

2023 Virginia HAB Task Force Meeting - Session Titles, Speakers, and Bios; in order from 9a-3p

Title: VIMS - Smith Lab - Marine Lightning Talks

Speakers: Joshua Garber, Graduate Student, "Optimization of SPATT production method and determination of storage viability"; Vanessa Strohm, Graduate Student, "Comparison of Intra and Extracellular Diarrhetic Shellfish Toxins and Pectenotoxins in the York River from 2018 – 2022"; Nour Ayache, Assistant Scientist, "Effects of low-level exposure to HAB toxins (PTX2, YTX, and AZA) on the larval life stage of the eastern oyster *Crassostrea virginica*"

Bios: Joshua is a graduate student, Vanessa Strohm is a graduate student, and Nour Ayache is an Assistant Scientist. All work in the Smith Lab at the Virginia Institute for Marine Science (VIMS) within the Department of Aquatic Health Sciences.

Title: ODU – Mulholland Lab Marine Recap 2022

Speaker: Margaret Mulholland, Professor, Old Dominion University (ODU), Department of Ocean, Earth and Atmospheric Sciences

Bio: Margie is a professor in Oceanography at ODU. She is a biogeochemist and leads the Water Column Biogeochemistry Group as well as the Phytoplankton Analysis Laboratory in the Department of Ocean and Earth Sciences. She has worked on harmful algal blooms for about 30 years.

Title: VDH - Marine Biotoxin Recap 2022

Speaker: Todd Egerton, Marine Science Supervisor, Virginia Department of Health (VDH), Office of Environmental Health Services, Division of Shellfish Safety and Waterborne Hazards

Bio: Todd has worked with VDH as the Marine Science Supervisor for seven years. He is a member of the ISSC Biotoxin Committee and has worked with Harmful Algal Blooms and phytoplankton monitoring in the Chesapeake Bay since 2001.

Title: VIMS - Reece Lab Marine Recap 2022

Speaker: Kim Reece, Chair, Department of Aquatic Health Sciences, Virginia Institute of Marine Science (VIMS)

Bio: Kim has been at VIMS for more than 28 years and has served on the HAB Task Force for more than 20 years. During this time she and her lab members have been working with the Department of Health to monitor the lower Chesapeake Bay waters for HAB organisms using microscopy and PCR assays. Her lab also conducts molecular genetic studies on aquacultured shellfish species and aquatic pathogens of humans and shellfish. A primary focus of her research is examining the biological impacts of harmful algae on aquatic organisms. A key component is the development and optimization of molecular diagnostic assays for viral, bacterial, and protistan organisms, including the HAB species, in various environmental matrices including water, sediments, and shellfish tissues.

Title: ODU - Mulholland Lab Freshwater Recap 2022

Speaker: Leah Gibala-Smith, Supervisor, Old Dominion University (ODU) Phytoplankton Analysis Laboratory

Bio: Leah is an aquatic ecologist and algal taxonomist who has over 25 years' experience related to water quality issues, drivers of aquatic community structure, and the identification of phytoplankton and algae in fresh, tidal, and marine systems. She ran a water quality and nutrient laboratory for over 5 years prior to joining the Phytoplankton Analysis Laboratory at Old Dominion University in 2014. Since becoming the laboratory supervisor in 2016, Leah has worked with the VA HAB TF in conducting taxonomic enumerations and toxin assays in the state's fresh and coastal waters for both monitoring and rapid response efforts.

Title: VDH - Freshwater Advisory and Alert Recap - 2022

Speaker: Margaret Smigo, Waterborne Hazards Program Coordinator, Virginia Department of Health (VDH), Office of Environmental Health Services, Division of Shellfish Safety and Waterborne Hazards

Bio: Margaret has served as the Waterborne Hazards Program Coordinator at VDH for seven years, overseeing the Coastal Beach Monitoring Program, helping to coordinate members of the Virginia Harmful Algal Bloom Task Force, and supporting outreach and education for waterborne recreational water illness prevention.

Title: Overview of Virginia DEQ Harmful Algae Bloom Monitoring; Planning for the 2023 Recreational Season

Speakers: Andrew Garey, Department of Environmental Quality (DEQ), Water Quality Team Lead

Bio: Andrew (Drew) has served as the DEQ Central Office Monitoring Team Lead since 2018. From 2016-2018, he served as the DEQ Chesapeake Bay Tributary Monitoring Coordinator. In both roles, he has coordinated and led much of the protocol development, planning, and execution of the agency's statewide water monitoring programs. Drew has served as a member of the HAB task force since 2016, and helps coordinate DEQ's role as the primary monitoring agency for investigating harmful algal bloom reports.

Title: Potomac Basin Freshwater HABs: Areas of interest and lessons learned

Speaker: Gordon "Mike" Selckmann, Associate Director of Aquatic Habitats, Interstate Commission on the Potomac River Basin (ICPRB)

Bio: Gordon has worked for ICPRB for 10 years and is the associate director of Aquatic Habitats. He has worked on a range of Potomac Basin algae investigations such as nutrient thresholds relative to primary production, water quality trends as predictors of problematic algae blooms, and assessment methodologies of algal blooms.

Title: Exposure of the eastern oyster, *Crassostrea virginica*, to *Alexandrium monilatum*: toxicity pathway, histopathology and gene expression

Speaker: Sylvain Gaillard, Postdoctoral Research Associate, Virginia Institute of Marine Science (VIMS), Aquatic Health Science Department

Bio: Sylvain is a postdoctoral researcher in Kimberly Reece's lab, Department of Aquatic Health Science at VIMS. His work at VIMS mainly focus on the ecophysiology of harmful algal bloom species, such as *Alexandrium monilatum* and *Karlodinium veneficum*, as well as their effect on aquatic organisms (i.e. the Eastern oyster *Crassostrea virginica*).

Title: Next steps in 2023 – Smith Lab

Speaker: Juliette Smith, Associate Professor, Department of Aquatic Health Sciences, Virginia Institute of Marine Science (VIMS)

Bio: The Smith HAB Lab at VIMS investigates the chemistry, ecology, and ecotoxicology of bioactive compounds synthesized by harmful algal blooms in freshwater, estuarine and marine environments. We are collectively interested in 1) how we impact harmful algal blooms (HABs) and the production of their associated toxins, and 2) how they, in turn, contaminate our ecosystem, alter aquatic communities or ecological function, impact fisheries, and/or threaten public health.

https://www.vims.edu/research/departments/eaah/programs/aquatic_toxinology/index.php

Title: Expanding capacity for biotoxins analysis and imaging technologies

Speaker: Leah Gibala-Smith, Supervisor, Old Dominion University (ODU) Phytoplankton Analysis Laboratory

Bio: *Please see the bio from the morning session given by this speaker.*

Title: The PVZimba lab, the newest addition to Rice River Center/VCU's HAB team

Speaker: Paul Zimba, Research Faculty, VCU Rice Rivers Center, Dept of Biology, Virginia Commonwealth University (VCU)

Bio: Paul Zimba graduated (with a MS) from HG Marshall's lab at ODU, worked at Horns Pt Lab (Cambridge MD) with Tom Malone, Richard Rivkin, and Mike Kemp, then completed a PhD with Mike Sullivan on salt marsh algal community structure, algal autotrophy/photo-heterotrophy and C3/C4 carbon fixation (Miss St Univ). He was hired to work on the Lake Okeechobee Ecosystem Study (UFlorida) in 1989 as well as seagrass/epiphyte studies, then in 1996 with the USDA/ARS on toxins/off-flavor in aquaculture systems. In 2009, he moved to Texas A&M Corpus Christi, serving as Director, Center for Coastal Studies and Professor in Biology. He has mentored 7 PhD students, and 12 MS students during his career. He retired in 2021, and moved back to VA to deal with parental health issues. In July 2022 he was hired as an adjunct faculty member with Rice Rivers Center at VCU. Zimba has published over 130 papers on stress photophysiology, remote sensing, algal toxins, cyanobacterial taxonomy, and remediation of HAB blooms. This includes three new to science toxins, including euglenophycin a potent neurotoxin showing anti-cancer activity.
