UMass | Dartmouth
School for Marine Science & Technology

Newsletter March 2015

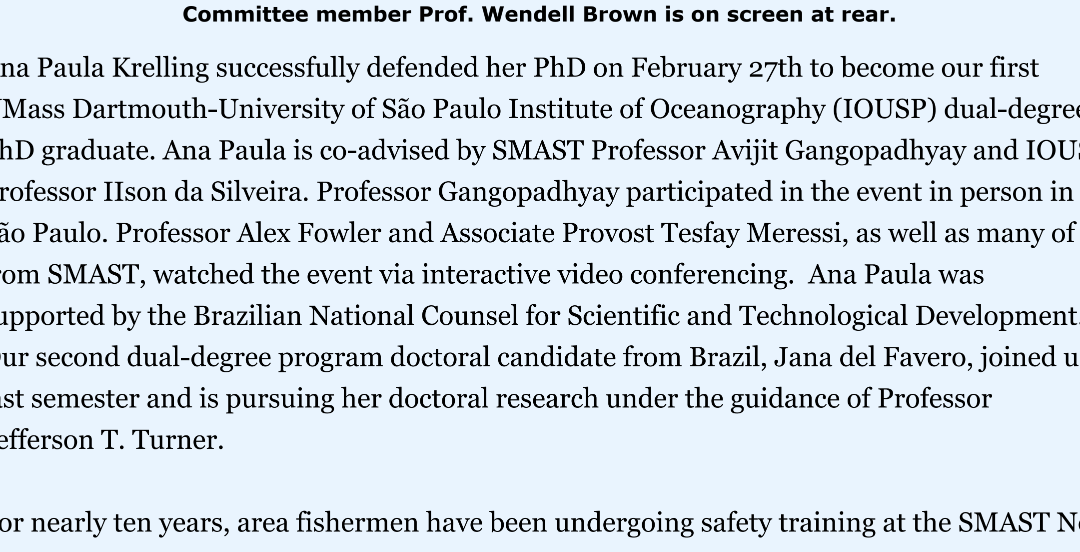
News from the Dean

Greetings from snowy New England! This has been quite a winter. It has been fascinating to watch the changes in the ocean from day to day from our vantage in the South End of New Bedford. The view can vary from calm glassy seas to frothing whitecaps to smoky vapors rising off the waters on cold mornings. These days, we see the ice moving back and forth with the tide in Clarks Cove.

With the New England winter comes nor'easters, and we have had a few. SMAST Professor Changsheng Chen and his team have been working hard to provide forecasts to aid emergency managers in anticipating storm conditions that might affect vulnerable coastal regions in southeastern Massachusetts. This work is part of the Northeast Coastal Ocean Forecasting System (NECOFS), which is operated in conjunction with the Northeast Regional Association Coastal Ocean Observation System (NERACOOS).

Recently, SMAST Prof. Kevin Stokesbury, SMAST Prof. Emeritus Brian Rothschild, and I had the privilege of discussing the condition of the groundfish fishery with Massachusetts Governor Baker, Secretary of Energy and Environmental Affairs Matthew Beaton, and a number of other state legislators and government officials. The meeting was held in the Massachusetts State House on February 6th.

The Massachusetts Marine Fisheries Institute (MFI) held a briefing entitled "Sustaining Massachusetts Fisheries" on March 2nd at the UMass Club in Boston. The briefing addressed a variety of fisheries issues and included presentations by UMassD Chancellor Divina Grossman and SMAST faculty, as well as an expert panel moderated by Professor Emeritus Brian Rothschild. Panel members included various representatives from the MFI Advisory Council. The event was well attended and included statements from various dignitaries including Congressman William Keating, Assistant Secretary of Energy Daniel Sieger, State Representatives Tony Cabral and Paul Schmid, and New Bedford Mayor Jon Mitchell.



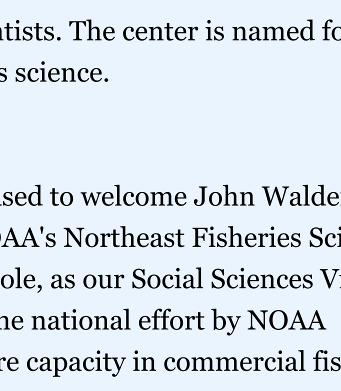
Prof. IIson da Silveira (IOUSP), Ana Paula Krelling, and Prof. Avijit Gangopadhyay (SMAST). Committee member Prof. Wendell Brown is on screen at rear.

Ana Paula Krelling successfully defended her PhD on February 27th to become our first UMass Dartmouth-University of São Paulo Institute of Oceanography (IOUSP) dual-degree PhD graduate. Ana Paula is co-advised by SMAST Professor Avijit Gangopadhyay and IOUSP Professor IIson da Silveira. Professor Gangopadhyay participated in the event in person in São Paulo. Professor Alex Fowler and Associate Provost Tesfay Meressi, as well as many of us from SMAST, watched the event via interactive video conferencing. Ana Paula was supported by the Brazilian National Counsel for Scientific and Technological Development. Our second dual-degree program doctoral candidate from Brazil, Jana del Favero, joined us last semester and is pursuing her doctoral research under the guidance of Professor Jefferson T. Turner.

For nearly ten years, area fishermen have been undergoing safety training at the SMAST New Bedford facility, most recently in October. Now the New Bedford Police Underwater Recovery Unit will be using the SMAST acoustic-optic test tank for underwater operations training starting March 24. Sergeant Jason Gomes, CO of the Port Security Unit and a supervisor on the Underwater Recovery Unit, said, " I cannot think of a better location to hold indoor training for both divers and ROV operators."

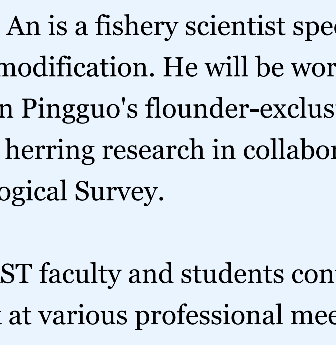
SMAST is becoming a regular stop for our international visitors. A delegation from Donegal, Ireland, toured the facility on October 10th and discussed possible collaborations. That makes three international delegations last semester, including visitors from Dartmouth, UK, the Sister City of Dartmouth, MA, and from the Azores.

In other news, Professor Wendell Brown and his lab team participated in the large scale "Gliderpalooza II" experiment in November of last year, sending their autonomous underwater vehicle, or "glider," on a data-gathering mission of some 225 miles to the edge of the continental shelf. In fact, the whole eastern seaboard was swarming with gliders this fall, giving scientists an unprecedented look at the coastal Atlantic from Newfoundland to Cape Hatteras.



SMAST ocean glider "Blue."

In December, SMAST Professor Emeritus Brian Rothschild was appointed a Hjort Scholar by the Hjort Centre for Marine Ecosystem Dynamics, Bergen, Norway. The award includes a grant in the amount of 50.000 krone (~US$7000), which will be directed to research collaboration and proposal development with Centre scientists. The center is named for Johan Hjort, widely considered to be the father of fisheries science.



NOAA economist John Walden

SMAST is very pleased to welcome John Walden, an economist with NOAA's Northeast Fisheries Science Center in Woods Hole, as our Social Sciences Visiting Scholar. John led the national effort by NOAA Fisheries to measure capacity in commercial fisheries in response to a request from Congress, and more recently he developed productivity metrics which were applied to U.S. catch share fisheries. John is co-teaching a class in Environmental and Resource Economics and Policy with Prof. Dan Georgianna this semester. He also plans to develop a fully on-line course, offered through SMAST, to be centered on fisheries economics for policy decisions.

We also recently welcomed Visiting Professor Young-Il An, from Gangwon Provincial College in South Korea. Prof. An is a fishery scientist specializing in gear design and modification. He will be working with host Pingguo He on Pingguo's flounder-exclusion gear project and river herring research in collaboration with the U.S. Geological Survey.

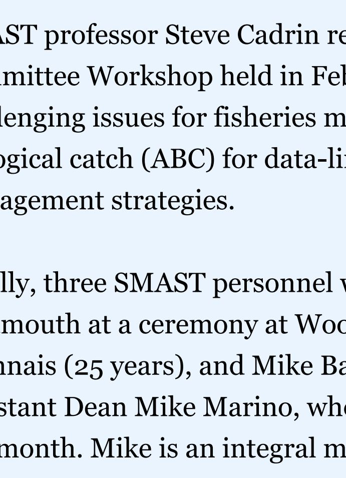
Visiting Professor Young-Il An

SMAST faculty and students continue to present their work at various professional meetings and conferences. SMAST Professor Cindy Pilskaln was among the presenters at the "Ocean Acidification and Southern New England" conference at Fairfield Inn and Suites, New Bedford, on October 20th, hosted by the Woods Hole Research Center and co-sponsored by SMAST.

SMAST Professor Kevin Stokesbury served as chair of the International Council for the Exploration of the Sea (ICES) Scallop Assessment Working Group in Nantes, France in October. The meeting was the second of three annual meetings held by ICES.

A few of us, including Annie Bourbonnais (post-doctoral investigator in Mark Altabet's lab) and Elissa Ward (Ph.D. student with Cindy Pilskaln), attended December's American Geophysical Union meeting in San Francisco, the largest Earth and space science meeting in the world, with more than 24,000 attendees. Also at this meeting, SMAST Professor Mark Altabet co-authored a pair of presentations that introduced a novel oceanographic instrument to the scientific community. Researchers from the University of Washington's Applied Physics Laboratory and SMAST/UMass Dartmouth developed the instrument to monitor the biogeochemistry of oxygen minimum zones (OMZs) in the ocean on time scales impractical for shipboard studies.

On November 6-7, SMAST personnel joined fellow marine scientists, marine educators, and marine science students and mounted an exhibit at the 2014 Ocean Literacy Summit in Woods Hole, sponsored by the New England Ocean Science Education Collaborative. The keynote speaker was Deborah Cramer, author of *Great Waters*, *Smithsonian Ocean: Our Water Our World*, and *On the Edge*.



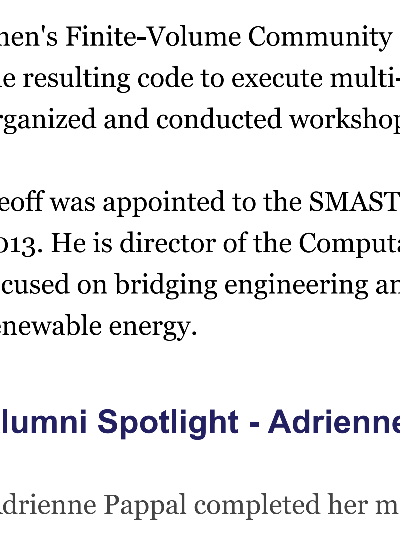
SMAST Research Associate Dr. Catherine 'Cate' O'Keefe with SMAST Dean Steve Lohrenz

SMAST Research Associate Dr. Catherine 'Cate' O'Keefe attended the American Association for the Advancement of Science Annual Meeting in San Jose, CA in February, where she gave an invited presentation entitled "An Incentive-Led, Dynamic Communication Program in the U.S. Atlantic Scallop Fishery." Co-authors were Greg DeCelles and Steven X. Cadrin. Cate was also the recipient of the UMass Dartmouth Young Alumni Award at a ceremony at the Carney Library. Cate is the principal architect of the SMAST Bycatch Avoidance Program, which since 2010 has helped prevent bycatch-related closures of New Bedford's $600 million scallop fishery.

SMAST professor Steve Cadrin recently returned from the National Science and Statistical Committee Workshop held in February in Honolulu, HI. This meeting addressed several challenging issues for fisheries management, including approaches for setting allowable biological catch (ABC) for data-limited stocks and accounting for climate variability in management strategies.

Finally, three SMAST personnel were recognized for their years of service to UMass Dartmouth at a ceremony at Woodland Commons in November: Jeff Turner (35 years), Gail Lyonnais (25 years), and Mike Bartlett (10 years). And we are very happy to recognize our Assistant Dean Mike Marino, who received the Chancellor's Award for Excellence in Service last month. Mike is an integral member of our team and has been instrumental in solidifying SMAST's stature as a premier research and graduate education program at UMass Dartmouth with regional, national and international distinction. Mike was nominated by SMAST Technical Associate Jen Larkum. Congratulations, all!

Faculty Spotlight - Geoffrey Cowles

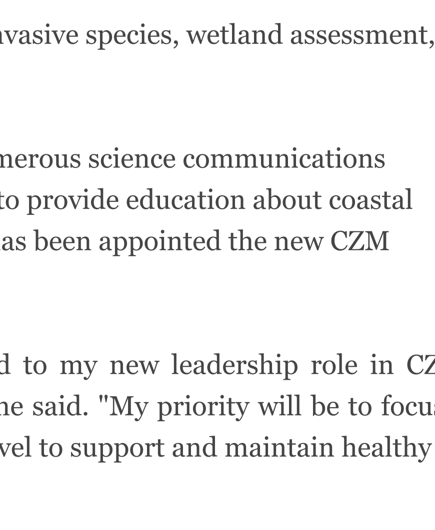


Professor Geoffrey Cowles received his BS in Mechanical and Aerospace Engineering from Cornell University in 1994 and his PhD in Mechanical and Aerospace Engineering from Princeton University in 2001. That same year, he joined the Ecole Polytechnique Federale in Lausanne, Switzerland, as a postdoctoral assistant in the Department of Mathematics, where he analyzed hull shapes for the Swiss America's Cup Challenge using software that he had written as a doctoral candidate.

In 2003, Geoff joined SMAST, first as a postdoctoral assistant and then as a research scientist, working in Professor Changsheng Chen's Marine Ecosystem Dynamics Laboratory. In that capacity, he adapted Chen's Finite-Volume Community Ocean Model (FVCOM) to parallel processing and used the resulting code to execute multi-year simulation of Gulf of Maine circulation. He also organized and conducted workshops to train scientists in the use of FVCOM.

Geoff was appointed to the SMAST faculty in 2007 and promoted to Associate Professor in 2013. He is director of the Computational Modeling Laboratory. His current research is focused on bridging engineering and ocean scales to maximize the potential of marine renewable energy.

Alumni Spotlight - Adrienne Pappal



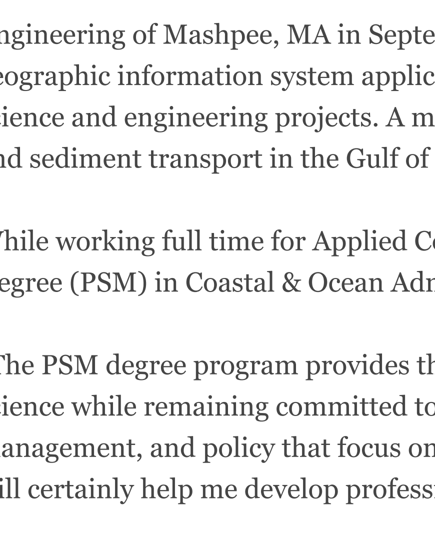
Adrienne Pappal completed her master's degree at SMAST in May of 2006 under the guidance of Prof. Dan MacDonald and Dr. Rodney Rountree. Her thesis, a study of habitat preferences of juvenile winter flounder, resulted in two scientific publications. In 2007 she joined the Massachusetts Office of Coastal Zone Management (CZM) as the Coastal Habitat and Water Quality Specialist and Aquatic Invasive Species Program Coordinator. In this role, Adrienne applied her experience in a wide variety of coastal ecology and water quality issues to support and develop critical initiatives such as the Coastal Pollutant Remediation grant program, the Marine Invader Monitoring and Information Collaborative, rapid assessment surveys for marine invasive species, wetland assessment, and seafloor mapping.

During her time at CZM, Adrienne has developed numerous science communications products and has worked extensively with the public to provide education about coastal habitats and marine invasive species. This year, she has been appointed the new CZM Coastal Habitat and Water Quality Manager.

"This is an exciting opportunity and I look forward to my new leadership role in CZM's coastal habitat and water quality programs," Adrienne said. "My priority will be to focus on helping communities make real change at the local level to support and maintain healthy and resilient coastal ecosystems now and into the future."

SMAST Alumni
Stay connected with our new
Alumni Connection Tool

Student Spotlight - Jennifer Berlinghoff



Jennifer Berlinghoff graduated from the University at Buffalo with a bachelor's degree in Environmental Studies and a minor in Geography: Earth Systems Science. Her coursework included Geographic Information Systems, Maps & Mapping, Water Quality, Climatic Geomorphology, Soil Science, Field and Lab Techniques, Field Ecology, and Environmental Chemistry. As an intern with the Erie County Soil and Water Conservation District in East Aurora, NY (Fall 2008), Jen gained experience with erosion control projects and database management.

Since joining Applied Coastal Research and Engineering of Mashpee, MA in September 2009, Jen has provided technical support for geographic information system applications, as well as research and writing for coastal science and engineering projects. A majority of her work has been related to wetland change and sediment transport in the Gulf of Mexico.

While working full time for Applied Coastal, Jen is pursuing a Professional Science Master's Degree (PSM) in Coastal & Ocean Administration, Science, and Technology at SMAST.

"The PSM degree program provides the flexibility I need to further my education in marine science while remaining committed to my job responsibilities," Jen says. "Courses in science, management, and policy that focus on practical application of scientific principles will certainly help me develop professionally."

UMass | Dartmouth

STAY CONNECTED