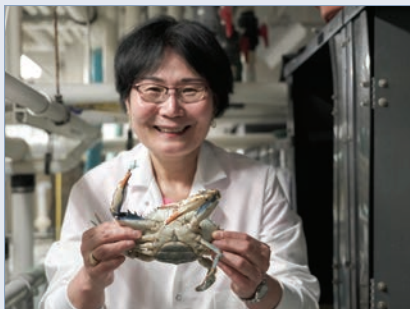


GUIDE TO EXPERTS

University of Maryland Center for Environmental Science
2024

HARNESSING THE POWER OF SCIENCE to transform the way society understands and manages the environment

A globally eminent research and graduate institution focused on advancing scientific knowledge of the environment, the **University of Maryland Center for Environmental Science** provides sound advice to help state and national leaders and prepares future scientists to meet the global challenges of the 21st century.



RESEARCH

We work across disciplines and in diverse settings—from the Appalachian Mountains to the Arctic—seeking solutions that improve people's lives and sustain the natural world.



PUBLIC SERVICE

As trusted scientific advisors, our faculty provide unbiased research to inform management decisions and public policy on pressing environmental issues in our communities and around the world.



EDUCATION

Our renowned faculty train the next generation of environmental leaders as part of the University System of Maryland's nationally ranked graduate program in marine and environmental science.



POPULAR TOPICS

CHESAPEAKE BAY RESTORATION

CHESAPEAKE BAY RESTORATION

Bill Dennison, Professor: Coastal ecosystem ecology, assessing ecosystem health dennison@umces.edu

CRABS: **Thomas Miller**, Professor:

Recruitment and population dynamics of aquatic animals miller@umces.edu

FISHERIES: **David Secor**, Professor:

Migration and population ecology of marine fishes, biotelemetry, otolith tracers, fisheries and protected species, offshore wind impacts
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OYSTER HATCHERY: **Stephanie**

Alexander, Oyster Hatchery Manager: Production of oyster larvae, seed, spat on shell, restoration, aquaculture tobash@umces.edu

OYSTERS: **Michael Wilberg**, Professor:

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SEA LEVEL RISE: **Ming Li**, Professor:

Physical oceanography, estuarine and coastal dynamics, regional impacts of climate change and extreme weather events mingli@umces.edu

CLIMATE CHANGE

Victoria Coles, Professor: Climate variability and change, observations and modeling of ocean and estuarine ecology, biogeochemistry and circulation vcoles@umces.edu

Matthew Fitzpatrick, Professor:

Spatial modeling, quantitative ecology, biogeography, macro-ecology, biodiversity, climate change, biological invasions
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Hali Kilbourne, Associate Professor:

Paleoclimatology and paleoceanography, contextualizing modern climate change and exploring the processes causing seasonal to centennial climate variability
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SEA LEVEL RISE: **Ming Li**, Professor:

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CONNECT WITH AN EXPERT:

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TOPICS OF EXPERTISE

AGRICULTURAL/ LAND IMPACTS

Eric Davidson, Professor:
Biogeochemistry and
soil microbial ecology in
forests and agriculture,
greenhouse gas emissions,
water quality
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Tom Fisher, Professor:
Terrestrial and atmospheric
nutrient inputs, nutrient
cycling and limitation
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Xin Zhang, Professor:
Environmental science and
policy, biogeochemical
cycles of carbon and
nitrogen, earth system
modeling, atmospheric-
biosphere interactions
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ALGAL BLOOMS

Pat Glibert, Professor:
Phytoplankton ecology,
nitrogen uptake and
mineralization by
plankton, primary
production and
photosynthesis
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Associate Professor:
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Allen Place, Professor:
Genomics of toxin-
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mitigation of cyanobacteria
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ALTERNATIVE ENERGY

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Yantao Li, Associate
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molecular biology and lipid
biochemistry, biotechnology
and environmental
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engineering for biofuels and
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IMPACT ON MARINE LIFE—

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ecology of marine fishes,
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tracers, fisheries and
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CHEMISTRY & TOXICOLOGY

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Chemical diversity of
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weathering, contaminant
transport and hydrology,
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CHESAPEAKE BAY RESTORATION

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“What you do with coastline management has huge implications in terms of how the tides and storm surge in Chesapeake Bay respond to sea-level rise. Climate change is real; sea-level rise is happening. We have to understand it and plan for it right now.”

—Oceanographer Ming Li, co-author of “Sea-level rise projections for Maryland”



“The work that we do here understanding how living shorelines perform in the Chesapeake Bay informs federal and state agencies about how they can better manage and permit these structures. Folks everywhere want to know what is the best way to protect our shorelines.”

—Coastal restoration expert Cindy Palinkas on living shorelines

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EDUCATION & PUBLIC ENGAGEMENT

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GENOMICS & GENETICS

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INVASIVE SPECIES

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MARINE FOOD WEB

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OCEAN SCIENCE

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Raleigh Hood, Professor: Models to simulate and predict biogeochemical and ecological variability in marine environments
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Ming Li, Professor: Estuarine and coastal dynamics, regional impacts of climate change and extreme weather events
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Judy O'Neil, Research Associate Professor: Cyanobacteria ecophysiology and



“Within the lifetime of children living today, the climate of many regions is projected to change from the familiar to conditions unlike those experienced in the same place by perhaps any generation. .”

—Matt Fitzpatrick created the Future Urban Climates app

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PHYSICAL—
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and modeling of ocean
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OYSTERS

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Kennedy Paynter,
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Michael Wilberg, Professor:
Population dynamics,
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“Decoding the blue crab genome enables us to decode the factors providing resiliency of the blue crab to climate change and disease in the Chesapeake Bay and beyond.”

— Biochemist Sook Chung
led the effort to sequence the
genome of blue crab

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SOCIOECONOMIC MODELING

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STATISTICS

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STREAM HEALTH & RESTORATION

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WATER QUALITY

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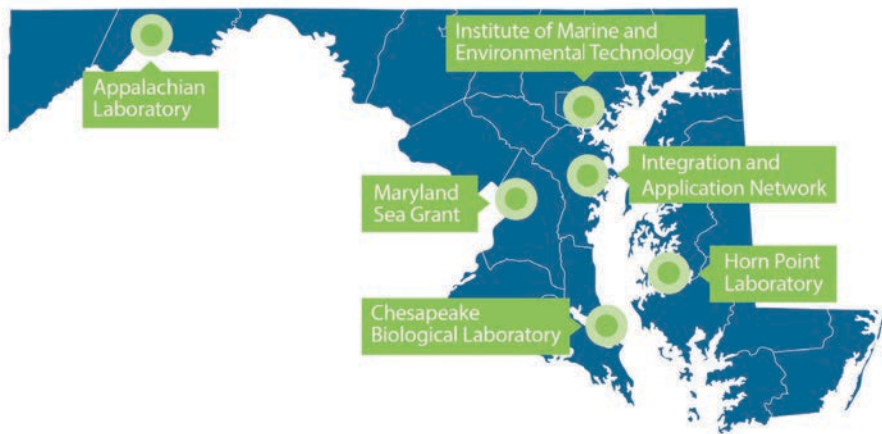
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The University of Maryland Center for Environmental Science is one of 12 universities in the University System of Maryland.



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