

Lab Lines

DIRECTOR'S VIEW

NOVEMBER 2020

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In a normal year, I would be planning Thanksgiving, the lab Christmas party and my family's annual trip home to the UK. This year, I have nothing to plan - or at least none of the usual things to plan. Despite being upset at the loss of normality, I want to reflect on some of the things for which I am thankful.

Over the last 8 months everyone in the CBL community has shown amazing resilience and fortitude under incredibly difficult circumstances. You have found new ways of working. You have adapted to working at home, or working under constrained hours. On the research front, nothing exemplifies this more than Jackie Grebmeier and Lee Cooper's efforts to complete their Arctic research cruise. The research team travelled to Seattle to self-isolate for 2 weeks prior to embarking on their ice breaker. Two days before they were due to board, one of their team tested positive for C-19. It was most likely a false negative - but the entire CBL science party was denied boarding. The vessel left with federal scientists only, but Jackie remained as chief scientist and ran the cruise in the North Pacific from her desk in Southern Maryland. A month or so later, they found a new vessel and did the same thing - this time in Anchorage. After self isolating, they flew on a chartered plane - drove directly from the airport to the vessel and left port. They sailed directly into autumn storms and spent much of their cruise grabbing samples between wind events. After a successful cruise, they came back to Solomons and self-isolated for another two weeks. It is as well, they like each other! Others in the CBL community have shown similar resilience in working through loss of loved ones - both directly as a result of covid, and as a normal part of life - or balancing child care, home schooling and elder care all while remaining committed to the work that we do. We should be justifiably proud of how we have all dealt with these stressful periods.

With the promise of vaccines on the horizon, it is tempting to think we are over the worst. But it is apparent that we have dark days ahead as infections spike and additional restrictions on movement seem likely. I ask that we each commit to keeping our loved ones and work colleagues safe by, in the words of the Governor, wearing the damn mask, maintaining social distancing and taking appropriate precautions when we can't. We have to keep this up around the lab and in our social lives. This will become increasingly difficult as the weather turns more seasonal and more of our life turns indoors. But there is light at the end of the tunnel. Science will win out against the virus. We will have effective treatments and vaccines, and life will return to a less stressed, less constrained and more flexible pattern.

I want to thank each of you for the sense of community you have shown. Being a part of this community is one of the honours of my life.

HOT PLATE SAFETY

1. Be sure to read the instruction manual. Check to see if there are any recalls on the model you are using. Use hot plates that are approved by the National Recognized Testing Laboratory (NRTL). Do not use household hot plates.
2. Check the on/off switch to see if it works. Be sure that if the switch is in the "off" position that the device is off.
3. Check the cord and thermostat to see if they are in working order. The thermostat should be free of corrosion.
4. Never store flammables or combustibles near hot plates.
5. Use heat resistant borosilicate glassware. Check these for cracks.
6. Make sure the surface of the hot plate is larger than the object being heated.
7. Use boiling stones or sticks to help with even boiling or heating. Do not go to dryness.
8. Use medium to med-high settings to heat liquids. Do not use high settings to heat low boiling liquids.
9. Do not heat using metal pans or trays. These can cause a spark.
10. Use tongs or heat resistant gloves to remove items from hot plate.
11. Avoid unattended use.
12. If heating flammables, place the hot plate in a fume hood. It is best to use a condenser rather than an open beaker for flammables.
13. Provide secondary containment or water bath for flammables to prevent any liquid from contacting hot plate surface.
14. If stirrer function is being used, be sure heating element is off.
15. Limit use of older hot plates.

https://www.ehs.harvard.edu/sites/default/files/lab_safety_guideline_hot_plate_safety.pdf

<https://research.wayne.edu/oehs/pdf/factsheet-hot-plate.pdf>

<https://chem.wisc.edu/wp-content/uploads/sites/1130/2019/12/HotPlateSafety.pdf>

<https://www.cmu.edu/ehs/Fire-Safety/documents/Hot%20Plate%20Safety%20Guideline.pdf>

<https://eta-safety.lbl.gov/safety-alert/hot-plate-safety-lab-areas>

Facilities Updates



Proper Disposal of PPE

These days, wearing a face mask is the responsible thing to do and a reusable, washable mask is the most sustainable option. However, we all find ourselves needing to wear disposable masks at times. PPE including face masks, gloves, and wipes has become the newest form of litter on city streets, beaches and in our oceans. We all know the reasons why this is a serious issue for our environment but it is also a serious issue for animals who are getting tangled in the ear loops of face masks. PLEASE cut the loops! prior to properly disposing of used face masks.



MD COVID Alerts

The Maryland Department of Health has launched a notification system to alert you if you have come in contact with a confirmed COVID individual. MD COVID Alert pairs seamlessly with Maryland's traditional contact tracing effort by using Exposure Notification Technology. To learn more about, follow the link below.

<https://covidlink.maryland.gov/content/mdcovidalert/>

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:



[Next Generation Student Interview: Amber Fandel](#)

Meet Amber Fandel, a master's student at UMCES Chesapeake Biological Laboratory. Amber is working with Dr. Helen Bailey to study dolphin and whale acoustic data to understand marine mammal behavior and movements through the Maryland Wind Energy area offshore from Ocean City, MD.



[Next Generation Student Interview: Alex Gibbs](#)

Meet Alex Gibbs, a master's student working in the labs of Dr. Solange Filoso and Dr. Michael Gonsior. Her research focuses on determining wetland's ability to remove and/or degrade pharmaceuticals and personal care products derived from septic waste.



[Next Generation Student Interview: Kohma Arai](#)

Meet Kohma Arai, a PhD student and Graduate Research Assistant working in the lab of Dr. Dave Secor at UMCES Chesapeake Biological Laboratory. Kohma is conducting his thesis research on the Atlantic mackerel while pursuing his interests in international fisheries management.

Outreach Cont.



[Young Alumni Interview: Hillary Glandon,](#)

Post-Doctoral Research Associate

Meet Hillary Glandon! At CBL, Hillary conducted her doctoral research on the impacts of warming and more acidic waters on juvenile blue crabs in the Chesapeake Bay. Now, as a post-doc at UNCW, she seeks to determine how sonar might impact marine mammals.



[Young Alumni Interview: Brian Gallagher,](#)

a PhD candidate at Concordia University

Meet Brian Gallagher! At UMCES Chesapeake Biological Laboratory, Brian earned his master's degree studying fishery science. Since then, he has worked for the Virginia Institute for Marine Science, and is now pursuing his PhD in Montreal, Canada at Concordia University.



[<-- Young Alumni Interview: Dr. Jenna Luek,](#)

a civilian chemist with the U.S. Navy

Meet Dr. Jenna Luek! After getting her PhD in environmental chemistry at CBL, Jenna moved to New Hampshire and completed a post doc. Since then she has started a family and now works as a civilian chemist for the US Navy at the Portsmouth Naval Shipyard.



[A Look in the Lab: Terrapin Hatchlings](#)

Get a behind-the-scenes look at how Rowe notches and marks terrapin hatchlings before releasing them at the nesting site where they were collected. Notching and marking is a technique that will allow Rowe and his colleagues identify individual hatchlings if they are recaptured in the future.



[A Look in the Lab: CBL's Library Archives](#)

For almost 100 years, generations of CBL scientists have conducted research on the Chesapeake Bay and the environment to help inform environmental policy. Their research and publications are preserved in the institution's library archives. Join director Dr. Tom Miller as he explores these historic resources and shares some of the archive highlights.

Outreach Cont.

Congratulations to recent winners of the Creativity Challenges!

Several of the winning entries from the October's Quarantine-O-Ween Costume Challenge and Jack O'Lantern Challenge are included below.



(Entries from top left to bottom right by: Race car driver and her pit crew: Charlotte Donovan, Caroline Donovan, Tony Donovan; Oyster Hatchery 5K Crew; Common garden-variety witch: Annie Carew; Mystery Incorporated (Scooby Doo): Stefanie Shanoy, Nick Coleman, Maddy Lahm, Lauren Rodriguez, Lady Rodriguez; Luna the ruf-eree: Amber Fandel; Haunted house: Julie Trommatter; Totoro pumpkin: Alex Fireman; Foxy pumpkins: Katie May Laumann)

Publications

Fandel, A.D., A. Garrod, A.L. Hoover, J.E. Wingfield, V. Lyubchich, D.H. Secor, K.B. Hodge, A.N. Rice, and H. Bailey. 2020. Effects of intense storm events on dolphin occurrence and foraging behavior. *Scientific Reports* (2020) 10:19247

Itakura H, Miyake Y, Kitagawa T, Sato T, Kimura S (in press) Large contribution of pulsed subsidies to a predatory fish inhabiting large stream channels. *Canadian Journal of Fisheries and Aquatic Sciences*. <https://doi.org/10.1139/cjfas-2020-0004>

Itakura H, Wakiya R (2020) Habitat preference, movements and growth of giant mottled eels, *Anguilla marmorata*, in a small subtropical Amami-Oshima Island river. *PeerJ* 8:e10187. [doi:10.7717/peerj.10187](https://doi.org/10.7717/peerj.10187)

Amber D. Fandel, A. Garrod, A. L. Hoover, J. E. Wingfield, V. Lyubchich, D. H. Secor, K. B. Hodge, A. N. Rice & H. Bailey. 2020. Effects of intense storm events on dolphin occurrence and foraging behavior. *Scientific Reports* 10:19247. <https://doi.org/10.1038/s41598-020-76077-3>

Barbour, N., G. L. Shillinger, A. L. Hoover, S. A. Williamson, V. J. Coles, D. Liang, W. F. Fagan, and H. Bailey. 2020. Environmental and biological factors influencing dispersal of neonate leatherback turtles (*Dermochelys coriacea*) from an endangered Costa Rican nesting population. *Frontiers in Marine Science* 7: 582963. <https://doi.org/10.3389/fmars.2020.582933>

Hoover, A. L., G. L. Shillinger, S. A. Williamson, R. D. Reina, and H. Bailey. 2020. Nearshore neonate dispersal of Atlantic leatherback turtles (*Dermochelys coriacea*) from a non-recovering subpopulation. *Scientific Reports* 10: 18748. <https://www.nature.com/articles/s41598-020-75769-0>

Powers LC, Del Vecchio R, Blough NV, McDonald N, Schmitt-Kopplin P and Gonsior M (2020) Optical Properties and Photochemical Transformation of the Dissolved Organic Matter Released by Sargassum. *Front. Mar. Sci.* 7:588287. doi: [10.3389/fmars.2020.588287](https://doi.org/10.3389/fmars.2020.588287)

Weber, M.A., Wainger, L.A., Harms, N.E., Nessler, G.M., 2020. The economic value of research in managing invasive hydrilla in Florida public lakes. *Lake and Reservoir Management* 0, 1–14. <https://doi.org/10.1080/10402381.2020.1824047> (open access)

Wainger, L.A., McMurray, A., Griscom, H.R., Murray, E.O., Cushing, J.A., Theiling, C.H., Komlos, S., 2020. A Proposed Ecosystem Services Analysis Framework for the U.S. Army Corps of Engineers (No. ERDC/EL SR-20-2). US Army Corps of Engineers, Engineer Research and Development Center. <http://dx.doi.org/10.21079/11681/37741>

In Case You Missed It!

Jackie Grebmeier, Christina Goethel and Lee Cooper traveled to Nome, Alaska in October to join a cruise of the R/V Norseman II (<http://www.supportvesselsofalaska.com/our-vessels/norseman-ii/>) and worked for three weeks in the northern Bering and Chukchi Seas for the first time in October. A quarantine period prior to the cruise in Anchorage and Covid-19 protocols of the port of Nome, the State of Alaska and UMCES were followed to reduce viral transmission risks to low levels. Other participants in the small team of researchers included scientists from the University of Alaska Fairbanks and Clark University. The recovery and re-deployment of overwintering automated moorings and sediment traps and the late fall sampling occurred under relatively warm conditions, and ahead of any sea ice formation. Biomass of chlorophyll in the water column was unexpectedly high and water temperatures warm. Other analyses will proceed with samples collected and experiments undertaken onboard over the next few months. The cruise, which was organized primarily by Jackie Grebmeier will keep intact time-series observations of Arctic ecosystem changes that have been proceeding over the past several decades, but were endangered this year because of the difficulties in undertaking fieldwork during the pandemic.



Slava Lyubchich and Srishti Vishwakarma (AL) have been participating in the [2nd NOAA Workshop on Leveraging AI in Environmental Sciences](#). Their virtual poster presentation about global weather and wheat trade is scheduled for 15 December. The workshop spans July 2020 - February 2021 and is free to attend virtually.

Annalise Conway is giving an oral presentation of her M.Sc. research at the SETAC North America 41st Annual Meeting (SCICON2) held virtually 15-19th November. The title of her presentation is "Investigating the Toxicity of the UV filter oxybenzone on the coral *Galaxea fascicularis*".

Carys Mitchelmore will be presenting at the SETAC SCICON2 conference (15-19th November) highlighting results from the collaborative research project between CBL and Nova Southeastern University (Dr. Renegar's laboratory) focussed on establishing a coral standard toxicity test to determine the toxicity of UV filters. The title of the presentation is "Comparative toxicity of common coastal contaminants and UV filters to the scleractinian coral *Acropora cervicornis*".

Carys Mitchelmore will be a presenter at the upcoming GoMRI Synthesis Dispersant Workshop held virtually from November 16th-20th. She will be co-presenting in the session entitled "Impacts of dispersants on marine organisms and communities".

Lauren Rodriguez, MS student in the Bailey group, gave a guest lecture on her career in undergraduate and graduate research to the undergraduate Ecology (IBIO 355) course at Michigan State University. She also gave a talk on her current graduate research plans as part of a "Science Round Table" talk series in MSU's Data-Intensive Landscape Limnology Laboratory where Lauren previously worked.

Development Activity: Jeane Wharton

Giving Tuesday is December 1. Support CBL with your donation!

During the final months of the year, many of us turn our attention to gift-giving. In 2012, a national initiative was begun to “fill the heart, not the shopping cart.” Giving Tuesday, designated to be the Tuesday following Thanksgiving, is a time when people are encouraged to give to charity.

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!

Last year we raised \$40,000 in our Giving Tuesday effort, thanks to leadership from Dr. Tom Miller and other faculty. Individual donors and a family foundation.

In 2019, CBL was fortunate to receive several gifts from individuals in the range of \$5,000 to two donors who gave over \$20,000 each. But, any gift, in any amount, is needed and appreciated. Gifts of \$50, \$100, \$250 and \$500 go a long way to support a graduate student or fund a project.

Contact Dr. Miller or Jeane Wharton jwharton@umces.edu for more information about how your tax-deductible, charitable donation to the University System of Maryland Foundation can be directed to Chesapeake Biological Lab, its students and its research programs. Or, give online at <https://www.givecampus.com/campaigns/2969/donations/>

The logo for Giving Tuesday features the text "#GIVING TUESDAY" in a bold, sans-serif font. The word "GIVING" is in blue, and "TUESDAY" is in black. A red graphic element, resembling a stylized heart or a cluster of three arrows pointing upwards, is positioned between the "I" and "N" in "GIVING".

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.

- **DECEMBER 2** Dr. Lora Harris, CBL.
- **DECEMBER 10** Dr. Matt Fitzpatrick, AL.
- **DECEMBER 16** Dr. Hongsheng Bi, CBL.
- **JANUARY 6** Dr. Ryan Woodland, CBL.
- **JANUARY 13** Dr. Tsetso Bachvaroff, IMET.
 - **JANUARY 14** Dr. Dave Nelson, AL.
- **JANUARY 20** Dr. Cindy Palinkas, HPL.
 - **JANUARY 21** Dr. Xin Zhang, AL.

