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

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/) elf4E 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 elf2alpha 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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Marine Estuarine Environmental Sciences/Environmental Science
Polychaetes, Hypoxia, and Nitrogen Cycling in the Mesohaline Chesapeake Bay
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Management and Conservation of Brook Trout in Western Maryland
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Chieh-Lun Liu
Marine Estuarine Environmental Sciences/Environmental Microbiology
Changes in eIF2alpha Phosphorylation in Response to Nutrient Deficiency and Other Stressors in Fish
Advisers: Drs. Rosemary Jagus/Allen Place, Institute of Marine and Environmental Technology

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 Eutetemora 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, N2O 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

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**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.
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.