

MARYLAND SEA GRANT COLLEGE

*Program Assessment Team
Research Fellows
Poster Session*

*Baltimore Aquarium
Knott Harbor View Room
Tuesday, September 27, 2005*



Gonadotropin-releasing hormone neuron migration: In-vivo visualization and directional guidance

Eytan Abraham,¹ K. Kight,¹ Y. Gothilf,² S. J. Du¹ and Y. Zohar¹
Center of Marine Biotechnology (COMB), University of Maryland
Biotechnology Institute (UMBI), Baltimore;¹ Tel-Aviv University, Tel-
Aviv, Israel²

Mr. Eytan Abraham is currently enrolled in a Ph.D. program at COMB working with Dr. Yonathan Zohar on the GnRH system in fish. He was supported as a Maryland Sea Grant (MDSG) Research Fellow for two years studying the GnRH system's role in inducing sterility in fish.



Integrating phytoplankton indicators: relationships between floral composition and size structure in Chesapeake Bay

Jason E. Adolf,¹ M. E. Mallonee,² W. D. Miller,² **Miranda Hoover**³ and L. W. Harding Jr.²
UMBI Center of Marine Biotechnology;¹ Horn Point Laboratory,
University of Maryland Center for Environmental Science (UMCES);²
NSF-REU Fellow 2003, Florida Atlantic University, FL;³ Maryland Sea
Grant³

Dr. Jason Adolf conducted his Ph. D. research under Dr. Larry Harding at Horn Point Lab, UMCES. He was supported for four years as a MDSG Research Fellow while studying the phylogenetic diversity of phytoplankton in Chesapeake Bay. He currently holds a post-doctoral position at COMB in the lab of Dr. Alan Place.

Ms. Miranda Hoover was a National Science Foundation (NSF)-supported Research Experiences for Undergraduates (REU) in 2003 under the mentoring of Dr. Larry Harding. She worked on a day-to-day basis with Dr. Adolf who was a post-doctoral researcher in Dr. Harding's lab. Her project investigated the effectiveness of using flow cytometry to measure indicators of phytoplankton in the Chesapeake Bay.



Temperature, salinity, and size dependent overwintering mortality of juvenile blue crabs

Laurie J. Bauer and T. J. Miller
Chesapeake Biological Lab, UMCES

Ms. Laurie Bauer is completing her master's thesis under the guidance of Dr. Tom Miller. She received two years of support as an MDSG Research Fellow studying blue crabs and developing a GIS database. In January 2006, Ms. Bauer begins a one-year Knauss Policy Fellowship.



A community analysis of ichthyoplankton in the Patuxent River

Patrick Campfield¹ (*in absentia*) and E. D. Houde²
Wisconsin Department of Natural Resources;¹ Chesapeake Biological Laboratory, UMCES²

During 2000 and 2001, Mr. Patrick Campfield was a MDSG Research Fellow working with Ed Houde and in collaboration with the Maryland Department of Natural Resources on a fisheries project to estimate the success of stocked American shad larvae. After graduating with his master's degree in 2004, Mr. Campfield was hired by the Wisconsin Department of Natural Resources.



Modeling suspended sediment transport and shallow water wave attenuation in the presence of breakwaters and submerged aquatic vegetation

Shih-Nan Chen, L. P. Sanford, F. Shi and E. North
Horn Point Laboratory, UMCES

Mr. Shih-Nan Chen is a Ph.D. candidate under Dr. Larry Sanford and supported as an MDSG Research Fellow since 2004 on two different research projects. For both projects, Mr. Chen is applying his research interest in numerical modeling to investigate the effects of wave action and sediment transport in shallow systems on oyster reefs, submerged aquatic vegetation and shoreline erosion.

Wetland nutrient and sediment burial in a Chesapeake Bay subestuary; and Photosynthesis of benthic microalgae in shallow Chesapeake environments (Paired Posters)

Christopher Chick

NSF-REU Fellow 2001; Horn Point Laboratory, UMCES

Mr. Chris Chick returned to Horn Point Lab this past year to work with Dr. Jeff Cornwell as an MDSG Research Fellow to study microphytobenthic processes in Chesapeake Bay as part of his master's thesis research. In 2001, Mr. Chick first came to the lab as a NSF REU student; Dr. Cornwell was his REU scientist-mentor. His research at that time examined nutrient burial in wetlands.



Influence of *Ruppia maritima* and *Potamogeton perfoliatus* on biogeochemical cycling in Chesapeake Bay: Implications for restoration

Jessica Davis,¹ Sarah Henson,² Barbara Jacobson³ and W. M. Kemp⁴
USGS Patuxent Wildlife Research Center, MD;¹ NSF-REU 2003, S. S. Papadopoulos & Associates, Inc., Bethesda, MD;² NSF-REU 2004, Center for Marine Science, University of North Carolina Wilmington;³ Horn Point Laboratory, UMCES⁴

Ms. Jessica Davis received support as an MDSG Research Fellow during 2003 and 2004. She is currently a Ph.D. candidate working with Dr. Michael Kemp. While an MDSG Research Fellow, Ms. Davis' research involved looking at factors regulating seagrass interactions with sediment biogeochemical processes. While working in Dr. Kemp's lab, Ms. Davis helped supervise both REU students and summer secondary school teachers. Ms. Davis is currently working at the Patuxent Wildlife Research Center as she completes her dissertation.

Ms. Sarah Henson and Ms. Barbara Jacobson were NSF REU students with Dr. Kemp in 2003 and 2004 respectively, supervised on a day-to-day basis by Ms. Davis. Ms. Henson's project investigated the biogeochemistry of plant-sediment interactions in underwater grass beds, while Ms. Jacobson studied changes in biomass and nutrient fluxes between two different submerged aquatic plants. Ms. Jacobson

is currently pursuing a master's degree and Ms. Henson works for an environmental and water resources consulting firm.



Pore water and solid phase response of shallow water sediments to increased organic loading (Chesapeake Bay, USA)

Rebecca R. Holyoke, M. S. Owens, J. C. Cornwell and R. I. E. Newell
Horn Point Laboratory, UMCES

Ms. Holyoke is pursuing her Ph.D. in sediment biogeochemistry working with Dr. Jeff Cornwell. While a MDSG Research Fellow for two years, she worked with Dr. Roger Newell investigating the influence of oysters on nutrient cycling at the sediment-water interface. This past year, Ms. Holyoke was awarded a Nancy Foster Scholarship from NOAA to support her continuing graduate studies.



Sources of variability and stability in recruitment of Chesapeake Bay striped bass

Edward J. Martino and E. D. Houde
Chesapeake Biological Laboratory, UMCES

As a newly appointed MDSG Research Fellow, Mr. Martino is studying striped bass in the Chesapeake Bay as part of a new research project awarded to Dr. Larry Harding and Dr. Ed Houde. Mr. Martino is a Ph.D. candidate, has completed his comprehensive exams and expects to complete his dissertation by 2006. He will be available to discuss Patrick Campfield's poster.



The history of Holocene Chesapeake Bay food webs

Angela Arnold Sowers¹ and G. Brush²

U.S. Army Corps of Engineers;¹ Johns Hopkins University²

Dr. Sowers completed her Ph.D. from Johns Hopkins University in June 2003 and currently works for the U.S. Army Corps of Engineers District Office in Baltimore, Maryland. While supported for three years as a MDSG Research Fellow, she worked with her advisor Dr. Grace Brush using sediment cores to understand the long-term history of the Chesapeake Bay trophic state. Her poster provides a more detailed presentation of her dissertation work that investigates historical changes in food webs.



A complete cellulase system in the marine bacterium Saccharophagus degradans strain 2-40

Larry E. Taylor II,¹ B. Henrissat,² P. M. Coutinho,² N. A. Ekborg,³ M. B. Howard,³ S. W. Hutcheson³ and R. M. Weiner^{1,3}

Department of Marine and Estuarine Environmental Sciences, University of Maryland, College Park (UMCP);¹ Architecture et Fonction des Macromolécules Biologiques, UMR6908, CNRS and Universités Aix-Marseille I and II, Marseille cedex 9, France;² and Department of Cell Biology and Molecular Genetics, (UMCP)³

Starting in 2000, Mr. Larry Taylor received four years support as an MDSG Research Fellow. His research working with a marine bacterium involves initial genomic analyses and detailed characterization of cellulases and xylanases. Mr. Taylor expects to complete his doctoral degree by the end of this year and currently holds a post-doctoral position at the University of Pennsylvania.



Bioturbating infauna and permeable intertidal sediments: The importance of species function and species interactions

George G. Waldbusser

Chesapeake Biological Laboratory, UMCES

Starting in 2003, Mr. George Waldbusser received support for two years as a MDSG Research Fellow working with his advisor Dr. Roberta Marinelli. During his MDSG fellowship, Mr. Waldbusser investigated linkages between benthic community composition and benthic biogeochemical function, which complemented his broader Ph.D. research interests. Before coming to Maryland, Mr. Waldbusser completed a master's degree at the University of Connecticut under the supervision of Dr. Robert Whitlatch.

