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Rachel Dixon

Rachel Dixon is a Ph.D. candidate in the Fisheries Department at VIMS. She received her Bachelor's of Science in Marine Biology from UNC-Wilmington and her Masters of Science in Marine Studies from the University of Delaware. Rachel's dissertation focuses on recruitment dynamics of striped bass in the Chesapeake Bay.

Fishes of the Chesapeake Bay

A presentation on the diversity of fishes in the Chesapeake Bay, the methods used to sample and study fishes, and the challenges facing fishes and their habitat. Come learn what lives in our biggest local waterway!

General public, kids and above

Dr. Jennifer Dreyer

Dr. Dreyer is currently a research manager for the Benthic Ecology Lab working on oyster restoration, submerged aquatic vegetation, and various other benthic community ecology projects in Chesapeake Bay. She also curates the VIMS Invertebrate Collection. Other active research interests include polychaete taxonomy and systematics, hydrothermal vent ecology, benthic deep-sea biology, reproductive biology and ecology; and environmental impacts on benthic communities.

Benthic Invertebrates and Beyond...

What lives at the bottom of a body of water? Learn about the invertebrate diversity at the bottom of the Chesapeake Bay and beyond!

General public, kids and above

Deep Sea Biology

Learn about deep sea biology including hydrothermal vent biology, cold seep biology, whale falls and wood falls.

General public, kids and above

Travels to the end of the earth.... Antarctica

Learn about the what it takes to work in Antarctica and get to know the animals living there.

General public, kids and above

Dr. Jennifer Dreyer (cont.)**A Career in Marine Science**

Learn generally what it takes to have a career in marine science and the wide variety of positions available.

General public, kids and above

Dr. Mary Fabrizio

Dr. Mary Fabrizio is a Professor and Department Chair in the Fisheries Science Department at the Virginia Institute of Marine Science. She was born in Buenos Aires, Argentina and grew up in and around New York City. She received an undergraduate degree in Biology from Fordham University and completed her Ph.D. in Biological Oceanography at the University of Rhode Island. Her research interests focus on the relationship between fish and their habitats. Mary was the first female professor, and subsequently the first female department chair, within the fisheries science department at VIMS. She also served as the 7th female president of the American Fisheries Society from 2007-2008.

Expedition Nepal

In 2019, a team of fisheries biologists from VIMS, led by Professor Dr. Mary Fabrizio, traveled to Nepal to study the country's freshwater fishes. Their goal was to understand how national parks - primarily designed to protect large land animals - may also protect fish habitats and diversity. Along the way they learned a great deal about the rewards and challenges associated with conducting international research. Join us as Dr. Fabrizio provides a first-hand account of the expedition - from extreme heat to wild rhinoceros encounters - and what they hope to discover with the information they gathered.

Young adults and above

Invasive Blue Catfish in the Chesapeake Bay Region

The blue catfish is a freshwater fish that was introduced to the region in the 1970s and has since increased in abundance and spread into the estuarine waters of Chesapeake Bay. I can discuss the research conducted by my lab to learn about the salinity tolerance of blue catfish, as well as other characteristics that make this fish a particularly successful invader. I can also discuss the management implications of this invasive species, including the growing fishery for blue catfish, the trophy fishery, and what managers are doing to control its spread.

Young adults and above

Dr. Mary Fabrizio (Cont.)

The Uncharismatic Forage Fishes of Chesapeake Bay

My lab has been studying forage fishes (fish that are eaten by predators such as striped bass, summer flounder, ospreys, dolphins) and their distribution throughout the Bay relative to water quality conditions and physical habitats. We have found that the extent of suitable habitats in the bay drive the abundance of some of these species, whereas the abundance of others is driven by factors such as predation. This talk includes lots of maps depicting where habitats are suitable and unsuitable for various species, including the ubiquitous bay anchovy. The results from this study, which is based on a 17-year sampling program with monthly observations of forage fishes, are being used to guide management of forage fishes and conservation of habitats to ensure the long-term production of striped bass, summer flounder, and other targeted species.

Young adults and above

Dr. Kirk Havens

Dr. Kirk Havens is the Director of the Center for Coastal Resources Management (CCRM) which has a mission to support informed decision-making on resource management issues at all levels of government, including by private and corporate citizens. Dr. Havens has a B.S. in Biology and M.S. in Oceanography from Old Dominion University, and a Ph.D. in Environmental Science and Public Policy from George Mason University. His research interests include tidal and non-tidal wetlands ecology and functional assessments, marine debris and plastic pollution, environmental law, public policy, and land use and watershed issues. His recent activity includes highlighting the work of the Polynesian Voyaging Society to raise awareness of ocean and coastal indigenous knowledge to help advance the values of ecological restoration and climate change resilience as part of their "He Wa'a, He Honue - The Earth is Our Canoe" project.

Marine Debris / Plastic Pollution in the Marine Environment (plastic, microplastic, whales, worms, lost crab pots, cranberries, shotguns, biopolymers, beer, & bovine digestion - yes, it's all linked!)

Dr. Kirk Havens and his team focus on developing innovative solutions to real world problems, such as by-catch reduction in derelict crab traps, plastic pollution, and wildlife entanglement in erosion control netting. Join us as Dr. Havens describes how biopolymers – plastic-like materials produced naturally by bacteria – are being used to solve issues of ecological and economic importance.

High school and above

Dr. Kirk Havens (Cont.)**Using Thermal Imaging to Monitor Animals in the Wild**

Dr. Kirk Havens has authored the book "Thermal Imaging Techniques to Survey and Monitor Animals in the Wild" (Elsevier). Learn how thermal imaging can be used to monitor animals such as bears and panthers and even tortoises.

High school and above

The Virginia Wetland Condition Assessment Tool (WetCAT)

Understanding the relative level of stress from human disturbance on a wetland's capacity to perform valued ecosystem services, such as providing habitat or improving water quality, is important in wetlands conservation. Dr. Kirk Havens, Research Professor and Director of VIMS' Center for Coastal Resources Management (CCRM) and his team partnered with the Virginia Department of Environmental Quality to develop an online interactive mapping tool called the Wetland Condition Assessment Tool or WetCAT. WetCAT has the ability to rapidly census wetland condition at multiple scales and includes all the mapped wetlands in Virginia. WetCAT received the Governor's Technology Award and the Environmental Council of States Award.

Middle school and above

Derelict Fishing Gear in the Marine Environment

The accumulation and effects of derelict fishing gear is a worldwide problem and includes gear such as traps, pots, and nets. Once lost, derelict fishing gear can continue to capture and kill both target and non-target animals. Dr. Kirk Havens, Research Professor and Director of VIMS' Center for Coastal Resources Management (CCRM) and his team study the impacts of derelict gear in the Chesapeake Bay and other regions across the nation and how citizens can help.

Middle school and above

Dr. Chris Hein

Dr. Chris Hein is an assistant professor in the Physical Sciences Department at VIMS. He received a Bachelor of Science degree from the Cornell University Department of Earth and Atmospheric Sciences, a Ph.D. from Boston University, and then completed postdoctoral research at Woods Hole Oceanographic Institution. Dr. Hein's research here at VIMS applies the tools of sedimentology and organic chemistry to investigate the link between coastal evolution and climate variability, with a goal of forecasting future coastal change in response to regionally-specific changes in climate. He has current projects in Bangladesh, Brazil, France, the Arctic, South Carolina, and the barrier islands of Massachusetts, New Jersey, Maryland, and, Virginia.

Virginia's Barrier Islands: Breakneck Change in a Rapidly Changing World

Barrier islands and their marshes and bays are home to diverse ecological communities and large-scale infrastructure. Although they are a seemingly permanent feature of our coasts, these islands are among the most rapidly-changing landscapes on Earth. No barrier island system on the U.S. East Coast changes as swiftly as that of Virginia's Eastern Shore. Join us as Dr. Christopher Hein shares the geology, human history, and modern change seen along barrier islands in Virginia and around the world.

Young adult and above

Putting Modern Sea Level Change in Context: Geologic Controls and Timescales

Virginia experiences one of the highest rates of sea-level rise in the country. This talk explores why, starting with the same forces that control the motion of the Earth's continental plates over hundreds of millions of years, right through to the role of humans today.

Young adult and above

Dr. Eric Hilton

Dr. Hilton received a Bachelor's degree in Wildlife Ecology and Management and a Ph.D. in Organismic and Evolutionary Biology from the University of Massachusetts, Amherst. Before coming to VIMS in 2007, he was a post-doctoral researcher in the Geology Department at the Field Museum of Natural History in Chicago and the Division of Fishes at the Smithsonian Institution. He is a broadly trained vertebrate zoologist, with a primary research interest in the anatomy, evolution, and diversification of fishes. Other research projects include the ecology of larval fishes, the biology and management of Atlantic sturgeon, and monitoring the population of shad and river herring in Virginian waters. As curator of the VIMS Nunnally Ichthyology Collection, Dr. Hilton oversees the growth and use of the collection, in addition to teaching ichthyology and training students.

Dr. Eric Hilton (Cont.)

The Story of the Coelacanth

The Coelacanth is a fish thought to have gone extinct more than 65 million years ago, until a living specimen was caught by commercial fishermen in 1938 in South Africa. In the more than 80 years since its discovery, scientists have learned a great deal about this living fossil. Join Dr. Eric Hilton, Curator of the VIMS Nunnally Ichthyology Collection, as he tells the thrilling story of the Coelacanth, from its fossil record to its unlikely discovery, where it lives, what it eats, and why it is thought to be more closely related to four-legged land animals than to other fishes.

General public

What Can You do with a Dead Fish (or Other Animals and Plants)? The Importance of Natural History Collections for Science and Society

Museum specimens serve as the bedrock of evolutionary research as well as being fundamental to fields such as ecology, behavior, and development. Each specimen is a record of biodiversity, and documents a particular species present at a particular place at a particular time. As such, specimens can provide key evidence for biodiversity and conservation initiatives. Four aspects of natural history collections and their use will be discussed in this presentation: 1) collection, curation, and use of specimens, particularly non-traditional specimens; 2) the use of specimens and technological advances in morphology, ontogeny, systematics, and taxonomy; 3) specimen use in other fields of biology and ecology; and 4) specimen use in education and outreach. Collections, and their vitality, depend on both their continued roles in traditionally supported fields (e.g., taxonomy) as well as emerging arenas (e.g., epidemiology). Just as a library that ceases buying books becomes obsolete, or at least has diminished relevance, a natural history collection that does not continue to grow by adding new specimens ultimately will limit its utility. I draw on examples of collections in which I have worked, and highlight the Nunnally Ichthyology Collection at VIMS. I will speak directly to the need to increase the visibility of the inherent value of natural history collections and the care of the specimens they protect for future generations.

General public, Can be modified for K-12

Fishes and the New Golden Age of Morphology

Much of what we understand about the evolution and diversification of fishes has been established through anatomical study that has spanned a time period approaching 500 years, inadvertently promoting a view that morphology is an outdated science. In this presentation, I provide an historical account of this progress, and discuss what is possible at this point in history in the anatomical study of fishes, drawing on my own research on fishes. I also discuss the future of morphology in the systematics of fishes. Beyond the

collection of facts about the anatomy of fishes, morphology remains extremely relevant in the age of molecular data for at least three broad reasons: 1) new techniques for the preparation of specimens allow new data sources to be broadly compared; 2) past morphological analyses, as well as new ideas about interrelationships of fishes (based on both morphological and molecular data) provide rich sources of hypotheses to test with new morphological investigations; and 3) the use of morphological data is not limited to understanding phylogeny and evolution of fishes, but rather is of broad utility to understanding the general biology (including phenotypic adaptation, evolution, ecology, and conservation biology) of fishes. Although in some ways morphology struggles to compete with the lure of molecular data for evolutionary research, the anatomical study of fishes entering into a new and exciting phase of its history because of recent technological and methodological innovations. With each new advance of technology and with each new generation of researcher, systematic morphology becomes a new and vibrant science.

General public, Can be modified for K-12

Karen Hudson

Ms. Hudson has been at VIMS for over 20 years, with the first half of her career working on a variety of oyster-related research including molecular genetics of oyster species and marine pathogens and oyster breeding. Her more recent work has been focused on advisory service in shellfish aquaculture. In this role, she works closely with the shellfish industry, regulatory agencies and external groups whose actions directly or indirectly impact the conduct and expansion of shellfish culture in Virginia. She is actively involved in fostering the development of applied research projects to address complex shellfish culture problems. Current research focus areas include supporting shellfish health in the hatchery; shellfish seed biosecurity; and assessing vulnerability of the shellfish industry to ocean acidification and other co-stressors. Hudson provides advice and assistance for both commercial and non-commercial molluscan shellfish growers. She is the science advisor and VIMS liaison to the Tidewater Oyster Gardeners Association, facilitator of VIMS' Shellfish Aquaculture Industry Advisory Committee, and involved in providing guidance and outreach on a variety of research projects involving shellfish culture.

Rise of Oyster Aquaculture in Virginia and its Economic Importance

The story of the rise of hatchery-based aquaculture focusing on the economic trends of this industry and the role of aquaculture with the wild fishery.

Adults, General public

Karen Hudson (Cont.)**Methods of Oyster Aquaculture in Virginia**

An overview of the two oyster culture methods including intensive (containerized) and extensive (spat-on-shell). The “how” it’s done.

Adults, General public

VIMS’ Role in Shellfish Aquaculture Research

A high level overview of the contribution of VIMS researchers to shellfish aquaculture including the major areas of focus.

Adults, General public

Dr. David Johnson

Dr. David Johnson is a marine ecologist and an Assistant Professor in Biological Sciences at VIMS. Dr. Johnson and his group’s research focuses on how ecosystems will change will be altered through time as a result of global changes. He is particularly fond of invertebrates and you can find the JLab working in the mud and water in a variety of coastal ecosystems. Dr. Johnson also places a large focus on science communication and prioritizes getting his science into the real world as much as possible. You can find him on Twitter @DavidSamJohnson!

Ghost Forests, Zombie Shrimp, and Space Fish: Strange But True Tales Of The Salt Marsh

Why do zombie crustaceans mindlessly wander the marsh? Why can’t a snail let go of its past? Join us as Dr. David Johnson of VIMS answers these questions and shares stories of the strange animals wonderfully adapted to life in a salt marsh.

Young adults, General public

Shelley Katsuki

Shelley Katsuki is the Kauffman Aquaculture Center (KAC) Manager and Field Specialist at the Aquaculture Genetics and Breeding Technology Center. She received her Bachelor's Science in Biology from St. Francis University and her Master's of Science in Biology from Old Dominion University. Shelley is responsible for all daily operations at KAC including broodstock conditioning, water filtration, algal culture, spawning and larval rearing of triploid and tetraploid oysters.

The ABC's of Oyster Aquaculture in Virginia

Discover how VIMS researchers produce the polyploid oysters that transformed Virginia's oyster aquaculture industry. Shelley Katsuki presents an overview of oyster aquaculture with a focus on the triploid and tetraploid oyster work done at the Kauffman Aquaculture Center in Topping, VA- one of two oyster hatcheries operated by the Aquaculture Genetics and Breeding Technology Center (ABC) at VIMS.

Young adults, General public

Lisa Kellogg

Founding Director, RecFish, Senior Research Scientist, Biological Sciences, VIMS; Lisa is a research scientist at the Virginia Institute of Marine Science whose work has focused primarily on oyster reefs and oyster aquaculture. The concept for RecFish grew out of her desire to better understand the value of oyster reef habitats to finfish in Chesapeake Bay, recognition that oyster reefs are rarely sampled as part of traditional fishery survey efforts, and interest in how data collected from the recreational anglers might be used to supplement existing fisheries data. The daughter of a wildlife biologist, Lisa has been fascinated by animals and how they interact with each other and their environment for as long as she can remember.

RecFish: Engaging Recreational Anglers as Community Scientists

Lisa Kellogg will discuss development of the RecFish app, winner of VIMS Innovation Fund awards in 2019 and 2020. RecFish will aid in fisheries management by providing fish population data gathered by anglers. Get an insider's look at how this tool will help in collecting important information about Chesapeake Bay fishes and how you can help with this effort.

Adults, General public

Ashley King

Ashley King is an Aquatic Health Sciences Master's student in the Hale Lab Group at VIMS. She received her bachelor's in Marine Science and a minor in Chemistry from the University of Connecticut. During her undergrad, Ashley researched the ecotoxicology of stormwater runoff as a NOAA Hollings Scholar at the Northwest Fisheries Science Center and the transport of anthropogenic gases as a REU intern with Texas A&M. Ashley is interested in Environmental Chemistry and Pollution with the goal of reducing the impact of pollution to the environment. Her current research focus is microplastic pollution.

Plastics in the Environment

Everyone has seen images of plastic polluting the environment in the news - trapped sea turtles, dying seagulls, and the Great Pacific Garbage Patch. Due to our extensive and increasing use of plastics, plastic can be found almost anywhere on earth, including deep in the Mariana Trench and up on Mount Everest. Much of this plastic pollution is in the form of microplastics, tiny pieces of plastic formed, in part, by the breakdown of larger plastic products. Because these plastic pieces are so small, they can travel further and impact more organisms. The story is further complicated by the complex chemical makeup and biological interactions of plastic in the environment. In this talk, Ashley will help us understand plastics, their impact, and what the future may hold.

Adults, or can be modified for K-12

Plastics in Wastewater Treatment

Plastic can be found almost anywhere on earth, including deep in the Mariana Trench and up on Mount Everest. Much of this plastic pollution is in the form of microplastics, tiny pieces of plastic formed, in part, by the breakdown of larger plastic products. Because these plastic pieces are so small, they can travel further - including into our Wastewater Treatment facilities. Here, Ashley will discuss what happens when plastics enter Wastewater Treatment facilities, what comes out, and why you should care.

Adults, or can be modified for K-12

Stewart Lamerdin

Stewart Lamerdin is the Director of Marine Operations at the Virginia Institute of Marine Science. He holds a Bachelor's degree in Biology from Lewis and Clark College and a Master's degree in Oceanography from Moss Landing Marine Laboratories at San Francisco State University. He has over 15 years of experience managing research vessel operations at various academic institutions. Prior to assuming his administrative roles, he spent many years in the field collecting data in the Arctic, Antarctic, and on research vessels throughout the world. In his role at VIMS, he is responsible for all aspects of VIMS' Marine Operations department which encompasses a fleet of over 30 vessels, a diving program, and the field support program.

The R/V Virginia: A Nod to the Past with an Eye Towards the Future

In 2018, the Virginia Institute of Marine Science welcomed a new, state-of-the-art research vessel, the R/V Virginia. The Virginia is the most modern, most capable marine research vessel in its size class in the U.S. This talk will provide a brief history of the use of research vessels throughout the world while beginning to define what makes a modern research vessel a research vessel. Once defined, we will look at the rich history of research vessels operated by the Virginia Institute of Marine Science culminating with the newly constructed R/V Virginia.

Adults, General Public

Dr. Molly Mitchell

Dr. Molly Mitchell is a Research Assistant Professor and the Program Director of the Master of Arts degree program at the Virginia Institute of Marine Science. Dr. Mitchell is a three-time William & Mary alumna, earning her bachelor's degree in biology and environmental science and her master's degree and Ph.D. in marine science from the University. Dr. Mitchell's research focuses on shifts in coastal resources due to the interaction of sea level rise and human-driven changes. She works with decision-makers and resource managers to translate research and current scientific understanding into practical recommendations. In her role as M.A. Program Director, she oversees the implementation of VIMS' new professional degree program.

Rising Tides, Sinking Coast: How Coastal Communities can Adapt to Surging Sea Levels

Rising seas, frequent flooding, and subsiding land threatens coastal communities around the globe. Dr. Molly Mitchell, a Research Assistant Professor with the Center for Coastal Resources Management at the Virginia Institute of Marine Science, has made it her life's work to understand these threats and how they affect communities. Dr. Mitchell will give us a primer on sea level rise - what causes it, how it is changing around the United States,

and what can be done to address it - as well as share the work she does to promote resilience in coastal communities.

College, General Public

Dr. Chris Patrick

Dr. Chris Patrick is an Assistant Professor in the Biological Sciences department and Director of the VIMS SAV Monitoring and Restoration Program. He received his Bachelor's of Science in Behavior, Ecology, Evolution, and Systematics from the University of Maryland College Park and his Ph.D. in Ecology from the University of Notre Dame. Prior to joining the faculty at VIMS Dr. Patrick was a Research Scientist at the Smithsonian Environmental Research Center, a AAAS Science & Technology Policy Fellow with the EPA Office of Water, and a faculty member at Texas A&M University – Corpus Christi. Dr. Patrick is a community and ecosystem ecologist with a special interest in marine and aquatic systems. He currently works both on the coastal rivers in the Gulf Coast of Texas and with submerged aquatic vegetation (SAV) of the Chesapeake Bay. His research investigates processes that control biological communities across space and time and what those communities contribute as ecosystem services.

The Next Generation of Seagrass Research: Using the Past as a Guide to Address Future Challenges

For more than 40 years VIMS has led one of the most successful seagrass monitoring and restoration programs in the world. Our long-standing research program has greatly contributed to the science community's understanding of seagrasses and the factors that threaten their survival. There is now a new scientist at the program's helm and he is using lessons learned from the past to guide the research forward. Join us as Dr. Chris Patrick, Assistant Professor at VIMS, discusses what we have learned about seagrasses over four decades, the challenges that lay ahead, and how his team is working to understand and address those challenges.

General public

Taro Rudo

Tara Rudo is a Marine Education Specialist working with the Chesapeake Bay National Estuarine Research Reserve System (CBNERRS). She received her Master's in Environmental Science from UNC-Wilmington and completed an AmeriCorps service term at the Georgia Sea Turtle Center on Jekyll Island, GA. Tara has a passion for educating the public on environmental stewardship and has worked as a Marine Science Educator at UNC-W's MarineQuest. She loves to explore the natural world and hopes to inspire curiosity in the Chesapeake Bay region.

The Importance of Wetlands

Join as Tara leads us through an exploration of the wetlands of the York River. We will learn about the crucial role wetlands play, and discover some of the fascinating animals that live there. Visit the river without ever having to get wet!

General public, Middle school and above

Water Quality

Learn about why water quality is important to study and the different water quality parameters and tools scientists and students use in the lab and classroom!

General public, Middle school and above

Human and Natural Impacts in the Chesapeake Bay

Explore how the Chesapeake Bay is affected by various human and natural impacts from pollution, climate change, and harmful algal blooms!

General public, Middle school and above

Fish Adaptations

In the Chesapeake Bay, there are many species of fish and they are all different! Learn about how fish use adaptations to hunt for their prey and hide from predators!

General public, Kids and above

Chesapeake Bay 101

The Chesapeake Bay is the largest estuary in the United States! Learn the basics of Chesapeake Bay ecology with this introductory talk about what makes the Chesapeake Bay unique and beautiful!

General public, Kids and above

Taro Rudo (Cont.)**Stormwater Management**

Ever wonder where the water that enters storm drains ends up? Learn about how we can help prevent pollutants from entering our local waterways with this talk about everything you'll need to know about Stormwater!

General public, High school and above

Meredith Seeley

Meredith Evans Seeley is a Ph.D. candidate and Freeman Family Fellow in Marine Plastic Pollution. Meredith came to VIMS with a passion for studying plastics after observing first-hand how pervasive plastic pollution can be traveling in the U.S. and to countries such as India, Vietnam, Sri Lanka and Indonesia. She traveled to these places after receiving her Master's degree in Marine Science from The University of Texas Marine Science Institute, where she studied the aftermath of the Deepwater Horizon oil spill. She received her Bachelor's degree from the University of Oklahoma in Biology, minor in Spanish language. Meredith is interested in research that helps improve our understanding of, and thus ability to reduce the effects of, pollutants in the marine environment.

Plastics in the Ocean

In recent years, headlines about marine debris, microplastics, and the Great Pacific Garbage Patch have filled our news feed. While the accumulation of plastic waste in our oceans and other bodies of water is a serious concern, it is not a simple problem to understand or study. Much of this debris exists in tiny pieces called microplastics, which are able to interact with even the smallest ocean animals but very difficult for scientists to trace. The chemical makeup of plastics varies greatly and adds another layer of difficulty in understanding how plastics affect the marine environment. Join us as Meredith Seeley, a doctoral student at VIMS, walks us through the complex story of plastics in the ocean - where they come from, where they go, and how they impact ocean organisms. She will help us understand what the future may hold and our role in the story.

Adults, or can be modified for K-12

Kristen Sharpe

Kristen Sharpe is a Master's graduate student at the Virginia Institute of Marine Science, investigating the role that zooplankton and their fecal material play in the carbon cycle in the York River (a major tributary to the Chesapeake Bay). Originally from central New York, she received her B.S. in Biological Applications of Environmental Studies from the State University of New York College of Environmental Science & Forestry (SUNY-ESF) in 2013. Prior to entering the graduate program in 2018, she worked for nearly 5 years as the Marine Education Specialist at the Chesapeake Bay National Estuarine Research Reserve in Virginia (CBNERR-VA), an organization with a federal/state partnership between NOAA and VIMS. She has a genuine passion for outreach and education, and loves having the opportunity to share her research and interest in marine science with children and adults of all ages!

Poop in the Ocean

Even though we don't like to talk about it, poop plays an important role in the health of living organisms as well as entire ecosystems! Animal poop plays a critical role in supporting marine food webs, providing important information for researchers and conservationists, and even regulating our global climate! VIMS Masters Student Kristen Sharpe will provide a general overview of the importance of poop in the ocean, and an explanation of how her research on zooplankton poop in the Chesapeake Bay helps us forecast and prepare for the impacts of climate change.

K-12, General public

Zoop Soup (and Poop): The Importance of Zooplankton

Zooplankton are all the animals drifting around in our oceans, seas, and bodies of fresh water. They range in size from microscopic to living in colonies as big as a school bus! VIMS Masters Student Kristen Sharpe will provide a general overview of the diversity of zooplankton species, shapes, and sizes; the ecological roles of these creatures; and how her research on zooplankton in the Chesapeake Bay (and their poop) aims to help us forecast and prepare for the impacts of climate change.

Middle school and above, General public

Dr. Jessica Small

Dr. Jessica Moss Small is the Associate Director of the Aquaculture Genetics and Breeding Technology Center at VIMS where she runs the breeding program, facilitates other projects by VIMS researchers, interacts with industry and conducts research tied to breeding. She received a Bachelor's of Science in Marine and Freshwater Biology from the University of New Hampshire, and a Ph.D. in Marine Science from VIMS. Dr. Small's research interests are broad and include how genetics, parasites, and ecology impact aquaculture species. She has given scientific talks throughout the US and abroad and enjoys speaking to everyone, from scientists to children.

Where do the oysters you eat come from?

Learn how baby oysters are made, how they are grown and what it takes to get them do your dinner plate.

Middle School and above

Breeding the best oyster

Oyster breeding is largely similar to what has occurred while domesticating chickens and cows. Learn how breeding is helping oysters live longer, grow faster and have better meat quality.

Adults

What is an oyster and why are they important?

Oysters are amazing! Learn how they help the environment, create habitat for fish and crabs and also can be eaten!

Children and above

Serina Wittingham

Serina Wittingham is a Ph.D. candidate in the Biological Sciences department and a member of the Johnson Lab Research group. She received her Bachelor's of Science in Marine Biology and Environmental Studies from Florida International University and her Master's of Science in Marine Science from San Francisco State University. Her research focuses on plant defenses against herbivores in salt marshes. She is funded in part by the VIMS Office of Academic Studies, the Garden Club of America, the National Science Foundation (NSF) through the Virginia Coast Reserve Long-Term Ecological Research (VCR LTER) site, and Virginia Sea Grant.

How Plants Can Save Our Salt Marshes

Salt marshes are grasslands which grow along our shores between the land and the sea and play a crucial role in our ecosystem. They protect us from storms, help improve water quality, promote biodiversity and shelter young crabs and fish so they can grow. While most marsh inhabitants help maintain this fragile ecosystem, some inhabitants like snails and purple crabs threaten our wetlands through intense grazing. Come learn the fascinating facts behind how salt marsh plants are fighting back to protect themselves through a possible change in their chemistry that makes them an unappetizing meal for herbivores.

Kids and above, General public