Nov/Dec 2025
Issue 111

UMCES
Chesapeake Biological Laboratory
100 YEARS OF SCIENCE

LAB LINES

In Case You Missed It!

CBL Faculty Retreat

CBL held a Faculty Retreat at The Pier on December 9 th to discuss future faculty hiring needs and restructuring of current committees. The view was amazing, and even included a visit from Santa, just to make sure we were all on the nice list.

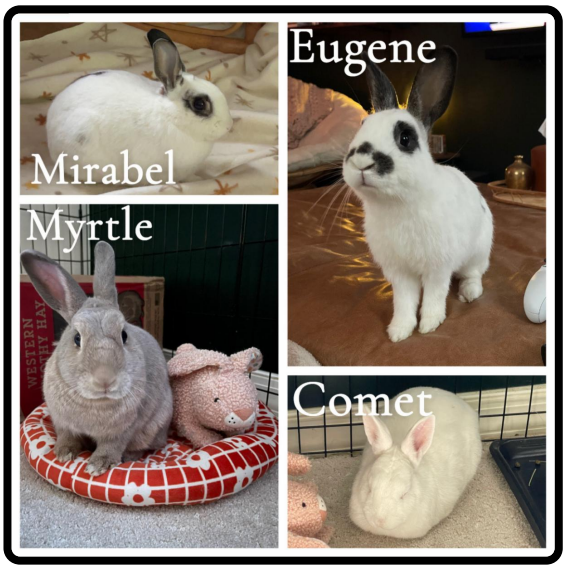
Meet our Faculty Research Assistant

Amber DeMarr has been with the Nutrient Analytical Services Lab for 2 years, where her main responsibility is analyzing total nitrogen and phosphorus in water samples from around the world.

What she enjoys most about her job is knowing that her work contributes to many different projects in the public and private sectors.

Her motivation as a scientist is knowing that the work she does, even if in a small way, contributes to a more informed world.

A fun fact about Amber is that she has four rescued rabbits, which she found as strays at different times over the last 5 years. She also found a home for another rescue and has kindly requested that the rabbit distribution system stop sending them her way!



SETAC NA - November 16-20th

Between November 16-20th Carys Mitchelmore chaired two sessions at the **SETAC North America 46th Annual Conference in Portland, Oregon**. Monday's session (5.09) focused on "New approaches, Data and Solutions Regarding the Environmental Risks of Sunscreens and Cosmetics" and included her presentation of CBL's (Drs. Gonsior, Heyes, Landeweer) and NSU's (Dr. Renegar) recent work monitoring for UV filters off Florida beaches. The second session (2.10) focused on "New Advances in the Ecotoxicology of Coral Reef Organisms" with Mitchelmore being co-author on two presentations, the first on coral larvae inhibition of settlement exposed to waterborne chemicals and contaminated substrates, the second on assessing the use of gorgonian corals in understanding chemical contaminant impacts in coral reefs.

Below: Dr. Carys Mitchelmore, Dr. Abby Renegar (NSU Co-PI), and Ms. Brady Estrada (PhD student, NSU, Mitchelmore is co-advisor)

A Note From OSP Director, Kiscia Cannon

A huge thank-you and shout-out to CBL and Maryland Sea Grant for bravely volunteering to pilot the new sub-award E-Form process with us. Their willingness to dig in, click all the wrong buttons (in the name of progress!), and find every possible “creative user scenario” helped us catch the quirks before campus-wide rollout.

In short, they took the bumps so the rest of us can glide. Now that’s teamwork!

LEADERSHIP MARYLAND
The Strength Within

On December 2nd at the Westin Hotel in Annapolis, Carys Mitchelmore and 50 other classmates graduated from the Leadership Maryland’s Executive program. This marked the

culmination of nearly a year-long program across all four corners of Maryland in which the graduates got to experience and discuss the multiple and diverse challenges across all sectors that Maryland faces. For further details on the award and the program please check out the **UMCES website**.

CERF 2025

28th Biennial Conference

9–13 November 2025 / Richmond, Virginia

Oral Presentations

Lora Harris - Jamaica Bay's restoration trajectory: Evaluating wastewater and climate

Posters

Laura Lapham/ Theresa Murphy - Spatial and seasonal variability of carbon dioxide in the

impacts using metrics of aerobic metabolism

Matt Stefanak - Macrobenthic food web structure and trophic dynamics along the Chesapeake Bay plume estuarine-marine gradient

Casey Hodgkins - Impact of nutrient load reductions on sediment-water fluxes in the Patapsco River estuary

Cindy Ross - From rock and roadie to marine ecologist: a most unusual journey

Ryan Woodland - Using big data to explore metaboscapes: metabolic models for aquatic species at landscape-scales

Allison Dreiss - Modeling benthic biomass responses to climate change in the Chesapeake Bay

Dong Liang - A power analysis web tool to enhance monitoring studies

Jeremy Testa - Quantifying the effects of wastewater alkalinity enhancement on marine CO2 removal and carbon emission reductions

Theresa Murphy - Quantifying calcifying benthic species and shell-hash to inform ecosystem carbon models in the Chesapeake Bay

Amir Azarnivand - Diel oxygen dynamics across scales in a changing estuary: Insights from the Patuxent River estuary

Kaitlin Beasley-Polko - Shoreline elevation change over time at the restored cove point freshwater marsh.

Potomac and York River estuaries

Eva Bailey - Developing a cost estimation model for freshwater cyanobacterial harmful algal bloom management in the U.S.

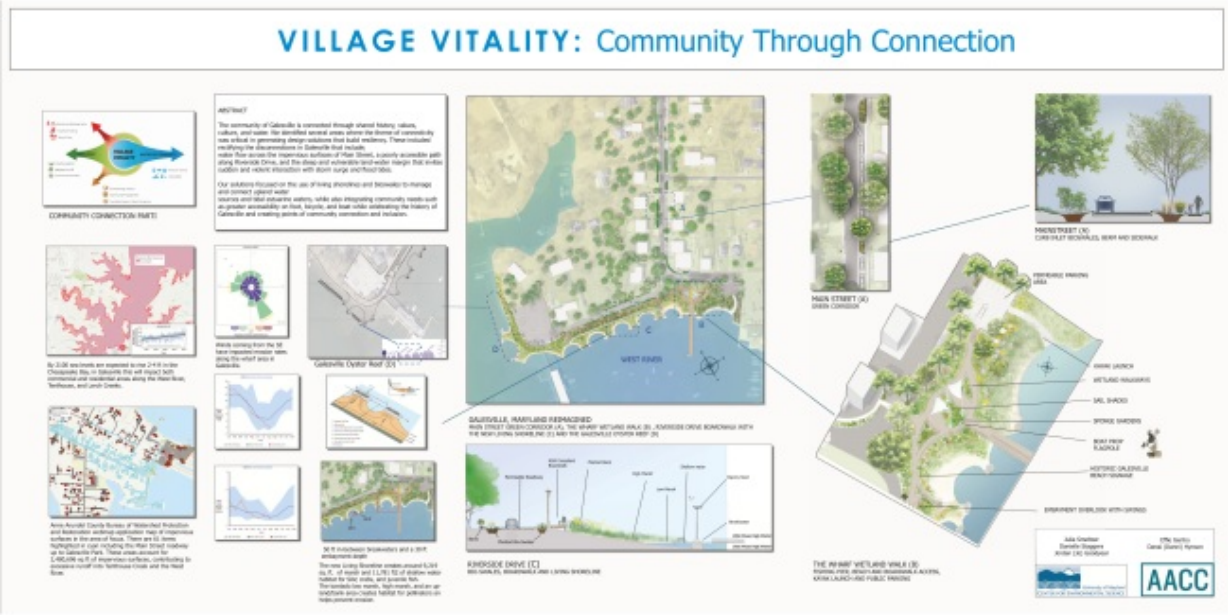
Julia Smeltzer - Using trends in tidal wetland gpp to inform management decisions at a sub-estuary scale

Cindy Ross - Effects of climate and pollution on declining water quality in a shallow, temperate estuarine system

Pauline Lawrence - Assessing juvenile habitat contributions to age-1+ spot through stable isotope analysis of eye lenses

Other items of note:

CBL received the Coastal Stewardship Award



Over the summer and especially this fall, a team of faculty and students from UMCES joined forces with the landscape architecture department at Anne Arundel Community College to work on a submission to the Coastal and Estuarine Research Federation's Coastal Resilience Design Competition. The Student Coastal Design Competition focuses on critical issues such as coastal settlement, ecosystem restoration, flood protection, and economic development, while highlighting the capacity of faculty-led transdisciplinary teams to solve coastal problems and respond to climate change. This year, the competition emphasized data-driven design and actionable plans that could work with and for the priorities of Galesville, Maryland, a 370-year-old waterfront community bordered by Chesapeake tributaries on three sides. CBL faculty member Lora Harris collaborated with Robert Lowe from AACC, along with UMCES faculty Hali Kilbourne (CBL), Javier Lloret (HPL), and Lorie Staver (HPL), to mentor students from the two institutions. These included MEES students Julia Smeltzer (CBL), Jordan Goodyear (HPL), and Danielle Staggers (IMET). The students led a report, presentation, and poster that were judged at the CERF 2025 conference in Richmond, Virginia. The AACC-UMCES team was awarded second place, with the judges emphasizing the transdisciplinary skillset represented in the team and the blending of coastal science and landscape architecture into proposed solutions for the community of Galesville.

USM Chancellor's Holiday Open House

On Sunday, December 7th, Carys Mitchelmore attended the Chancellor’s Open House at Hidden Waters in Baltimore. Mitchelmore was invited due to her role as one of UMCES representatives on the USM Women’s Forum. There she met with UMCES’ Kiscia Cannon and her husband, where they undertook activities, including painting the UMCES logo and playing Candy Crush!

TailWinds

In November, Outdoors Maryland, a MPTV show, aired “The Listening Post,” which featured work of the TailWinds group (Caroline Tribble, Kiersten Silva, Becca Wingate, Dave Secor) associated with the Real-Time Whale Buoy system.

On December 10th at Charles County Public School (CCPS) Administration offices in La Plata, Jessica McGlinsey and Carys Mitchelmore, together with St. Mary's County science supervisor Jason Hayes and CCPS science resource teacher Leigh Ann Anderson, conducted a professional development workshop for 26 CCPS elementary school science teachers. This new Wave of Plastic Jr. edition, funded by the NOAA BWET program, introduces the concept of macroplastic pollution in the environment as a prelude for the original Wave of Plastic curriculum that has been implemented in St. Mary's, Calvert, and Charles counties' middle schools. The students learn about the types of plastics, their physical properties (density, flexibility, etc.), and build a model to show their movement through the ecosystem. The funding from NOAA provided all of the classroom supplies that the teachers will need to start this curriculum next year.

The Wave of Plastic Jnr. professional development team; from left to right;
Carys Mitchelmore, Ian Butler (Content Specialist for Science, CCPS), Jason Hayes (SMCPS),
Leigh Ann Anderson (CCPS) and Jessica McGlinsey

Jessica McGlinsey and Jason Hayes are walking through Lesson 1 with the teachers.

Jessica McGlinsey and CCPS science teacher, Dyann Finamore, show their ecosystem model.

DolphinWatch just wrapped up its 9th dolphin sighting season. We received nearly 1,500 dolphin sightings in 2025. We also gained 3,664 new users so we officially have 20,000+ DolphinWatchers around the Bay. With images like these (see attached) it's no wonder that folks are enchanted with dolphins in our local waters. The behaviors they demonstrate, from bow riding to acrobatics, can really surprise us!

Lisa Wainger was invited to participate in a panel discussion on "Science and Stakeholder Voices" at the annual public meeting of the Maryland Port Administration's Dredged Material Management Program on December 5, 2025. She spoke about her work to evaluate the benefits of dredged material when used as a resource for environmental restoration. She was joined by others discussing student opportunities and workforce development and public engagement with restored natural areas. Dr. Fernando Milrales-Wilhelm also spoke on recommendations for the program for 2026.

Career Day - Barstow Elementary

Monica Jones attended Career Day at Barstow Elementary to talk to the entire 3rd grade about her career at CBL and all the exciting things that happen at a research institution. The students received information on the importance of taking care of our environment and ways they can make a difference.

Checkout a recent **Chesapeake Quarterly article** that was recently released that Carys Mitchelmore, Jessica McGlinsey, and Helen Bailey helped with, highlighting UMCES' role in K-12 education (a focus for USM) and using the Wave of Plastic curriculum as an example.

Full Issue found **here**!

Recent Publications and Awards

- Dorman, C., Giarikos, D.G., Hirons, A.C., Mitchelmore, C.L. and D. A. Renegar. 2025. Acute Toxicity of Arsenate and Arsenite in two scleractinian coral species: Acropora cervicornis and Orbicella faveolata. Toxicology Reports.
- Ratner B., Bean, T.G., Bejarano, A.C.,
- Flyway Assessment of Offshore Wind Farm Impacts on Migratory Fishes. 2025-2027. Responsible Offshore Alliance, D. Secor P.I. with M.O'Brien, A. Carlisle, B. Wetherbee, D. Fox, and M. Breece. $202,372.
- Investigating recovery of the coral Acropora cervicornis chronically

Johnson, M.S., Kapustka, L., Krishnan, L., Leopold, A., Mitchelmore, C.L., Muir, D., Olsgard, M., Opeolu, B., Medina, M. G.O., Reed, a., Suter, G., Vigon, B., and Wronski, A. 2025. A Critical Perspective on the Society of Environmental Toxicology and Chemistry's Adherence to Founding Principles – Opportunities for the Future. Environmental Toxicology and Chemistry.

- Burns, E., Mitchelmore, C.L., Williams, J., Heyes, A., Gonsior, M. and I. Davies. 2025. Chronic toxicity of the UV filter Octocrylene to the sea urchin, *Arbacia punctulata*. Environmental Toxicology & Chemistry, 44, 8, 2186-2197. **https://doi.org/10.1093/etojnl/vgaf122**
- Boyd, A., Stewart, C.B., McCuaig, J.D., Martin, S., Legge A., Doty, D., Mitchelmore, C. L. and T.A. Blewett. 2025. Are standard test species still relevant? A comprehensive assessment of *Daphnia pulex* reared in laboratory and wild environments and their responses to organic ultraviolet filters. Environmental Toxicology & Chemistry, vgaf192. **https://doi.org/10.1093/etojnl/vgaf192**
- Baums, I. B. et al. 2025. Closing the Coral Life Cycle: A service blueprint to overcome the coral recruitment crisis through research, restoration, and innovation. EcoEvoRxiv. **https://doi.org/10.32942/X2B348**

exposed to environmentally relevant concentrations of the UV filter avobenzone. DSM Nutritional Products - Switzerland. 2025 - 2027. C. Mitchelmore with A. Heyes. $120,571.

- Development of a research roadmap for Atlantic menhaden in Chesapeake Bay, Univ. of Southern Mississippi. 2026. G. Nesslage and M. Wilberg. $27,504.
- Targeted Watershed Corsica and Tuckahoe Monitoring Project – Evaluating Progress Towards TMDL Goals through Assessment and Monitoring at Watershed, BMP, and Site Specific Scales, and Support the Development of Watershed Plans That Address TMDL Goals. MDE. 2025-2026. J. Frank. $24,826.
- Eelgrass and Environmental Stressors Analysis in the Great Bay Estuary. Piscataqua Region Estuaries Partnership. 2025-2027. V. Lyubchich. $64,988.

CBL Newsletter Archives