



UNIVERSITY OF MARYLAND  
CENTER FOR ENVIRONMENTAL SCIENCE

## COMMENCEMENT

Appalachian Laboratory  
Frostburg, Maryland

MAY 19, 2023



University of Maryland  
CENTER FOR ENVIRONMENTAL SCIENCE

The University of Maryland Center for Environmental Science leads the way toward better management of Maryland's natural resources and the protection and restoration of the Chesapeake Bay. From a network of laboratories located across the state, scientists provide sound advice to help state and national leaders manage the environment and prepare future scientists to meet the global challenges of the 21st century.

# ORDER OF COMMENCEMENT

President Dr. Peter Goodwin presiding

## PROCESSIONAL

WELCOME ..... Dr. David Nelson  
*Professor and Director, Appalachian Laboratory*

GREETINGS ..... Dr. Peter Goodwin  
*President, University of Maryland Center for Environmental Science*

FROM THE BOARD OF REGENTS ..... Regent Robert D. Rauch  
*Board of Regents, University System of Maryland*

FROM THE UNIVERSITY SYSTEM OF MARYLAND ..... Dr. Michele Masucci  
*Vice Chancellor for Research and Economic Development,  
University System of Maryland*

## AWARDS PRESENTATION

UMCES Staff Excellence Award ..... Mary Ann Manley  
*Program Management Specialist (retired), Horn Point Laboratory*

Outstanding Faculty Mentor Award ..... Dr. Ryan Woodland  
*Associate Professor, Chesapeake Biological Laboratory*

UMCES Student Service Award ..... Isabel Sanchez-Viruet  
*Graduate Student, Chesapeake Biological Laboratory*

President's Award for Outstanding Research Support ..... Jerome M. Frank  
*Senior Faculty Research Assistant, Chesapeake Biological Laboratory*

President's Award for Excellence in Application of Science ..... Dr. Ming Li  
*Professor, Horn Point Laboratory*

INTRODUCTION OF SPEAKER ..... Dr. Peter Goodwin

COMMENCEMENT ADDRESS ..... Dr. Kandis Boyd  
*Senior Advisor at US EPA Region 3, U.S. Environmental Protection Agency*

GREETINGS TO GRADUATES ..... Dr. Timothy Canty  
*Director, Marine Estuarine Environmental Sciences (MEES)  
Graduate Program, University of Maryland College Park*

PRESENTATION OF CANDIDATES FOR DEGREES ..... Dr. Lawrence Sanford  
*Vice President for Education,  
University of Maryland Center for Environmental Science*

CHARGE TO GRADUATES ..... Dr. Peter Goodwin

## RECESSIONAL

## KEYNOTE SPEAKER

### **Dr. Kandis Boyd**

Senior Advisor at US EPA Region 3,  
U.S. Environmental Protection Agency

Dr. Kandis Boyd is a trailblazer, an advocate, and renowned expert in STEAM (Science, Technology, Engineering, Arts, and Math). She has nearly 30 years of experience leading, teaching, advising, and mentoring students and early-career enthusiasts in environmental and atmospheric science. She was the first African-American female to receive an undergraduate degree in Meteorology from Iowa State University in 1996. She continued her studies and received a double master's degree in Meteorology and Water Resources in 1998. In 2007, she received her doctorate in Public Administration with a specific concentration in Interorganizational Leadership and Cultural Values from Nova Southeastern University.

Dr. Boyd started her career as a student intern in the federal government and accepted her first Senior Executive Service position in 2020. She has worked at NOAA, the National Science Foundation, and most recently the U.S. Environmental Protection Agency. She has received the 2020 Black Engineer of the Year Award for Career Government Service, the 2020 National Weather Association Special Act Award, the 2021 Charles E. Anderson Award for advancements in Diversity, Equity, and Inclusion, and the 2022 Distinguished Alumni Award from Iowa State University's Department of Geological and Atmospheric Sciences. She is also a Fellow of the American Meteorological Society, the highest honor bestowed by the organization.

## 2022-2023 GRADUATES

### DOCTOR OF PHILOSOPHY

#### **Brendan Campbell**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Matthew Gray, Horn Point Laboratory  
Tool development to constrain and optimize shellfish aquaculture gear performance

#### **Juliet Joy Nagel**

Marine Estuarine Environmental Sciences/Environmental Science  
Advisor: Dr. David Nelson, Appalachian Laboratory  
Informing conservation of threatened bat species using genomics and acoustics

#### **Claire Nemes**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Emily Cohen, Appalachian Laboratory  
Moving the goal posts: Migratory birds in a changing world

#### **Natalie Louise Snider**

Marine Estuarine Environmental Sciences/Environment and Society  
Advisor: Dr. Bill Dennison, Integration and Application Network  
Building flood resilience in social-ecological systems

#### **Daniela Tizabi**

Marine Estuarine Environmental Sciences/Environmental Molecular Biology and Biotechnology  
Advisor: Dr. Russell Hill, Institute of Marine and Environmental Technology  
Bioprospecting marine *actinomycetes* for novel anti-tuberculosis drugs

#### **Srishti Vishwakarma**

Marine Estuarine Environmental Sciences/Environment and Society  
Advisor: Dr. Xin Zhang, Appalachian Laboratory  
Exploring the future of global crop supply: The role of nitrogen inputs, climate change, and international trade

#### **Anna Windle**

Marine Estuarine Environmental Sciences/Earth and Ocean Systems  
Advisor: Dr. Greg Silsbe, Horn Point Laboratory  
Incorporating unoccupied aircraft systems (UAS) and earth-observing satellites to enhance environmental remote sensing of Chesapeake Bay

#### **Qiurui Zhu**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Eric Davidson, Appalachian Laboratory  
Quantifying nitrous oxide and methane fluxes using the tower-based gradient method on a drainage water managed farm on the Eastern Shore of Maryland

#### **Tan Zou**

Marine Estuarine Environmental Sciences/Environment and Society  
Advisor: Dr. Xin Zhang, Appalachian Laboratory  
Sustainable nutrient management across systems and spatial scales

### MASTER OF SCIENCE

#### **Emma Green**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Lee Cooper, Chesapeake Biological Laboratory  
Insights into benthic macroinvertebrate ecology in the northern Bering and southern Chukchi Seas from stable isotope analysis

#### **Sarah Ann Jones**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Thomas Miller, Chesapeake Biological Laboratory  
Geostatistical estimation of blue crab *Callinectes sapidus* abundance in Chesapeake Bay at local scales

#### **Megan Massa**

Applied Ecology and Conservation Biology  
Advisor: Dr. Emily Cohen, Appalachian Laboratory  
Conserving eastern grassland birds on public and private lands

#### **Andrea Ruth Pfaff**

Marine Estuarine Environmental Sciences/Earth and Ocean Systems  
Advisor: Dr. Jacqueline Grebmeier, Chesapeake Biological Laboratory  
Drivers of epibenthic biodiversity and abundance in Barrow Canyon, Chukchi Sea utilizing drop-camera video data

#### **Lauren Rodriguez**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisors: Dr. Helen Bailey & Dr. Ryan Woodland, Chesapeake Biological Laboratory  
Assessing vertebrate biodiversity across the Chesapeake Bay using environmental DNA metabarcoding

**Stefenie Faye Shenoy**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisors: Dr. Lora Harris & Dr. Jeremy Testa, Chesapeake Biological Laboratory  
Quantifying nitrogen removal potential of bottom cage (*C. virginica*) aquaculture

*We congratulate the following graduates  
who were unable to participate in today's ceremony:*

**DOCTOR OF PHILOSOPHY****Nicole Barbour**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Helen Bailey, Chesapeake Biological Laboratory  
Sea turtle movement ecology: Causes and patterns of variability for different species and life stages

**Jacob Hagedorn**

Marine Estuarine Environmental Sciences/Environmental Science  
Advisor: Dr. Eric Davidson, Appalachian Laboratory  
Examination of soil greenhouse gas fluxes and denitrification to assess pollution trading in agricultural drainage water management

**Chris Hayes**

Marine Estuarine Environmental Sciences/Fisheries Science  
Advisor: Dr. Lisa Wainger, Chesapeake Biological Laboratory  
Expanding the fisheries management tackle box: A multiple-model approach to support better decisions

**Shannon Hood**

Marine Estuarine Environmental Sciences/Environment and Society  
Advisor: Dr. Louis Plough, Horn Point Laboratory  
Optimizing desiccation as a biofouling control strategy for water-column cultured oysters, *Crassostrea virginica*, in the Chesapeake Bay

**Katie Lankowicz**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Hongsheng Bi, Chesapeake Biological Laboratory  
Fine-scale spatial ecology of an estuarine forage fish

**Mingli Zhao**

Marine Estuarine Environmental Sciences/Environmental Molecular Science and Technology  
Advisors: Dr. Eric Schott & Dr. Hal Schreier, Institute of Marine and Environmental Technology  
Investigating interactions between climate, host life history, and viral diversity across a transhemispheric range of marine ecosystems

**MASTER OF SCIENCE****Nicholas Coleman**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. David Secor, Chesapeake Biological Laboratory  
Integrating biotelemetry and hydroacoustic data to estimate the abundance of the fall spawning run of Atlantic sturgeon in the Marshyhope Creek-Nanticoke River system

**Alexandra Marie Gibbs**

Marine Estuarine Environmental Sciences/Earth and Ocean Systems  
Advisors: Dr. Solange Filoso & Dr. Michael Gonsior, Chesapeake Biological Laboratory  
Occurrence of pharmaceuticals and personal care products (PPCP) and artificial sweeteners (AS) in surface waters of Maryland's Chesapeake Bay Western Shore

**Daniella Marie Hanacek**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisors: Dr. Lorie Staver & Dr. Jeff Cornwell, Horn Point Laboratory  
Evaluating carbon sequestration potential of natural and restored tidal marshes in Chesapeake Bay through quantification of methane fluxes and identification of drivers

**Archi Howlader**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Elizabeth North, Horn Point Laboratory  
Predicting the salinity history of oysters in Delaware Bay using observing systems data and nonlinear regression

**Madeline Lahm**

Marine Estuarine Environmental Sciences/Earth and Ocean Systems  
Advisor: Dr. Michael Gonsior, Chesapeake Biological Laboratory  
Optical properties of marine and *picocyanobacteria*-derived dissolved organic matter in the Atlantic, Pacific, and during long-term incubation experiments

**Samantha Schiano**

Marine Estuarine Environmental Sciences/Ecological Systems  
Advisor: Dr. Genevieve Nesslage, Chesapeake Biological Laboratory  
Evaluating the consequences of alternative Atlantic striped bass harvest control rules on their prey, Atlantic menhaden

## AWARD RECIPIENTS

### **UMCES Staff Excellence Award**

Mary Ann Manley, Program Management Specialist (retired),  
Horn Point Laboratory

For 36 years, Mary Ann Manley provided exemplary service to UMCES and the Horn Point Laboratory community through her work as a Program Management Specialist in the Horn Point business office. She was a leader in demonstrating teamwork among her colleagues, and her exemplary performance consistently demonstrated a high level of commitment to UMCES. She made her reputation as a quiet, competent powerhouse, keeping research grant accounts in order and providing invaluable assistance to faculty, staff, and students, keeping her finger on the pulse of budgetary issues and flagging concerns in a timely manner. Her knowledge of the system of managing grants has been unparalleled over the years. Manley retired in July 2022.

### **Outstanding Faculty Mentor Award**

Dr. Ryan Woodland, Associate Research Professor,  
Chesapeake Biological Laboratory

Associate Professor Ryan Woodland, an ecologist whose research focuses on food web ecology, has been selected by the graduate student body to receive the Outstanding Faculty Mentor Award for his dedication to both science and his students. Students say his energy for his work is infectious and despite managing numerous and diverse projects, and he has continuously made his students a clear priority. He is supportive and amicable and, even when delivering criticism, leaves students with a sense of inspiration, encouragement, and confidence in their work. One of his most significant contributions to the Chesapeake Biological Laboratory and the Southern Maryland community has been his involvement in organizing an internship program with the College of Southern Maryland that brings community college students to campus for laboratory or field work training and direct contact with graduate students and faculty.

### **UMCES Student Service Award**

Isabel Sanchez-Viruet, Graduate Student,  
Chesapeake Biological Laboratory

Graduate student and Ph.D. candidate Isabel Sanchez-Viruet has been awarded the Student Service Award for a high level of engagement and service to the Chesapeake Biological Laboratory, UMCES, and the broader community. As chair of the Graduate Student Council, she is active organizing and advocating for the UMCES student body, as well as for student needs and improvements to student life at her home campus. She is a SEAS Islands

Alliance mentor, serving as a role model for undergraduate students from non-continental U.S. territories, including Puerto Rico and Guam. She also serves on the committee for the Coastal and Estuarine Research Federation that connects new students from underrepresented groups with mentors. She has taken an active role in mentoring students in the Society for Advancement of Chicanos/Hispanics and Native Americans in Science and volunteered for community outreach programs where she has spoken about Chesapeake Bay ecology.

### **President's Award for Outstanding Research Support**

Jerome M. Frank, Senior Faculty Research Assistant,  
Chesapeake Biological Laboratory

Senior Faculty Research Assistant Jerome M. Frank has been given the President's Award for Outstanding Research Support to recognize rising above the norms of research responsibilities to include unique leadership, mentorship, and service roles during his more than 30-year career at the Chesapeake Biological Laboratory. He has played an essential role in building and leading the Nutrient Analytical Services Laboratory, now a nationally certified research laboratory sought out by federal, state and local organizations to conduct water quality analyses. Now director of the laboratory, he has proven to be an inclusive and engaged leader. He is also heavily engaged in shared governance where he has represented faculty research assistants on the Faculty Senate and has co-lead efforts to improve the work experience of his peers.

### **President's Award for Excellence in Application of Science**

Dr. Ming Li, Professor, Horn Point Laboratory

Professor Ming Li, an expert in the regional impacts of climate change, sea level rise, storm surge, and estuarine and coastal dynamics, is recognized for his outstanding contributions and global leadership in applying the best available science to guide managers and policy-makers in making decisions for communities. He is one of the most influential thought leaders of his generation in the field of environmental fluid mechanics, spanning coastal resilience and the vulnerability of our coastal ecosystems to changing climate. He has dedicated his recent research towards predicting the impacts of climate change on coastal inundation in Maryland and conducting fundamental research on coastal sea level dynamics, as well as applied research to inform decision making on coastline management. He has pushed the boundary of interdisciplinary research, enabling an integrated approach to investigating the compound effects of multiple stressors in coastal systems, including predicting how climate change affects hypoxia, acidification, and harmful algal blooms.