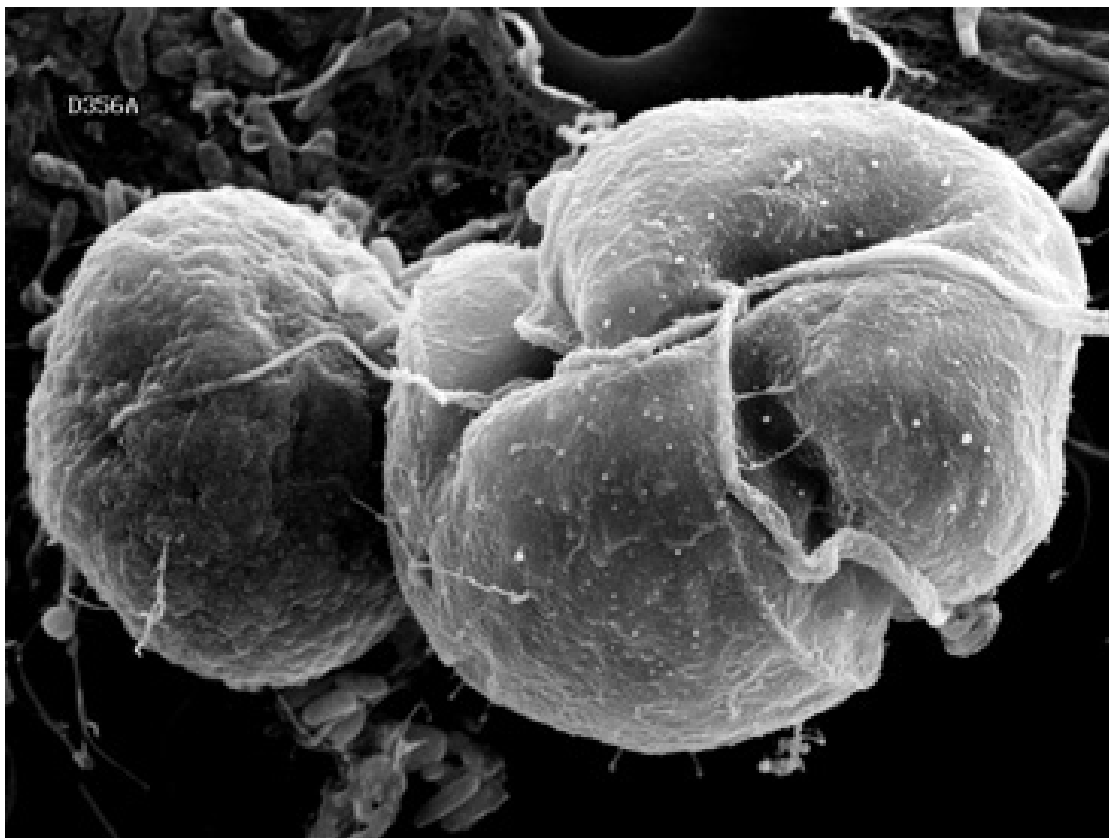


ENVIRONMENTAL INSIGHTS

NEWS FROM THE UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL SCIENCE



Karlotoxins identified in Chesapeake Bay phytoplankton

From a 60-year-old *Karlodinium veneficum* culture kept at Plymouth Laboratory in the United Kingdom, a research team led by **Allen Place** discovered the specific cause of the Chesapeake Bay's 1990s fish-kill: two karlotoxins found in *K. veneficum*. The study, published in *Nature Scientific Reports*, describes the functions of membrane pores formed by these karlotoxins. In fact, the formation is a highly targeted mechanism involving the cell membrane and sterol-specificity; cholesterol, in this case. "What is so unique about this toxin is its mode of action," said Place. "To consume other phytoplankton, it generates holes in their cell walls, creating a porous membrane through which other ions can flow; this incapacitates and eventually kills its prey, which it then eats." What's more, the toxins could have useful clinical applications in cancer research; specifically, the development of antibody-drug conjugates. [MORE](#)



Bird migration is influenced by social relationships

Joely DeSimone and **Emily Cohen** collaborated with bird observatories on a project funded by the NSF and published in *PNAS*, which found consistent social relationships between songbird species during the migration seasons. According to the duo, interspecific relationships can shape the ecology of animal migration. Migrating species are known to be influenced by their habitats and timing of their movements, but this study finds that co-occurrence is also influenced by consistent social relationships. "We found evidence of meaningful social relationships among migrating songbirds that have generally been thought to undertake solitary, independent journeys," said DeSimone. "Interactions among these animals could affect the success of their migrations. We found the species relationships to be largely positive, suggesting they don't avoid each other and may actually benefit from social interactions during migration." [MORE](#)



Appalachian Lab graduate students awarded fellowships

Sarah Endyke and Nicole Ibrahim, both graduate students at UMCES' Appalachian Laboratory, received prestigious fellowships to support their research activities and progress toward completion of their Ph.D. degrees. Endyke (pictured left above) is a recipient of a *Sea Duck Joint Venture Student Fellowship*, which will support her research of stable hydrogen isotopes in duck feather samples to estimate the locations of breeding grounds and track bird movements. Ibrahim (pictured right) is the first UMCES student to receive a *Boren Fellowship*, which she will utilize to conduct research in Kazakhstan in partnership with the Kazakhstan Academy of Sciences. [MORE](#)

REMINDER: Save the Date!

Mark your calendars now for a lab open house near you! The **Chesapeake Biological Laboratory** in Solomons will hold its annual open house on **Saturday, September 7** and across the bay, the **Horn Point Laboratory** in Cambridge will open its doors on **Saturday, October 12**. Stay tuned for additional details!

UMCES in the News

[Hey wait, where are all of Baltimore's jellyfish?](#) (Baltimore Banner)

[UMCES receives grant for migratory bird conservation efforts](#) (The Star Democrat)

[Will global warming turn L.A. into San Bernardino? Map models climate change in 60 years](#) (Los Angeles Times)

[Cambridge flood mitigation phase one plan kicks off with community meeting](#)

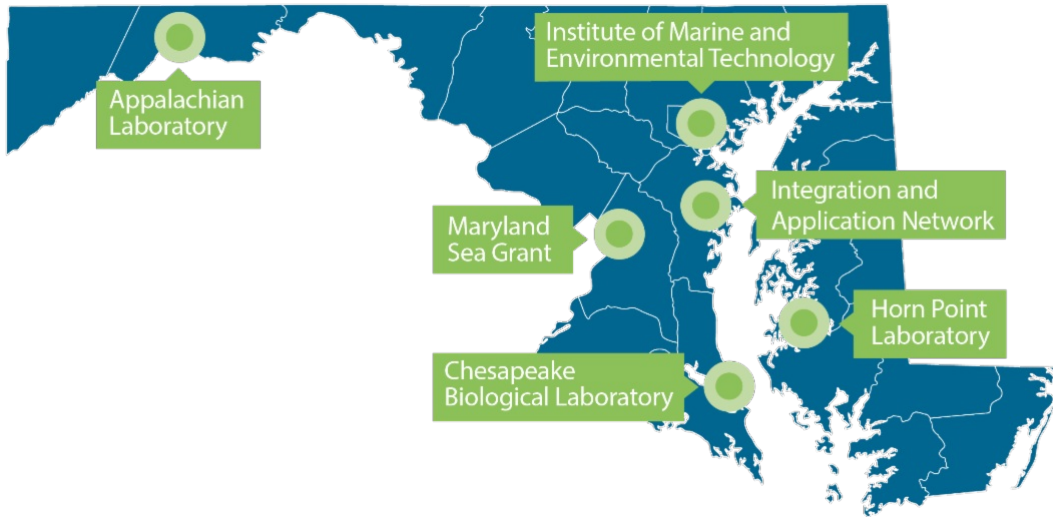
(Delaware State News)

Between a Dead Zone and a Hot Place (Chesapeake Bay Foundation)

In praise of the humble oyster (What's Up Eastern Shore)

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