

## News from the Dean

Welcome to the first edition of the SMAST newsletter! We have had a busy summer at SMAST and are looking forward to the start of the new semester. Faculty, staff and students have been actively involved in research and other professional activities that are having impacts from regional to global scales. Our students continue to excel and there have been a number of recent thesis and dissertation defenses. We have also had many distinguished visitors to our facility.



U.S. Senator Elizabeth Warren, accompanied by Chancellor Divina Grossman, State Representative Christopher Markey and others toured SMAST on August 22. Senator Warren met with students and faculty, and left SMAST with an appreciation of our research and our important role within the UMass system. *Photo: (left to right) Chancellor Grossman, Senator Warren and Dean Lohrenz.*

In July, we were pleased to welcome our new Provost Mohammad Karim, who accompanied UMass Trustee James Buonomo and Massachusetts State Treasurer Steve Grossman on a tour of our facility. On August 15, we were visited by Robert Gagosian, formerly President of the Woods Hole Oceanographic Institution and now President and CEO of the Consortium for Ocean Leadership in Washington, D.C. The Consortium membership included more than 100 marine academic and research institutions.

In addition to the numerous visitors to SMAST, faculty and students have participated in professional meetings and activities in a variety of venues. At the June 19 meeting of the American Fisheries Society Southern New England Chapter, the SMAST Marine Fisheries Field Research Group (Professor Kevin Stokesbury, Director) received the award for "Outstanding Organization," and SMAST Ph.D. student Greg DeCelles was chosen for the Best Student Paper award. On July 17, more than 200 top fisheries scientists gathered in Boston for the World Conference on Stock Assessment Methods for Sustainable Fisheries, co-convened by SMAST Professor Steve Cadrin. SMAST faculty and students also participated in the international Ocean Carbon and Biogeochemistry Workshop held at the Woods Hole Oceanographic Institution July 22-25 and a NOAA Climate Impacts on Fisheries Workshop held in Providence on July 23.

Several SMAST faculty members have been involved in international activities. Among those, SMAST Prof. Avijit Gangopadhyay received a Fulbright fellowship for a six-month sabbatical at the Indian Institute of Technology in Bhubaneswar, where he is teaching ocean circulation and modeling and working with his hosts to develop an "ocean observatory" on the Bay of Bengal.

Congratulations to recent National Science Foundation award recipients SMAST Professors Geoffrey Cowles and Changsheng Chen. Professor Cowles was awarded \$136,493 to numerically assess the performance of tidal energy turbines, including their interactions with the immediate marine environment. This project is in collaboration with Princeton University. Professor Chen received two awards totaling over \$400,000 to collaborate with Woods Hole Oceanographic Institution researchers in an examination of mixing and exchange processes on the inner continental shelf and a study of the dynamics of the Mid-Atlantic Bight "Cold Pool." The research on the Cold Pool is in collaboration with scientists from the Woods Hole Oceanographic Institution.

And finally, congratulations to our graduating students and their advisors! Well done and best of luck to our graduates as they advance in their careers.

Graduate	Degree	Thesis/Dissertation Title
David Bethoney	PhD	River Herring and American Shad At-Sea Distribution and Bycatch in the U.S. Atlantic Mid-Water Trawl Fisheries
Jason Boucher	PhD	Modeling the Interannual Variability in Larval Retention and Survival of Haddock, <i>Melanogrammus aeglefinus</i> , on Georges Bank
Chawalit Charoenpong	MS	A Continuous Flow IRMS Method for High Precision Determination of Dissolved Gas Ratios and Isotopic Composition
Craig O'Connell	PhD	The Effect of Biological and Environmental Factors on Elasmobranch Magnetoreception and Its Application for Conservation in Beach Nets and Fishing Gears
Catherine O'Keefe	PhD	An Incentive-Based, Collaborative Approach to Maximize Yield by Avoiding Yellowtail Flounder Bycatch in the US Sea Scallop Fishery
Roland Samimy	PhD	Nitrogen Attenuation in Coastal Watersheds: The Effect of Surface Water Ecosystems in Reducing Nitrogen During Transport from Watershed Sources to Estuarine Receiving Waters
Kaitlyn Shaw	MS	Macroalgal Composition and Accumulation in New England Estuaries
Katherine Thompson	MS	The Atlantic Sea Scallop ( <i>Placopecten magellanicus</i> ) Reproductive Cycle in Closed Areas I and II on Georges Bank

## SMAST Expansion



Courtesy of Ellenzweig

innovative, 21st century program in ocean sciences and technology, fisheries science, and scientific computing. It will enable SMAST to grow and fulfill its role as the flagship marine science program in the UMass system.

SMAST and UMass Dartmouth, with the assistance of the University Building Authority and the Division of Capital Asset Management, are making good progress on the SMAST expansion. We are currently finalizing the planning and feasibility study. This will be followed by a design phase, with construction of the new building expected to begin fall 2014.

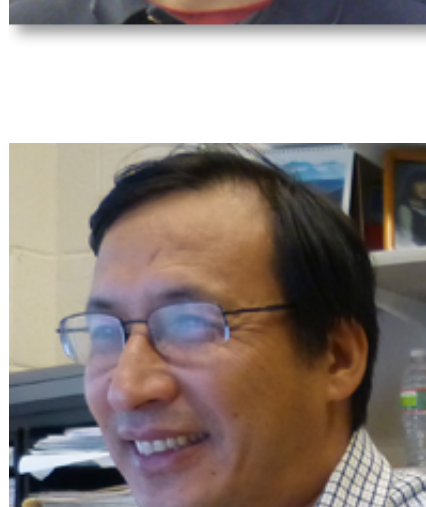
This architectural rendering shows an aerial view of the new, approximately 40,000 sq. ft. facility to be built at a site adjacent to our current New Bedford location. When completed, this expansion will support a vibrant,

## Faculty Spotlight - Two young scientists join SMAST tenured faculty

After earning his PhD in Mechanical and Aerospace Engineering at Princeton in 2001, **Dr. Geoffrey Cowles** spent a year at Ecole Polytechnique Federale de Lausanne, analyzing hull shapes for the Swiss America's Cup Challenge. He worked as a researcher at SMAST from 2003-2007 before joining the faculty of the Department of Fisheries Oceanography, and was awarded tenure in June. Geoff is the director of the SMAST Computational Methods Laboratory. His current research includes sediment transport modeling, simulating tidal energy systems, and modeling the distribution of bay scallop larvae.



**Dr. Pingguo He** came to SMAST in 2009 from the University of New Hampshire, where he had served as Research Professor and commercial fisheries extension specialist for New Hampshire Sea Grant. His specialty is the application of the science of fish behavior to fishing gear design and modification to maximize selectivity and minimize the impact of fishing on the seabed. Pingguo has collaborated with researchers from more than a dozen countries, and this year he was elected to chair the ICES/FAO Working Group on Fishing Technology and Fish Behavior, the preeminent group working in this fisheries subdiscipline. Pingguo is currently developing a new scallop dredge for saving fuel and minimizing bycatch, and testing a device for excluding flounder species from tows for cod and haddock.



## Alumni Spotlight



SMAST alumnus Josh Carlson describes his job as "explorer, mechanical design engineer, ROV operator/pilot/navigator/technician." Apparently, there's no room for specialists on the team that built Deep Discoverer (or D2), NOAA's new, deep-diving, remotely operated underwater vehicle. D2 explored the Northeast U.S. Canyons this summer, and shared the view with the world in real time at **Okeanos Explorer**.

The most spectacular stills and videos from the cruise are compiled at **Photo and Video Log**. In the course of its explorations, D2 discovered "an amazing shallow-water (500 m deep) gas hydrate seep that had tons of bubbles and life around it," Josh reported. "First of its kind found in the Atlantic."

*Photo courtesy Art Howard (www.arthowardphotography.com).*

## Student Spotlight



Grad student Corey Eddy (Biology/SMAST) is in Bermuda studying the local ecological impact of the lionfish. These colorful invaders are native to the Indo-Pacific, but in less than a decade they have flooded the waters along the southeastern U.S. and Caribbean, out-competing commercially important fish species and altering whole reef communities. With no effective natural predators, lionfish may only be checked by what Corey calls "the inverse of fisheries management: create a fishery, put them on dinner plates, and then overfish their population." On behalf of the Department of Environmental Protection, Corey helped create the Bermuda Lionfish Culling Program, with the motto "Eat 'em to beat 'em." The Culling Program is encouraging recreational and commercial

harvest of lionfish through education, tournaments, and tastings. Corey is also a National Science Foundation Graduate Research Fellow and Academic Liaison to the Ocean Support Foundation.

*Photo: Corey Eddy serves lionfish cakes to Sylvan Richards, Bermuda Minister for Environmental Protection.*

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