whose datasets are critical for tracking and predicting impacts to fish populations, seagrass, and other living and physical resources.”

SHELTON HARDAWAY SHORT, JR. CHARITABLE TRUST SUPPORTS VIMS GK-12 PROGRAM

Thanks to the Shelton Hardaway Short, Jr. Trust, the VIMS GK-12 Program will continue for one more academic year. This generous donation supports two VIMS graduate Teaching Fellows, four teachers, program training, and instructional supplies. Established in 1974, the Short Trust supports charitable and educational organizations in central and southern Virginia. The GK-12 Program, formerly GK-12 Partnership between Educators and Research For Enhancing Classroom

Teaching (PERFECT) Program funded for 5 years by the National Science Foundation (NSF), has brought marine science, technology, and math education to more than 5,500 students in middle and high schools throughout the region. In the Program, VIMS graduate students’ team with experienced teachers to learn valuable pedagogical skills while using their scientific knowledge, research experience, and creativity to develop new and engaging teaching materials that enhance the curriculum.



GK-12 fellow Lindsey Kraatz in the classroom at York High School.



GK-12 fellow Christina Pondell interacts with students.

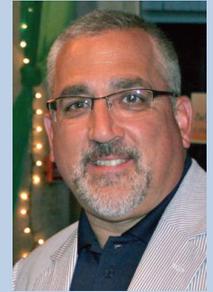
Do You Want to Double Your Gift?

There is still time to participate in the Natale Challenge! We are closing in on our goal and only need to raise \$3,500.00 more to get the full \$10,000 matching amount pledged by Charlie Natale, MA '82, for the Graduate Student Support Endowment.

Don't miss out, double the impact of your gift. Charlie will match the entire gift dollar for dollar, up to \$10,000,

for those who are new contributors to VIMS or who have not made a gift in the past five years. He will match any increased donations from loyal supporters by the increased amount. Endowments for students at VIMS are an important resource and when the Graduate Student Support Endowment is fully funded it will provide flexible funding for students to pay for travel to scientific conferences, tuition and stipends, and other needs.

If you would like to support this initiative please visit www.vims.edu/giving/gsse or use the enclosed envelope. Make your gift by June 30, 2015 to qualify for the match.



Charlie Natale

ASK THE EXPERT

Do you have a question about crabs or the diseases that affect them? *Ask the expert!* Dr. Jeffrey Shields is a Professor of Marine Science here at VIMS with expertise in the causes and consequences of parasitic and microbial diseases in commercially important fish and shellfish. His primary research is on the epidemiology and pathology of infections in crustaceans, the etiology of diseases in mollusks, and the toxicity of a group of harmful algae known as *Pfiesteria*. Email your crabby questions to vimsadvancement@vims.edu. A few selected questions and answers will be in the next edition of the *Impact* Newsletter.

UPCOMING EVENTS

May 30, 2015, 10am-3pm

Marine Science Day. VIMS
Gloucester Point campus.

Wednesdays, May 6-27, 2-4pm

Science Under Sail adventures on
the schooner *Alliance*. Yorktown, VA

June 12, 10:30 am-noon

Join the first of our weekly summer
public tours. Watermen's Hall,
Visitor's Center.

June 16, 6-8pm

Discovery Lab-Shipwrecks, VIMS
Catlett-Burruss Research and
Education Lab

June 24, 7pm

After Hours Lecture: Filming the
Giant Squid, Watermen's Hall,
McHugh Auditorium

Visit www.vims.edu/public

VIMS COUNCIL

The VIMS Council are a group of men and women who care about the Bay and are passionate about VIMS research. Together they advise and assist VIMS with its three-part mission. Mr. Gordon Smith (far right) has Chaired the Council for the last 3 years. Thank you for your service Gordon!



Members of the VIMS Council take a break from their deliberations to pose for the camera during a meeting at Riverwalk in Yorktown. L to R: Mr. John Causey, Jr., Mr. Travis Massey, The Hon. Morris Busby, Mr. Stetson Tinkham, Mr. James Jones, Mr. Gary Madson, Mr. William Pruitt (back), Ms. Phyllis Cothran, Mr. William Galanko (back), Ms. Glenda Booth, Mr. Arthur Moye, (back), Mr. Thomas Young, Ms. Emily Davies, Mr. Stephen Johnsen, Mr. Cameron Blandford, Mr. Wallace Dawson, Mr. Gordon Smith.

Marine Science Day Artwork
Contest Grand Prize Winner:
Lauren Wheeler, artist.



www.vims.edu/impact

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