

# Lab Lines

APRIL–JUNE 2016

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Cover Picture: Reed Brodnik submitted this photo on his recent trip to Ocean City, MD. The volunteer is holding a male Black Sea Bass in full spawning color.

## RESEARCH & AWARDS

On behalf of the Council of the Geological Society of America, Hadley McIntosh was awarded the Charles A. and June R.P. Ross Research Fund recipient and awarded a research grant.

A grant from the National Science Foundation (NSF) was awarded to support the project entitled “Towards a Unifying Pan-Arctic Perspective: Concepts and Theories” and is under the direction of Dr. Jacqueline Grebmeier.

Dr. Andrew Heyes submitted a proposal and was granted an award from the Maryland Department of the Environment to support the “Potomac River PCB TMDL Development Project.”

Dr. Mario Tamburri was granted an agreement to continue participation as a subcontractor on the CBL proposal to NSF International entitled “MERC Land Based Testing of the De Nora Technologies BalPute BallastWater Management System.”

A new award was granted to “Targeted Watershed Project and Corsica Monitoring Consolidated Project.” Mr. Jerry Frank will be the PI on this project.

## RESEARCH & AWARDS CONT...

The Maryland Department of Natural Resources, Chesapeake and Coastal Service, granted an award to UMCES to study the influence of turbine construction noise on Black Sea Bass displacement and physiological condition in the Maryland Wind Area. Dr. David Secor is listed as the PI on this award.

Additional funds were granted from NOAA (thru UAF) to continue Integration Ocean Observing System (IOOS). The PI on this project is Dr. Jackie Grebmeier.

The Maryland Department of the Environment granted UMCES an award to provide analytical support for nutrient monitoring and chlorophyll monitoring in small impoundments in Maryland where phosphorus TMDLs have been developed. Mr. Jerry Frank is listed as the PI for this project.

The Maryland Department of the Environment granted UMCES an award to provide analytical support for nutrient monitoring in the Back River watershed. The PI on this project is Mr. Jerry Frank.

## SUSTAINABILITY

**W**e have a winner! The first annual Sustainability contest resulted in some excellent ideas. The winning idea was put forward by Dr. Lee Cooper, who suggested investment in solar powered battery chargers for general use. Congratulations! We are working to implement this idea, stay tuned. Highly ranked ideas also included carpool coordination and incentivizing recycling. Our next activity will focus on estimation of greenhouse gas emissions. Stay tuned for the annual commuter survey.

The Testa Lab will be embarking on a research cruise on board the R/V Rachel Carson with colleagues from the Univ. of Delaware from June 6-10 to measure water-column and sediment metabolic processes as part of an effort to understand the carbonate system in the Chesapeake Bay.

The Harris and Testa Labs will begin their annual monitoring of Solomons Harbor and Calvert Tidal Creeks the week of May 23rd. This is the 29th year of this program. Results from last year were presented to the Calvert County Board of County Commissioners in April.



Jessica Wingfield, Gray Redding, and Cara Simpson with Michael Hulme and Rob Nilson cruised on the R/V Rachel Carson May 16-19 recovering and redeploying hydrophones in and around the Maryland Wind Energy Area off Ocean City, MD, to record underwater sound levels and monitor for marine mammals.

## NEW PERSONNEL & STUDENTS

Dr. Libin Zhang will be a visiting Associate Professor for one year and will be working with Dr. Hongsheng Bi.

Scott Raymond will be working in Maintenance as a Multi-Trade Chief.

Jaclyn Mantell is a new FRA II working in the Nutrient Analytical Services Lab with Jerry Frank.

## DEVELOPMENT

**P**lease join us, the graduate students of the Chesapeake Biological Laboratory (CBL) on Saturday, September

17, 2016. We are hosting the 9th annual CBL 5K Run for Research.

The course begins and ends at CBL and takes the participants on a morning tour of beautiful Solomons, MD.

Funds raised by the Run for Research are used exclusively to provide travel grants to CBL students.

You can run or walk; participate competitively or just for fun!

This year the race will be timed. Race Start time: 7:30 Race Location: 150 Farren Avenue, Solomons, MD.

Cost: \$25 until August 1, 2016  
\$30.00 after August 1, 2016. Payment Accepted: Credit Cards, Checks or Cash.

Please make checks payable to: University of Maryland Foundation.

Register online <http://www.umces.edu/cbl/5k-run>.

For Questions contact the Development office at 410.326.7240 or [cbl5krun@gmail.com](mailto:cbl5krun@gmail.com).

This is an event of the University System of Maryland and the USM Foundation. Sponsor contributions are tax-deductible to the extent of the law; no goods or services were exchanged for sponsorships provided.

**T**o celebrate the commissioning of the new R.V. Truitt Laboratory the University of Maryland Center for Environmental Science Chesapeake Biological Laboratory is going to have an Open House on September 10, 2016 from 1:00 to 5:00 in the afternoon at which we hope to invite dignitaries and members of the local community. The Open House event will provide people a chance to participate in hands-on science experiments and activities. From seining to discovering new worlds through the lens of a microscope, visitors will gain access to our most important resource-our faculty and staff- and our campus. Despite the



fun being had, the message of the event is clear: science is engaging.

We invited a select group of local organization to participate in our Open House. I have received confirmation from Calvert Marine Museum, Cove Point Natural Heritage Trust, Maryland Sea Grant, Maryland DNR-Fisheries Service, Appalachian Laboratory, and the Institute of Marine and Environmental Technology all planning to participate in our open house by setting up a booth. We have encouraged each organization to include interactive activities fun for kids!

The R.V. Truitt Laboratory dedication and ribbon cutting will begin at 10 o'clock in the morning. We have invited dignitaries, business owners and members of the local community to attend. We are expecting to have close to 150 people in attendance.

## GEC FELLOWSHIP

Two 2-year Solomons House Graduate student fellowships have been awarded to support new incoming students for the Fall of 2016.

This Spring the GEC has awarded ten travel awards to support students in presenting their research at National and International meetings.

The 2016 Ruth Mathes research award recipient is Ms. Melissa Day, who is working with Dr. Lora Harris in studying nitrogen fluxes in Parkers Creek.

## SAFETY

Improvement of chemical storage is well under way.

We have achieved our goal to have an updated and complete chemical inventory of the CBL campus.

## LIBRARY

Kathy Heil, MLS (Librarian IV) hosted the SAIL 16 Conference at UMCES CBL May 10-13. This group includes Aquatic and Marine Science Libraries and Information Centers from the Mid-West; Atlantic and Gulf Coasts.



## OUTREACH

### Visitor Center

Check out the new “Making Waves with CBL Students” exhibit in the Visitor Center! This exhibit features a series of short videos about individual CBL students, highlighting the important research they are conducting. The CBL Visitor Center will be opened on:

- May 1-27, 2016: 12:00pm – 4:00pm every Friday, Saturday, and Sunday
- May 28 – Labor Day: 12:00pm – 4:00pm every Wednesday and Thursday, & 9:30am – 4:30pm every Friday, Saturday, and Sunday.
- Docent-led campus tours will resume in June and will take place every Friday at 2:00 pm.

### Visitor Center Volunteers Needed

The Chesapeake Biological Laboratory (CBL) Visitor Center provides guests with the opportunity to learn about cutting-edge research being pioneered by CBL’s team of faculty and student scientists. The CBL Visitor Center is entirely run by our dedicated Visitor Center docents, who serve a vital role in explaining our research to the general public and help guests understand the importance of the work we do. New volunteers are currently being recruited, and we would love to have you join the team! If you are interested in volunteering in the Visitor Center, or know someone you think would be interested in volunteering, please contact Sarah Brzezinski at [brzezins@umces.edu](mailto:brzezins@umces.edu).

### Off-Campus Events

Be sure to visit the Chesapeake Biological Laboratory’s outreach displays at the following community events:

- St. Mary’s County Crab Festival: Saturday, June 11, 2016 from 11:00am – 8:00pm at the St. Mary’s County Fairgrounds
- Bernie Fowler Patuxent River Wade-In: Sunday, June 12, 2016 from 1:00pm – 4:00pm at Jefferson Patterson Park



## PUBLICATIONS

Coleman, A.T., Pitchford, J.L., **Bailey, H.** and Solangi, M. (in press) Seasonal movements of immature Kemp's Ridley sea turtles (*Lepidochelys kempii*) in the Northern Gulf of Mexico. Aquatic Conservation: Marine and Freshwater Ecosystems.

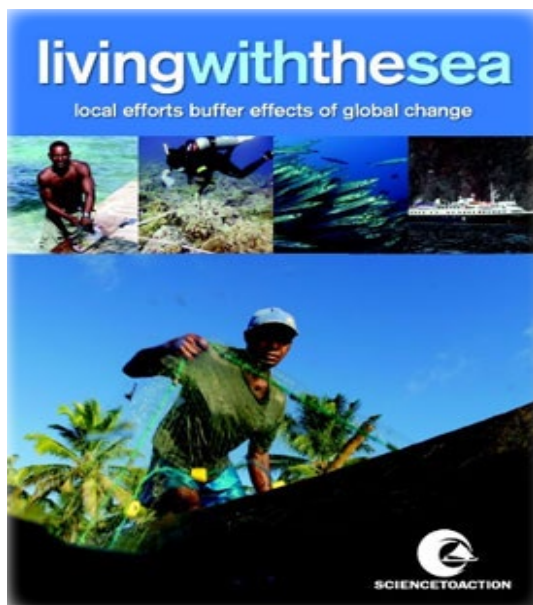
Bograd, S., Hazen, E.L., Maxwell, S.M., Leising, A.W., **Bailey, H.** and Brodeur, R.D. (2016) The Offshore Ecosystem. Pages 287-309 in H. Mooney and E. Zavaleta, editors. Ecosystems of California, University of California Press, Oakland, California.

Hays, G.C., Ferreira, L.C., Sequeira, A.M.M., Meekan, M.G., Duarte, C.M., **Bailey, H.**, Bailleul, F., Bowen, W.D., Caley, M.J., Costa, D.P., Eguíluz, V.M., Fossette, S., Friedlaender, A.S., Gales, N., Gleiss, A.C., Gunn, J., Harcourt, R., Hazen, E.L., Heithaus, M.R., Heupel, M., Holland, K., Horning, M., Jonsen, I., Kooyman, G.L., Lowe, C.G., Madsen, P.T., Marsh, H., Phillips, R.A., Righton, D., Ropert-Coudert, Y., Sato, K., Shaffer, S.A., Simpfendorfer, C.A., Sims, D.W., Skomal, G., Takahashi, A., Trathan, P.N., Wikelski, M., Womble, J.N. and Thums, M. (2016) Key Questions in Marine Megafauna Movement Ecology. Trends in Ecology and Evolution.

**Lyubchich, V.**, Wang, Xingyu, **Heyes, A.**, Gel, Y. (2016). A Distribution-free m-out-of-n bootstrap approach to testing about

an unknown median.

**Glandon, H.L., and Miller, T.J.,** (2016). No Effect of High  $pCO_2$



on Juvenile Blue Crab, *Callinectes sapidus*, Growth and Consumption Despite Responses to Concurrent Warming.

**Schijf, J., and Burns, S.M.** (2016). Measurement of the Side Reaction Coefficient of Desferrioxamine B in Metal-Free Seawater.

**Lyubchich, V., and Gel, Y.R.,** (2016). A Local Factor Nonparametric Test for trend Synchronism in Multiple Time Series.

Ludsin, S., K. M. DeVanna Fussell, R. E. H. Smith, M. E. Fraker, L. Boegman, K. T. Frank, **T. J. Miller**, J. T. Tyson, K. K. Arend, D. Boisclair, S. J. Guildford, R. E. Heckey, T. O. Hook, O. P. Jensen, J. K. Llopiz, C. J. May, R. G. Najjar, L. G. Rudstam, C.

T. Taggart and Y. R. Rao. 2016. Managing Great Lakes fisheries under changing ecosystem conditions: a perspective on needed approaches and research. Journal of Great Lakes Research.

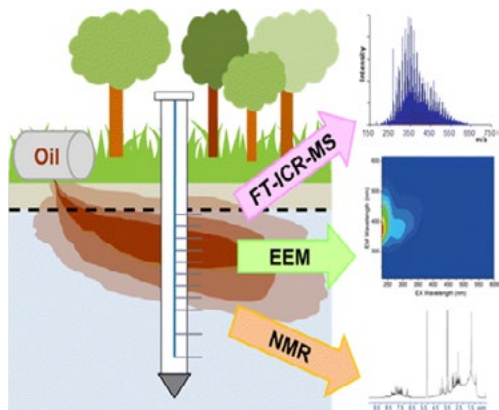
**Nesslage, G., Wainger, L.,** Harms, N., and Cofrancesco, A. (2016). Quantifying the Population Response of Invasive Water Hyacinth, *Eichhornia Crassipes*, to Biological Control and Winter Weather in Louisiana, USA. Biological Invasions.

Wilson, R.M., Macelloni, L., Simonetti, A., **Lapham, L.** Lutken, C., Sleeper, K., D'Emidio, M., Pizzi, M., Knapp, J., Chanton, J. (2016). Subsurface Methane Sources and Migration Pathways within a Gas Hydrate Mound System, Gulf of Mexico. AGU and the Geochemical Society.

Christopher S Martens, Howard P. Mendlovitz, Harvey Seim, **Laura Lapham**, Marco D'Emidio. (2016). Sustained In Situ Measurements of Dissolved Oxygen, Methane and Water Transport Processes in the Benthic Boundary Layer at MC118, Northern Gulf of Mexico. Deep-Sea Research.

**Rowe C.L.**, Funck SA. 2016. "Respiration rates of larval Cope's gray tree frogs (*Hyla chrysoscelis*) across a range in temperatures." Journal of Herpetology vol. 50.

Sabine E. M. Dvorski, **Michael Gonsior**, Norbert Hertkorn, Jenny Uhl, Hubert Miller, Christian Griebler, and Philippe Schmitt-Kopplin. Geochemistry of Dissolved Organic Matter in a Spatially Highly Resolved Groundwater Petroleum Hydrocarbon Plume Cross Section. ES&T.



**Testa, J.M.**, W.M. Kemp, L.A. Harris, R. Woodland, W.R. Boynton. 2016. Challenges and directions for the advancement of estuarine ecosystem science. *Ecosystems*, in press.

Li, M., Y.J. Lee, **J.M. Testa**, Y. Li, W. Ni, W.M. Kemp, and D.M. Di Toro. 2016. What drives interannual variability of estuarine hypoxia: Climate forcing versus nutrient loading? *Geophysical Research Letters* doi 10.1002/2015GL067334.

Irby, I.D., M.A.M. Friedrichs, C.T. Friedrichs, A.J. Bever, R.R. Hood, L.W.J. Lanerolle, M.E. Scully, K. Sellner, J. Shen, **J.M. Testa**, M. Li, H. Wang, P. Wang, L. Linker, and M. Xia. 2016. Challenges associated with modeling low-oxygen waters in Chesapeake Bay a multiple model comparison. *Biogeosciences* 13, 2011–2028.

## WHO'S ON TRAVEL?



Suzan Sharestani will be attending the Fifth International Jellyfish Bloom Symposium in Barcelona, Spain from May 30th - June 3rd.

Reed Brodnick along with Carlos Lozano and volunteers traveled to Ocean City, MD as part of a collaborative project with UNC and Rutgers University to assess spatial structure in the population(s) of black sea bass in the mid-atlantic region.

Lee Cooper and Jackie Grebmeier traveled to Silver Spring, MD to attend the Marine Biodiversity Observing Network PI Meeting.

Michael Gonsior was invited by Horiba Trading Company to attend a workshop in Beijing, China.

Jeremy Testa attended the STAC Workshop entitled "Comparison of Shallow Water Models for Use in Supporting Chesapeake Bay Management Decision-Making: Part 2 at the VA Institute of Marine Sciences.

David Secor will travel to Madrid, Spain in July to attend the ICCAT Data Workshop for Atlantic Bluefin Tuna Assessment. Dr. Secor also traveled to the Hudson River to conduct research.

Slava Lybchich will travel to Denver, CO in June to give a presentation at the Rocky Mountain Mathematics Consortium (RMMC).

Lisa Wainger participated in a project meeting at HPL Oyster Futures Workshop.

Michael Wilberg and Genny Nesslage are currently in Pusan, Republic of Korea to present research at the World Fisheries Congress.

Laura Lapham traveled to Boston, MA to attend a UNOLS Meeting for the DESSC Committee in which she currently serves.

Tom Miller traveled to New Orleans, LA to attend the NAS Committee on the Marine Recreational Information Program.



## PRESENTATIONS AND SEMINARS

Dr. Solange Filoso will be giving a talk at the Stream Restoration Forum: Science and Regulatory Connections located at the Maryland Department of the Environment Baltimore, MD on June 8.

Dr. Hongsheng Bi has also been busy with his presentation at the Zooplankton Production Symposium in Bergen, Norway. He co-convened a workshop with Dr. Alessandra Conversi from National Research Council within the symposium. The workshop was on “Zooplankton Indicators to Characterize State of Pelagic Ecosystems.”

Dr. Bi is also involved with a poster presentation titled “Size-Specific Growth and Mortality of Euphausiids in the Eastern Bering Sea.” Additionally, he will be giving oral presentations titled Zooplankton Indicators for Integrated Ecosystem Assessment: Salmon Forecasting Using Fuzzy Logic.” And another titled: Insights from Underwater Imaging System: ZOOVIS Deployments in the Northern Gulf of Mexico and the Chesapeake Bay.

Dr. Ryan Woodland recently attended the International Conference on the Applications of Stable Isotope Techniques to Ecological Studies in Tokyo from April 3 - 8. His talk was titled: “Changes in Food Web Structure and trophic niche of estuarine fish assemblages in response to a Gradient of Ecosystem Eutrophication.”

Dr. Slava Lyubchich had co-organized a workshop at the Banff International Research Station (BIRS, Banff, AB, Canada) March 11-13. The title was “Big Data Tsunami at the interface of Statistics, Environmental Sciences and Beyond.” website:

[www.birs.ca/events/2016/2-day-workshops/16w2669](http://www.birs.ca/events/2016/2-day-workshops/16w2669)

Dr. Lyubchich was invited to speak on “Fast Nonparametric bootstrap for the inference on degree distribution in random networks” at the 6th International Workshop on the Perspectives on High-Dimensional Data Analysis (Fields Institute, Toronto, ON, Canada, May 25-27). [www.fields.utoronto.ca/activities/15-16/HDDA](http://www.fields.utoronto.ca/activities/15-16/HDDA)

The Alliance for Coastal Technologies has just released a workshop report on Autonomous Surface Vehicles. The workshop was held at CBL and the vehicles tested in the Patuxent River last November. The full text is available at: [www.act-us.info/Download/Workshops/2015/CBL\\_Autonomous\\_Surface](http://www.act-us.info/Download/Workshops/2015/CBL_Autonomous_Surface)

Chris Rowe gave a seminar at College Park on April 25 to the Behavior, Ecology, Evolution, and Systematics (BEES) Program in Biological Sciences, titled “Coal Ash Disposal - Ecological and Regulatory Considerations.”

On May 18th, Johan Schijf and Hali Kilbourne gave a well-received presentation about CBL/UMCES and our research to the New Comers and Neighbors Club of Southern Maryland. Many

people expressed interest and excitement about our visitor center, public lectures, our open house, and the research that goes on here.

Laura Lapham attended the DEEP Submergence Science Committee (DESSC) meeting which is a standing committee of the University Oceanographic Laboratory System (UNOLS). DESSC provides advisory responsibilities for the National Deep Submergence Facility which includes Alvin, Jason/Medea, and Sentry. in Woods Hole, MA, May 17-20, 2016.

Dr. Jeremy Testa attended the USEPA Chesapeake Bay Program, STAC Workshop, “Comparison of Shallow Water Models for Use in Supporting Chesapeake Bay Management Decision-making”, April 2016.

Dr. Testa also gave a presentation at the Calvert Green Living Expo at Annmarie Sculpture Garden and Arts Center, entitled “Water Quality in the Patuxent River: Some Frustration but Signs of Hope” on April 30, 2016.

Dr. Lora Harris, co-chaired with Dr. Testa the session “Ecological Modelling and Environmental Management” at the International Society for Ecological Global Modelling Conference, Baltimore, MD - May 9-10, 2016.



The International Society for  
**ECOLOGICAL MODELLING**  
**GLOBAL CONFERENCE 2016**

8-12 MAY 2016  
TOWSON UNIVERSITY,  
BALTIMORE, MD, USA

Dr. Lora Harris attended and spoke at the International Society for Ecological Modeling Global Conference 2016. Her abstract (ISEM2016\_0502) was titled Management Informed Development of the Delmarva Modeling Suite.” <http://www.elsevier.com/global-conferences>



## PRESENTATIONS AND SEMINARS CONT...

Dr. Hali Kilbourne led an international workshop entitled “Connecting Paleo and Modern Oceanographic Data to Understand AMOC over Decades to Centuries” in Boulder, CO May 23-25. Agraj Khare also attended the workshop along ~70 other participants. Thanks to the generous support and

funding from U.S. CLIVAR, NSF, NOAA, and PAGES.

Johan Schijf will give a keynote presentation titled “YREE Scavenging in Seawater: A Physical Chemist’s Perspective” at the 2016 Goldschmidt Conference, held 26 June - 1 July in

Yokohama, Japan, during a special symposium to honor the work of the late Dr. Akimasa Masuda. He and Caroline Coulter will also present a poster in the special session “Shale and stray gas in groundwater - Their characterization and environmental concerns”.

Pictured: Graphic used to advertize Dr. Kilbourne’s workshop. This is a sediment core with a representation of the Atlantic Meridional Overturning Circulation (AMOC) in the ocean.



## UPCOMING EVENTS

- **JUNE 19-23** Larval Fish Conference.
- **JUNE 16** Dockside Chats 6:30 P.M. Solomons Yacht Club
- **JULY 12** Dockside Chats 6:30 P.M. Solomons Sailing Association
- **AUGUST 29** Fall 2016 classes begin.
- **SEPTEMBER 10** Open House.
- **NOV 14–17** NSF Arctic Research Meeting @ CBL

- **SEINE SAMPLING SCHEDULE - SECOR LAB**

**Friday, May 27, 1:20 P.M.**

**Tuesday, May 31, 4:15 P.M.**

**Friday, June 10, 1:30 P.M.**

**Tuesday, June 14, 2:00 P.M.**



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