

Lab Lines

DIRECTOR'S VIEW

DECEMBER 2020

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With Christmas upon us, I find myself reflecting on the gifts of the season. I am not a man of faith, but this holiday has always had a special meaning to me - a time when people gather and celebrate the simple joys of family and friendship. As many of you know, my Christmas with family will be a virtual affair over zoom, but nonetheless important. Similarly I will meet up with friends I have known for 50 years over zoom. It is important to continue to keep these relationships fed and nurtured. But perhaps more than these, I will reflect this year on the friendship and community at CBL. I want to thank each of you for all you have done in this most unusual year to support and protect the CBL community. It has not been easy to keep our lab functioning, even at reduced capacity. It has truly taken a village. A village of the willing - people who were willing to take on new tasks and responsibilities with no questions. People who were willing to leave for work earlier and stay later than normal. People who were willing to balance their own personal responsibilities with their jobs, working at home and at the lab. All of this has served to confirm my belief that CBL is a special place, filled by special people who are dedicated to making the world a better place by supporting each other.

So in this season, take time to celebrate the family and friends in your lives. Keep those of our community currently battling this virus in your thoughts, that they may recover quickly and fully. I am confident 2021 will be better and brighter and bring fewer challenges. I am confident that CBL will emerge stronger with a clearer sense of who we are as people and what we can achieve as an institution.



VACUUM PUMP SAFETY

Many of us have spent many an hour filtering or concentrating samples using a vacuum pump. I think sometimes we see these tasks as so simple that it can be forgotten that these pumps do have some hazards associated with them.

By following some guidelines, these tasks can be performed safely and the hazards avoided.

- 1). It is important that the pump is in good working order. The cord is to be in good condition and free of any defects. It should not have frayed or have exposed wires. The belts and pulleys on the pump should have guards to cover them. These guards are in place to keep your hands or loose clothing from getting caught in them.
- 2). The tubing used for the pump should be thick vacuum tubing. Do not use Tygon tubing on the pump. It is too thin and will collapse. Use the shortest length of tubing required to get it where needed. Replace any old, cracked tubing.
- 3). The pump should never be placed in an enclosed, unventilated cabinet where heat and exhaust can build up. They should also not be operated near any flammable chemicals or combustible materials (such as paper) to avoid a fire hazard. The exhaust from the pump needs to be vented into a hood or snorkel.
- 4). Check the oil levels and change the oil when necessary. Place a drip pan under the pump to collect any oil drips.
- 5). Use a trap to protect the pump and tubing from any chemicals entering the system. When operating a rotary evaporator, use a cold trap to prevent solvent vapors from reaching the pump.
- 6). Be sure to use the appropriate glassware to avoid the risk of implosion. Do not use standard glassware. Use PVC coated glass or Nalgene filtering flasks. You can use heavy walled glass that has been covered in duct tape. Inspect the glassware before using and do not use any glass with cracks or scratches.
- 7). As always, remember to wear personal protective equipment when working in the laboratory.

<https://www.safety.duke.edu/laboratory-safety/work-practices-ppe/working-safely-vacuum>

<https://ehs.princeton.edu/laboratory-research/laboratory-safety/laboratory-equipment-and-engineering/pressure-and-vacuum-systems>

<https://ehs.utexas.edu/programs/labsafety/vacuum-pump-safety.php>

<https://www.labmanager.com/lab-health-and-safety/vacuum-pump-safety-19634>

Publications

Carys L. Mitchelmore, Emily Burns, Annaleise Conway, Andrew Heyes and Iain Davies. A review paper entitled "A critical review of organic UV filter exposure, hazard, and risk to corals" Accepted in Environmental Toxicology and Chemistry

Wainger LA, McMurray A, Griscom HR, Murray EO, Cushing JA, Theiling CH, Komlos S. 2020. A Proposed Ecosystem Services Analysis Framework for the U.S. Army Corps of Engineers. ERDC/EL SR-20-2. US Army Corps of Engineers, Engineer Research and Development Center. Available from <http://dx.doi.org/10.21079/11681/37741>.

Weber MA, Wainger LA, Harms NE, Nesslage GM. 2020. The economic value of research in managing invasive hydrilla in Florida public lakes. Lake and Reservoir Management. [doi:10.1080/10402381.2020.1824047](https://doi.org/10.1080/10402381.2020.1824047)

Secor, D.H., M.H.P. O Brien, B.I. Gaghan, D. Fox, A. Higgs, and J. Best. 2020. Multiple spawning run contingents and population consequences in migratory striped bass *Morone saxatilis* Plos One 15(11):e0242797

Wiernicki, C., M.O. Brien, F. Zhang, V. Lyubchich, M. Li and D. Secor. 2020. The recurring role of storm disturbance on black sea bass (*Centropristis striata*) movement behaviors in the Mid-Atlantic Bight. Plos One 15(12):e0239919.

The American Fisheries Society has agreed to publish "The Soft-Shell Clam *Mya arenaria*: Biology, Fisheries, and Mariculture" now being edited by Vic Kennedy and a colleague at the University of Maine. ETA 2022

Outreach

Visitor Center

Out of an abundance of concern related to the COVID-19 pandemic, the Chesapeake Biological Laboratory Visitor Center will remain closed throughout the 2020 calendar year.

Virtual Science Semester

During the COVID-19 pandemic, the Chesapeake Biological Laboratory is not able to host in-person outreach events. This year, we are challenging ourselves to host a "Virtual Science Semester" instead! Check out the Virtual Science Semester webpages at: <https://www.umces.edu/cbl/ScienceSemester> Or, view some of the exciting new features below:

[A Day In Animal Care: CBL's Visitor Center Aquarium](#)

Have you ever wondered what it takes to maintain an aquarium to the standards required by a research university? Go behind-the-scenes with Research Assistant Skyler Golt, as he describes the set-up of the Chesapeake Biological Laboratory's Visitor Center aquarium, and how he cares for its fish and invertebrates.



Congratulations to recent winners of the Creativity Challenges!

Thanksgiving Turkey Challenge: THE HORN POINT LABORATORY OYSTER HATCHERY TEAM! They created the "SPATurkey," a turkey made up of oyster shells and other materials found in the hatchery. The Spaturkey (spat + turkey = spaturkey) is often seen in his natural habitat outside the Aquaculture Restoration Ecology Building. Not only was this entry a creative turkey craft, it has a great relation to UMCES restoration efforts!



In Case You Missed It!

Several members of CBL participate in an advisory capacity to the American Chestnut Land Trust (ACLT). On November 19th, updates on research activities in the Parkers Creek watershed were provided to the science committee, including presentations by Jessica Farster and Mindy Forsyth on behalf of the Harris Lab. Jessica conveyed information about the processes contributing to relative sea level rise and marsh accretion along with updated rates measured in the Parkers Creek marsh. Mindy described data collected as part of the Calvert Creeks monitoring program along with a synthesis of water quality in nontidal streams that include those draining into the ACLT's managed lands. The good news is that Parkers Creek wetlands exhibit positive rates of accretion that are expected to match or exceed local sea level rise. Water quality conditions are also largely better than other tidal creeks around the county, although analyses using generalized additive models revealed a worsening trend for chlorophyll-a concentrations.

Jamie Testa, the Chesapeake DolphinWatch project coordinator in Helen Bailey's group, gave a presentation on dolphins to the Parklawn Sailing Association via Zoom on December 9. Jamie also spoke to the Chesapeake Research Consortium (CRC) for an article in their newsletter highlighting citizen science projects. On December 16th Jamie will be presenting the Chesapeake DolphinWatch project at the CRC Roundtable webinar on citizen science.

Christina Goethel is in a book project called Modern Women in STEM and was highlighted on their instagram page recently. The premise of the project is a collective memoir book for children. The brains behind the operation Dr. Dawn Heimer developed it two years ago and her description of it on the new Instagram page was "Two years ago, my 10-year-old daughter and I were reading several children's science books, and it left us frustrated. Most of the women in the books were dead, so their stories were written by someone else. And all of them were illustrated. We tried hard to find a book about real-life, contemporary women in STEM, but we couldn't find it. It was one of those "someone should do something about this" moments. Now, two years later, we have an almost-ready manuscript with the stories of 22 real, very much alive women in different STEM fields. Hopefully, they will serve as role models for the next generation!"

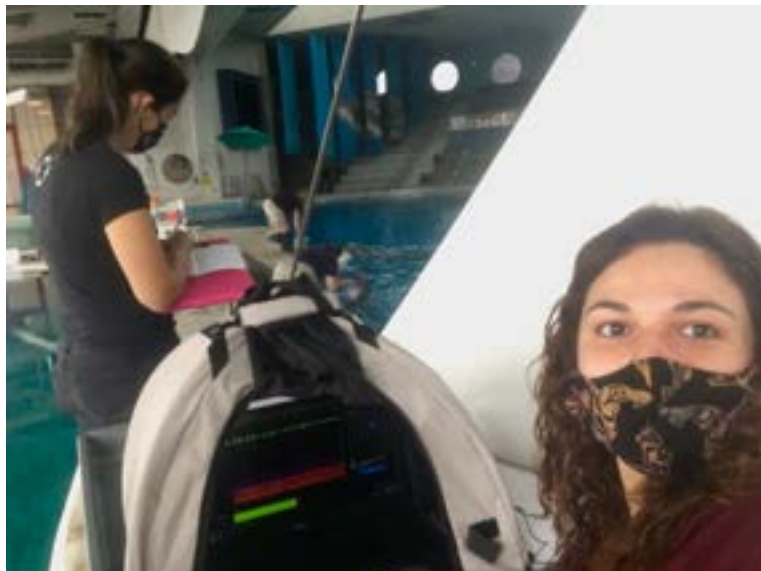
<https://www.instagram.com/p/CHtEeTDpBi/>

<https://www.instagram.com/p/CHv-QbdDLBz/>

https://www.instagram.com/p/CHx_353jYC2/

<https://linktr.ee/modernwomeninstem>

FRA Alexandra Carroll and GRA Amber Fandel from Helen Bailey's group visited the National Aquarium in Baltimore on November 10 and 12 to record the whistles of the six captive bottlenose dolphins residing there. They will be studying the whistles of these unique dolphins, and use them to validate their field methods for identifying signature whistles (dolphin names).



Development Activity: Jeane Wharton

Giving Tuesday Was a Success!

Giving Tuesday, a global online designated to be the Tuesday following Thanksgiving, is a time when people are encouraged to give to charity, to “fill the heart, not the shopping cart.” For the past two years, it’s been an opportunity for friends to support the work at CBL. It’s an exciting effort to help students and fund science!

#GIVING
TUESDAY™

The total for Giving Tuesday 2020 was \$8,000, and other donations were made the remainder of the week. A big thank you to Dr. Tom Miller and Dr. Ed Houde for issuing an online giving challenge, encouraging faculty to help build up the Friends of CBL account. As of the end of the week, nine members of the faculty had met the challenge!

As donors give online to CBL they are asked for comments about why they give. Comments on Giving Tuesday included: “Global warming.” “Concerns about clean water.” “Long-term health of the planet.” And, “Concerns about Trump denuding the EPA of qualified personnel.”

Contact Dr. Miller or Jeane Wharton jwharton@umces.edu for more information about making a year-end, tax-deductible, charitable donation to the University System of Maryland Foundation. Online or by check, gifts can be directed to Chesapeake Biological Lab, students and research programs. <https://www.givecampus.com/campaigns/2969/donations/new>

UMCES PROMOTION SEMINAR SCHEDULE

UMCES faculty considered for promotion this year will host seminars. Given the inability for candidates to visit each laboratory, the lab directors have agreed to host each seminar as a zoom meeting, with the option to ask questions. Seminars will be recorded. There is also an opportunity to sign up for individual or small group meetings with the candidates in 30 minute time slots on two half days following the seminar.

If you wish to attend, please contact rarnold@umces.edu for zoom details.

- JANUARY 6 Dr. Ryan Woodland, CBL.
- JANUARY 13 Dr. Tsetso Bachvaroff, IMET.
 - JANUARY 14 Dr. Dave Nelson, AL.
 - JANUARY 19 Dr. Helen Bailey, CBL.
- JANUARY 20 Dr. Cindy Palinkas, HPL.
 - JANUARY 21 Dr. Xin Zhang, AL.

