CHESAPEAKE BIOLOGICAL LABORATORY | SOLOMONS, MD

ISSUE 36

Lab Lines

JUNE 2019

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2019 UMCES Commencement

The University of Maryland Center for Environmental Science Chesapeake Biological Laboratory hosted the commencement activities in Solomons, MD on Thursday, May 23 at 12:30 p.m. This years keynote speaker was Vicki Arroyo, Executive Director of the Georgetown Climate Centr at Georgetown Law School.

Congratulations to all our UMCES graduates!

RESEARCH & AWARDS

Dr. Jackie Grebmeier received additional funds from the National Oceanic Atmospheric Administration (through WHOI), April 1, 2017 to June 30 2020. The title for this project is: *The Distributed Biological Observatory (DBO)-Northern Chukchi Integrated Study (NCIS): Hydrography, Sediment, and Macrofaunal Population Dynamics.*

Drs. Lora Harris and Jeremy Testa received an award from the Koolhof Earth, Inc. thru the University System of Maryland Foundation, Inc., (May 13, 2019 to May 12, 2021). The title for this project is: *Experimental Investigations into Potential Floating Wetland Nutrient Removal in Estuarine Waters.*

Dr. David Secor received an award from the Hudson River Foundation, (June 1, 2019 through May 31, 2021). The title for this project is: *East River transit, Long Island Nurseries, and striped bass production.*

Laboratory Cleanliness

We all know that cleanliness and order are important in our homes, but it is an absolute necessity in the laboratory due to the numerous safety concerns that exist and also for quality control of your samples. The overall efficiency of the laboratory can improve significantly through cleanliness and orderly arrangement of laboratory chemicals and other items.

There are several reasons to keep the laboratory clean and orderly - 1) to avoid accidental contamination of yourself or other people in the lab, 2) avoid loss of samples and 3) prevent equipment malfunction. Cleanliness will also help to avoid cross contamination of samples and can save you the time and money involved from trying to determine why the sample blanks are not blank. It also helps to have a place for everything so you do not waste time trying to find something you need. A lack of organization and clutter can also lead to accidents and the easier start and spread of a fire.

Here are some ideas to help you keep your laboratory space clean:

- Clean the weighing balance pans and powder spills, if any, around the balance after weighing your samples or reagents.
- Properly dispose of chemicals and wastes. Old and unused chemicals should be disposed of promptly and properly.
- Provide a workplace that is free of physical hazards. Aisles and corridors should be free of tripping and slipping hazards. Sweep the floor and mop any spills.
- Attention should be paid to electrical safety, especially as it relates to the use of extension cords, proper grounding of equipment, and avoidance of overloaded electrical circuits and avoidance of the creation of electrical hazards in wet areas. Make sure all electrical cords are in good working order, not frayed or damaged.
- Clean up every day. Wipe down countertops and hood surfaces. Surfaces need to be free of clutter.
- Refrigerators and freezers should be cleaned regularly and free of clutter.
- Hoods are not to be used for storage and should be free of debris. Do not allow paper or other trash to get drawn up into the hood. Make sure any cords or tubing are under the airfoil.
- Make sure the sinks are clean and glassware has been washed and put away. If any glass is broken or chipped, please be sure to discard it in the broken glassware box.
- Discard of any sharps in a sharp box.
- All chemicals are properly stored away and in their appropriate cabinets, refrigerators or freezers.
- Make sure equipment is working properly. Inspect any lines or tubing to make sure they are not clogged, blocked or pinched.

This is a general list of things you could incorporate into your laboratory routine. I know that each laboratory is different, so be sure to determine what it is you need to do in your lab to keep it clean, organized and safe.

References:

http://www.sfasu.edu/safety/documents/house_keeping.pdf

http://www.uwyo.edu/safety/_files/docs/factsheets/uwlabhousekeepingguidelines.pdf

http://lab-training.com/2017/08/21/importance-cleanliness-laboratories/

https://extranet.who.int/lqsi/content/arrange-standardized-regular-cleaning-laboratory

https://www.servicemasterbyzaba.com/blog/laboratory-maintenance-checklist/

https://www.chem.tamu.edu/rgroup/wooley/safety/20%20Checklist%20for%20Lab%20Clean%20Up.pdf

TRAVEL AND OUTREACH ACTIVITIES

Dave Secor delivered a keynote at the Hudson River Environmental Society Meeting, Poughkeepsie, NY: *Adaptation to climate change: Can we better equip Hudson River fishes to succeed?*

Chris Rowe gave an overview of local research on Diamondback Terrapins at the Patuxent Naval Air Station on May 16.

Faculty Research Assistants Erin Reilly, Alex Carroll, and Mike O'Brien traveled to Calvert High School on April 30 to present to the Girls Who Code Club. More then 15 high school students of varying age learned how coding in R, Matlab, and Python is used in various exciting ways within the Marine and Environmental Sciences.

Helen Bailey gave a webinar on May 9 with Briana Abrahms from NOAA/NMFS Southwest Fisheries Center on *WhaleWatch - Developing models to predict Blue Whale distribution in near real-time* as part of the Society for Conservation Biology GIS series. A recording of the webinar is available at:
Lisa Wainger traveled to attend and present at the 2019 Center for Natural Resource Economics and Policy conference in New Orleans, LA. https://consbio.org/products/webinars/scgis-whale-watch-developing-models-predict-blue-whale-distribution-near-real-time.

Viacheslav Lyubchich travled to Charleston, SC to participate in the NSF-CBMS Conference on Topological Methods in Machine Learning and Artificial Intelligence.

Jacqueline Grebmeier traveled to Sapporo, Japan to participate in an Arctic Ocean workshop. Travel supported by NOAA.

Jacqueline Grebmeier traveled to South Korea to give a plenary talk at another Arctic conference. Travel supported by NOAA.

Jacqueline Grebmeier traveled to Boston, MA to attend the Synoptic Arctic Survey (SAS) workshop. Travel supported by NSF.

Lee Cooper traveled to Boston, MA to meet with a PolarTREC teacher Piper Bartlett-Browne at St. Thomas Aquinas High School in Dover, NH and work in her school.

Student, Katelynn Lankowicz traveled to Oregon to participate in NOAA sponsored data collection cruise. The project is on the population dynamics and ecology of larval/juvenile fish and zooplankton.

Alex Carroll, David Secor, Helen Bailey-Olde, Jamie Testa, and Mike O'Brien traveled to the University of Massachusetts-Dartmouth, New Bedford, MA to conduct a variety of experiments as part of a DARPA funded project.

PUBLICATIONS

Testa, J.M., Lyubchich, V., and Zhang, Q., 2019**.** *Patterns and trends in Secchi disk depth over three decades in Chesapeake Bay estuarine complex.* Estuaries and Coasts, doi:10.1007/s12237-019-00547-9. [UMCES Contribution No. 5610].

Mitchelmore, C.L., He, K.**, Gonsior, M.,** Hain, E.**, Heyes, A.,** Clark, C.**,** Younger, R., Schmitt-Kopplin P., Feerick, A., Conway, A. and L. Blaney**.** 2019. *Occurrence and distribution of UV-filters and other anthropogenic contaminants in coastal surface water, sediment, and coral tissue from Hawaii*. STOTEN. https://www.sciencedirect.com/science/article/pii/S0048969719310125?via%3Dihub. [UMCES Contribution No. 5590].

Mitchelmore, C.L., and Davies, I. 2019. *Environmental risk assessment of UV filters in freshwater and marine environments*. Session summary from SETAC North America, 2018, SETAC Globe, Volume 20, Issues 2 and 3. https://globe.setac.org/setac-sacramento-session-summaries/. [UMCES Contribution No. 5615].

Mitchelmore, C.L., Bejarano, A.C. and D.L. Wetzel. 2018. *A synthesis of Deepwater Horizon oil, chemical dispersant and chemically dispersed oil aquatic standard laboratory acute and chronic toxicity studies*. In Book 1: Deep Oil Spills – Facts, Fate and Effects, Springer publishers. In Press. [UMCES Contribution No. 5608].

Lyubchich, V., Lebedeva, T.V., Testa, J. 2019. *A data-driven approach to detecting change points in linear regression models.* 2019. Envirometrics. [UMCES Contribution No. 5638].

Mitchelmore, C.L., Griffitt, R.J., Coelho, G.M. and Wetzel, D.L. 2018. *Modernizing protocols for aquatic toxicity testing of oil and dispersant.* In Book 2: Scenarios and responses to future deep oil spills – fighting the Next War. Springer Publishers. In Press. [UMCES Contribution No. 5613].

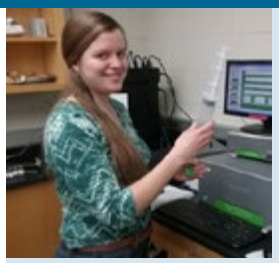
Soliman, M., Gel, Y.R., **Lyubchich, V.** 2019. *Complementing the power of deep learning with statistical model fusion: probilistic forecasting of influenza in Dallas County, Texas.* Epidemics. [UMCES Contribution No. 5634].

Ghahari, A., Newlands, N.K., **Lyubchich, V.**, Gel, Y.R. 2019. *Deep learning at the interface of agricultural insurance risk and spatio-temporal uncertainty in weather extremes.* North American Acturial Journal. [UMCES Contribution No. 5637].

Bailey, H., Lyubchich, V., Wingfield, J., Fandel, A., Garrod, A., and Rice, A.N. *Empirical evidence that large marine predator foraging behavior is consistent with are-restricted search theory.* Ecology. 2019. [UMCES Contribution No. 5639].

Zhao, Z., **Michael, G.**, Schmitt-Kopplin, P., Zhan, Y., Zhang, R. 2019. *Microbial transformation of virus-induced dissolved organic matter from picocyanobacteria coupling of bacterial diversity and DOM chemodiversity.* [UMCES Contribution No. 5640].

CSM STUDENT INTERNS



The first official cohort of College of Southern Maryland interns has completed their semester at CBL. CSM students Jessica Loveless, Alexis Hunt and Nicholas Johnson were paired with mentors Laura Lapham, Michael Gonsior and Ryan Woodland. All interns participated in shared activities, including a group orientation day at the start of the semester that covered laboratory safety, an introduction to basic lab skills, and an ice-breaker pizza lunch. Interns capped their tenures at CBL by providing short presentations on their experiences and fielding questions from the audience following the scheduled brownbag on May 10th. Beyond these shared experiences, each intern had the opportunity to learn specialized skills under the watchful eye of their faculty mentors and respective students and staff. Jessica analyzed deep ocean hydrocarbon seep incubation samples for dissolved inorganic carbon concentrations and stable carbon isotope ratios while Alexis learned about the analysis of complex dissolved organic matter and Nick learned to process zooplankton and sediment samples for stable isotope analysis of mysid trophic ecology. While these interns were not the first CSM students to be hosted by CBL faculty, they did represent the first iteration of what we hope will be a formalized internship program between CSM and CBL. In support of this vision, Dr. Miller has contracted with Leonardtown Grants, LLC, a professional grant writing organization, to initiate an aggressive search for funding to build and maintain a CSM-CBL internship program.

UPCOMING EVENTS

CBL's 4th Annual Open House

September 7, 2019 at 1:00 p.m.

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