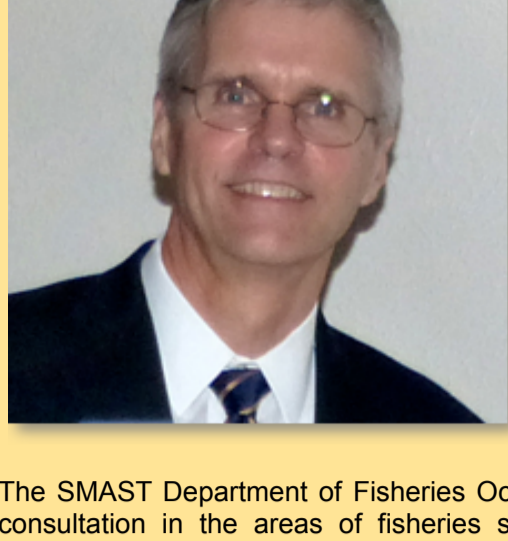


## News from the Dean



Greetings for 2014 from SMAST! We had a very productive year in 2013 and are looking forward to the coming year. A [record number of SMAST students graduated](#) from the Inter-campus Marine Science degree program this past year, including six Ph.D. and six MS students, with several additional defenses scheduled in the coming year. SMAST is the largest marine science program in the University of Massachusetts system.

SMAST faculty also maintained a high level of research activity, with over \$5M awarded in grants and contracts and more than 80 peer-reviewed scientific publications over the 2012-2013 period. SMAST research has impacts on regional, national and international levels.

The SMAST Department of Fisheries Oceanography continues to contribute critical research and consultation in the areas of fisheries stock assessment, gear technology, and socioeconomic impacts of changes in the fisheries sector. SMAST Professor Steve Cadrin is lead editor of a [new edition of a seminal reference volume](#) on stock assessment methods. Professor Cadrin is also, along with Ph.D. student Doug Zemeckis, collaborating on a [unique project](#) teaming federal, state, and university scientists with conservationists in an effort to pinpoint and protect cod spawning areas in Massachusetts Bay.

Professor Kevin Stokesbury is leading an effort to develop [new video sampling technology](#) for groundfish stock assessment. Stokesbury was also recognized by the University of Massachusetts Dartmouth Faculty Federation as "[Scholar of the Year](#)." SMAST and UMass Dartmouth also recognized [Professor Brian Rothschild, founding Dean of SMAST, on the occasion of his retirement](#) from the University. Rothschild continues to be active in fisheries research and policy and was invited to be the keynote speaker for the [Pacific Marine Expo](#) in Seattle, where he accepted the [Highliner Lifetime Achievement Award](#) from the National Fisherman for contributions to the field of fisheries science.



Photo: John Clarke Russ/TNC

The [Northeast Regional Association of Coastal and Ocean Observing Systems recognized Professor Changsheng Chen](#) for his work in ocean modeling and its various applications, including support for search and rescue efforts and forecasting of storm surge inundation and ship icing. Both Stokesbury's and Chen's research was highlighted at a meeting of the University of Massachusetts Board of Trustees held at the UMass Dartmouth campus on December 11th.



Professor Wendell Brown and Research Associate Chris Jakubiak of the Department of Estuarine and Ocean Sciences [launched the first AUV](#) in an unprecedented deployment of a "fleet" of autonomous underwater vehicles off the east coast of the U.S. to provide a large scale three-dimensional map of ocean properties and how they are changing. This experiment, known as "[Gliderpalooza](#)," involved simultaneous deployment of 13-16 gliders in the waters from Nova Scotia to Georgia during September and October. Data collected from these gliders was combined with satellite imagery and other observations in support of a variety of scientific and

operational goals. [MARACOOS](#) (the Mid-Atlantic Regional Association Coastal Ocean Observing System) is coordinating this multi-institutional effort. [NERACOOS](#) partners at Dalhousie University, the University of Maine, Woods Hole Oceanographic Institution, the University of Massachusetts at Dartmouth, and NOAA's Northeast Fisheries Science Center are participating in this unique ocean observing effort.

The Massachusetts Marine Fisheries Institute (MFI) Advisory Council held its inaugural meeting on November 15. The Council is composed of experts from academic, government and private organizations. The meeting was very productive and will provide critical input on priorities for the MFI in the coming year.

Also in November, I traveled to the Azores with Chancellor Grossman and several state legislators. The purpose of the trip was to identify opportunities for collaboration and partnership with the University of the Azores and other organizations. We had the opportunity to meet with Azores President Vasco Cordeiro and with University of the Azores President Jorge Rosa de Medeiros. We will be following up with additional discussions and meetings with faculty from the Institute of Marine Research and the Department of Oceanography and Fisheries.

Best wishes to all for 2014!

## Engaging Industry in Research and Educational Opportunities

On November 13, SMAST hosted an industry engagement and student education event, co-sponsored by the New England Marine Technology Society and the Marine and Oceanographic Technology Network. SMAST personnel were on hand to discuss current research on remote sensing for ocean observations, fisheries assessments, marine energy systems and estuarine studies.



Company displays from AMETEK, Liquid Robotics, Falmouth Scientific, Teledyne Webb, Advanced Systems Group, AIS, Hydroid, SeaBotics and Lockheed Martin-Newport were interspersed among the academic exhibits.

Undergraduates from UMass Dartmouth, Northeastern University, MIT, Olin College of Engineering, Bristol Community College, Bridgewater State and University of Connecticut were able to get a glimpse at what they could access if they were to pursue a graduate degree at SMAST. The new [Professional Science Master's in Coastal and Ocean Administration, Science and Technology \(COAST\)](#) was featured as a way for companies, government agencies and non-profits to engage with UMass Dartmouth by offering internships and by supporting their employees to obtain educational credentials for career advancement.

## Faculty Spotlight - Professor Cynthia Pilskaln

Professor Cynthia Pilskaln earned her Bachelor's degree from the University of Vermont and her Master's and Ph.D. degrees in Geological Sciences from Harvard University. She has received numerous awards and honors for her scientific work, including Woman of the Year and Maritime Woman Explorer Award from the State of California, and the Award for Innovative Use of New Technology from the Oceanography Society. She joined the faculty of SMAST in 2006.



Professor Pilskaln has focused her research career on marine particle biogeochemistry, most recently as applied to the study of harmful marine algae in the Gulf of Maine.

In a related study, it was Pilskaln's Ph.D. student Kazuhiro Hayashi who first documented the disappearance of the shells of tiny planktonic marine organisms called pteropods en route to the Gulf of Maine sea floor.

The shells were abundant in sediment traps positioned in the upper 100 meters, but they weren't reaching the bottom in anything close to the expected numbers. The fact that pteropods produce shells of aragonite, a form of calcium carbonate that is particularly vulnerable to slight increases in acidity in the ocean, makes them a sort of "canary in a coal mine" for climate-change-driven ocean acidification. The dissolution of pteropod shells in the deeper bottom waters of the gulf does

not bode well for many larval benthic shellfish and perhaps eventually for all calcium carbonate shell-building marine life.

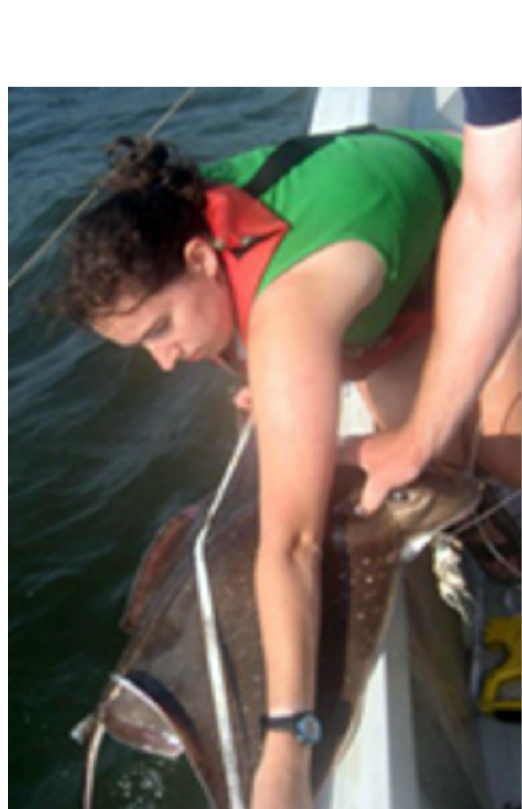
In collaboration with colleagues at the University of New Hampshire, Pilskaln has recently obtained new data from moored instrumentation showing evidence of seasonal acidity in waters on Stellwagen Bank. Learn more about Professor Pilskaln's work [here](#).

## Alumni Spotlight - Lucia Rueda Ramirez



After earning her MS at SMAST in 2009 for her study of loggerhead turtles off southern Spain, Lucia Rueda went to the Spanish Institute of Oceanography at the Oceanographic Center in Baleares. There, she participated in a study of the structure and dynamics of benthic ecosystems in the western Mediterranean. After the completion of that study, Lucia spent several months touring South America before returning to the Oceanographic Center in the Balearic Islands to start a new assignment. Her current project, ECLIPSAME, is a study of the synergistic effects of climate and fishing on demersal ecosystems of the North Atlantic and the western Mediterranean.

## Student Spotlight - Alexa Kretsch



Alexa Kretsch spent summers at the beach as a child, loved dolphins, and enrolled in a vocational high school for students interested in marine science and technology. In her senior year, she received a scholarship from the National Ocean Sciences Bowl after competing in the 2008 Nationals in Seward, AK. So choosing Fisheries and Aquaculture for her major at the University of Rhode Island was true to form for Alexa.

Her passion for the ocean only grew during her undergraduate career. She was awarded a prestigious Hollings Scholarship, which included a summer internship studying sharks at NOAA's Narragansett Lab. She spent a summer on a boat mapping the seafloor through a program at Monmouth University, and with the Rhode Island Sea Grant Fisheries Extension she worked on several fisheries projects. And she spent the fall of 2011 in the Sea Semester program, conducting research at sea while sailing from Maine to the Caribbean.

Now enrolled in the MS/Ph.D. program in SMAST's Department of Fisheries Oceanography, Alexa has clear focus on the role she'd one day like to play.

"One thing that has driven my career goals is the belief that managers, scientists, and fishermen can work together to make the oceans and the fishing communities sustainable. I study fisheries as an interdisciplinary field of science, policy, and social issues so that I can one day help to foster those relationships. This is the also the main reason I came to SMAST for graduate school; no other place I've seen has done so much to make that belief a reality."