



UNIVERSITY OF MARYLAND  
CENTER FOR ENVIRONMENTAL SCIENCE

COMMENCEMENT

MAY 1, 2015



**COMMENCEMENT**  
**MAY 1, 2015**

President Dr. Donald F. Boesch presiding

**WELCOME AND REMARKS.....PRESIDENT BOESCH**

**INTRODUCTION OF KEYNOTE SPEAKER.....DR. THOMAS MILLER**  
Professor and Director, Chesapeake Biological Laboratory

**COMMENCEMENT ADDRESS.....DR. HOLLY BAMFORD '02**  
Acting Assistant Secretary for Conservation  
and Management, National Oceanic  
and Atmospheric Administration

**ALUMNA AWARD PRESENTATION.....PRESIDENT BOESCH**

**GREETINGS TO GRADUATES.....DR. KENNEDY PAYNTER**  
Director, Marine Estuarine  
Environmental Sciences Graduate Program

**DR. JOANN BOUGHMAN**  
University System of Maryland  
Vice-Chancellor for Academic Affairs

**PRESENTATION OF  
CANDIDATES FOR DEGREES.....DR. EDWARD HOUDE**  
Vice President for Education

**CONFERRAL OF DEGREES.....PRESIDENT BOESCH**

**CLOSING REMARKS.....PRESIDENT BOESCH**

**PARTICIPATING GRADUATES**

**Jennifer A. Bosch, Ph.D.**  
Marine Estuarine Environmental Sciences/Environmental Science  
*Polychaetes, Hypoxia, and Nitrogen Cycling in the Mesohaline Chesapeake Bay*  
Adviser: Dr. Michael Kemp, Horn Point Laboratory

**Jeanette Davis, Ph.D.**  
Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Characterization of the Bacterial Communities Associated with  
Two Tropical Sacoglossan Mollusks Elysia Rufescens and Elysia Crispata*  
Adviser: Dr. Russell Hill, Institute of Marine and Environmental Technology

**Emily Flowers, M.S.**  
Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Ecology of a Fatal Blue Crab Virus: Detection, Range, and Prevalence of  
Callinectes Sapidus Reo-Like Virus*  
Adviser: Dr. Eric Schott, Institute of Marine and Environmental Technology

**Jia Gao, M.S.**  
Marine Estuarine Environmental Sciences/Oceanography  
*Influences of Wave Climate and Sea Level on Shoreline Erosion Rates  
in the Maryland Chesapeake Bay*  
Adviser: Dr. Larry Sanford, Horn Point Laboratory

**Kathleen Gillespie, Ph.D.**  
Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Characterization of the Zebrafish (/Danio rerio/) eIF4E Family*  
Adviser: Dr. Rosemary Jagus, Institute of Marine and Environmental  
Technology

**David Kazyak, Ph.D.**  
Marine Estuarine Environmental Sciences/Fisheries  
*Management and Conservation of Brook Trout in Western Maryland*  
Adviser: Dr. Robert Hilderbrand, Appalachian Laboratory

**Chieh-Lun Liu, Ph.D.**  
Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Changes in eIF2alpha Phosphorylation in Response to Nutrient Deficiency  
and Other Stressors in Fish*  
Advisers: Drs. Rose Jagus/Allen Place, Institute of Marine and Environmental  
Technology

**Yuanyuan Xu, M.S.**  
Marine Estuarine Environmental Sciences/Chemistry  
*Late Medieval Climate Changes in the Tropical Atlantic and Interannual  
Variability Documented in Northeastern Caribbean Coral*  
Adviser: Dr. Hali Kilbourne, Chesapeake Biological Laboratory

**Fan Zhang, Ph.D.**  
Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Roles of the Symbiotic Microbial Communities Associated with Sponge Hosts  
in the Nitrogen and Phosphorus Cycles*  
Adviser: Dr. Russell Hill, Institute of Marine and Environmental Technology

## GRADUATES 2014-15

### DOCTOR OF PHILOSOPHY

#### **Javier Alvarez**

Marine Estuarine Environmental Sciences/Fisheries  
*Understanding Molecular Mechanisms Regulating the Initial Shell-Hardening Process of the Blue Crab Callinectes Sapidus: Involvement of Prophenoloxidase and the Tanning Hormone Bursicon*  
Adviser: Dr. J. Sook Chung, Institute of Marine and Environmental Technology

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#### **Ryan Powell**

Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Rapid Harvest of Algae for Biofuel Production with the Aggregating Bacterium Bacillus sp. Strain RP1137*  
Adviser: Dr. Russell Hill, Institute of Marine and Environmental Technology

#### **Kimberly Vest-Gardner**

Marine Estuarine Environmental Sciences/Environmental Science  
*Effects of Assessment Frequency and Data-Management Lag on Fishery*  
Adviser: Dr. Andrew Elmore, Appalachian Laboratory

#### **Fan Zhang**

Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Roles of the Symbiotic Microbial Communities Associated with Sponge Hosts in the Nitrogen and Phosphorus Cycles*  
Adviser: Dr. Russell Hill, Institute of Marine and Environmental Technology

### MASTER OF SCIENCE

#### **Katherine Bentley**

Marine Estuarine Environmental Sciences/Oceanography  
*Physiological Responses of Acartia and Eurtemora SPP. to Changes in the Nitrogen:Phosphorus Quality of their Food*  
Adviser: Dr. Patricia Glibert, Horn Point Laboratory

#### **Virginia M. Clark**

Marine Estuarine Environmental Sciences/Ecology  
*Field-Measured Versus Derived: What are the Most Effective Predictor Variables in Stream Biodiversity Models?*  
Adviser: Dr. Matthew Fitzpatrick, Appalachian Laboratory

#### **Emily Flowers**

Marine Estuarine Environmental Sciences/Environmental Microbiology  
*Ecology of a Fatal Blue Crab Virus: Detection, Range, and Prevalence of Callinectes Sapidus Reo-Like Virus*  
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#### **Jia Gao**

Marine Estuarine Environmental Sciences/Oceanography  
*Influences of Wave Climate and Sea Level on Shoreline Erosion Rates in the Maryland Chesapeake Bay*  
Adviser: Dr. Lawrence Sanford, Horn Point Laboratory

#### **John Gardner**

Marine Estuarine Environmental Sciences/Environmental Science  
*Denitrification, N<sub>2</sub>O Emissions, and Nutrient Export in Maryland Coastal Plain Streams*  
Adviser: Dr. Thomas Fisher, Horn Point Laboratory

#### **Lauren Gelesh**

Marine Estuarine Environmental Sciences/Chemistry  
*Methane Dynamics in Marine Systems*  
Adviser: Dr. Laura Lapham, Chesapeake Biological Laboratory

#### **Miriam Johnston**

Marine Estuarine Environmental Sciences/Ecology  
*Field-Measured Versus Derived: What are the Most Effective Predictor Variables in Stream Biodiversity Models?*  
Adviser: Dr. Matthew Fitzpatrick, Appalachian Laboratory

**Anthony Kaufman**

Marine Estuarine Environmental Sciences/Fisheries

*Depth Preferences of Overwintering Juvenile Blue Crabs (Callinectes Sapidus) in the Maryland Waters of the Chesapeake Bay: A Local Seasonal Study and Preliminary Shallow Water Survey*

Adviser: Dr. Thomas Miller, Chesapeake Biological Laboratory

**Andrew Keppel**

Marine Estuarine Environmental Sciences/Ecology

*The Effects of Co-Varying Diel-Cycling Hypoxia and pH on Disease Susceptibility, Growth, and Feeding in C. Virginica*

Adviser: Dr. Elizabeth North, Horn Point Laboratory

**Cortney Plyant**

Frostburg State University/Applied Ecology and Conservation Biology

*Geographic Origin and Population Genetics of Lasiurine Bats Killed at Wind Energy Facilities in the Central Appalachian Mountains*

Advisers: Drs. David Nelson and Steven Keller

**Jason Spires**

Marine Estuarine Environmental Sciences/Fisheries

*The Exchange of Eastern Oyster (Crassostrea virginica) Larvae between Subpopulations in the Choptank and the Little Choptank Rivers: Model Simulations, the Influence of Salinity, and Implications for Restoration*

Adviser: Dr. Elizabeth North, Horn Point Laboratory

**Andrea Sylvia**

Marine Estuarine Environmental Sciences/Fisheries

*Effects of Assessment Frequency and Data-Management Lag on Fishery*

Adviser: Dr. Michael Wilberg, Chesapeake Biological Laboratory

**Yuanyuan Xu**

Marine Estuarine Environmental Sciences/Chemistry

*Late Medieval Climate Changes in the Tropical Atlantic and Interannual Variability Documented in Northeastern Caribbean Coral*

Adviser: Dr. Hali Kilbourne, Chesapeake Biological Laboratory

**KEYNOTE SPEAKER**

**Dr. Holly A. Bamford** is the Acting Assistant Secretary for Conservation and Management for the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). In this role, she works closely with Congress, other agency leaders, partner organizations, and local communities to develop policies and take conservation and community resiliency actions to ensure coastal and ocean stewardship and services.

Previously, as Assistant Administrator for NOAA's National Ocean Service (NOS), she directed the federal agency that provides coastal and ocean science-based solutions to address evolving economic, environmental, and social pressures on our oceans and coasts. Prior, she served as Deputy Assistant Administrator for NOS, where she managed the financial and business operations while strategically improving the agency's performance to meet its vast ocean science and service missions. After Hurricane Sandy, Dr. Bamford was named the Incident Commander for NOAA responsible for all post response actions such as overseeing the agencies response to oil spills, chemical spills, marine debris impacts, hydrographic surveys to open critical navigation ways and ports, and high-resolution aerial imagery to map shoreline changes.

Dr. Bamford earned both her M.S. (1998) and Ph.D. (2002) in the Marine Estuarine Environmental Sciences program while a student at the University of Maryland Center for Environmental Science's Chesapeake Biological Laboratory. She has been published in over 20 publications that have been widely referenced in the field of environmental chemistry and water quality.

## 90 YEARS OF INNOVATION

In 2015, the University of Maryland Center for Environmental Science celebrates 90 years of solving problems that face our natural environment, in the Chesapeake Bay and around the world, while educating the scientists of tomorrow. From a network of laboratories—from the Appalachian Mountains to the heart of Baltimore and the Atlantic Ocean—we have set the pace of scientific research on the Chesapeake Bay and made vital contributions toward protecting and improving Maryland's environment, conserving its natural resources, and helping to achieve national eminence for the University System of Maryland. Our renowned faculty have been at the core of understanding the changes in the Chesapeake Bay and what we can do to reverse those negative changes. We continue our work to advise our local and national leaders on how to achieve effective environmental policy and natural resource management, and we train the next generation of scientists—graduate students who work shoulder-to-shoulder with our faculty members to be next scientifically trained environmental stewards.

