UMass Dartmouth | School for Marine Science & Technology

Summer 2015 Newsletter

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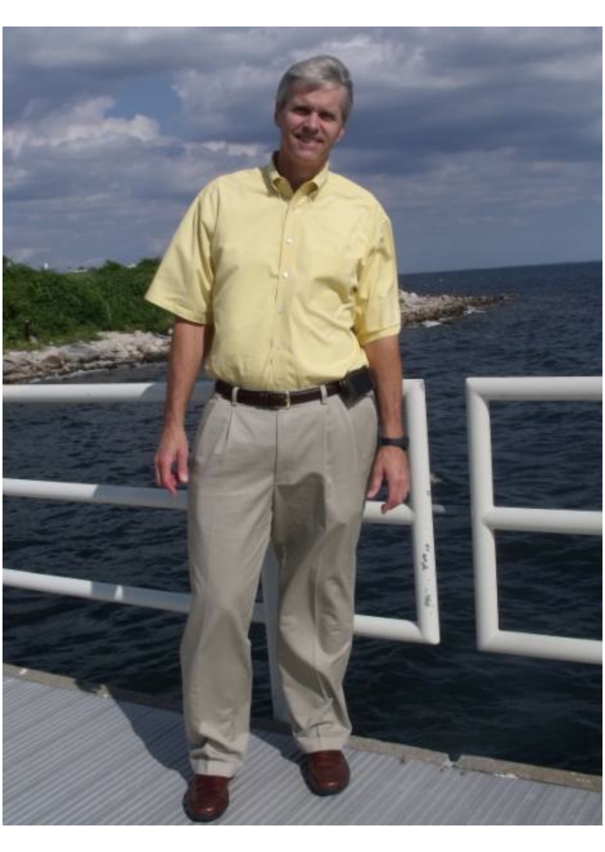


Notes from the Dean

It's summer at SMAST and although classes have ended for the summer, the work continues for our faculty, staff and students. Many field programs maintain a busy schedule throughout the summer months, with cruises and sampling operations in full gear.

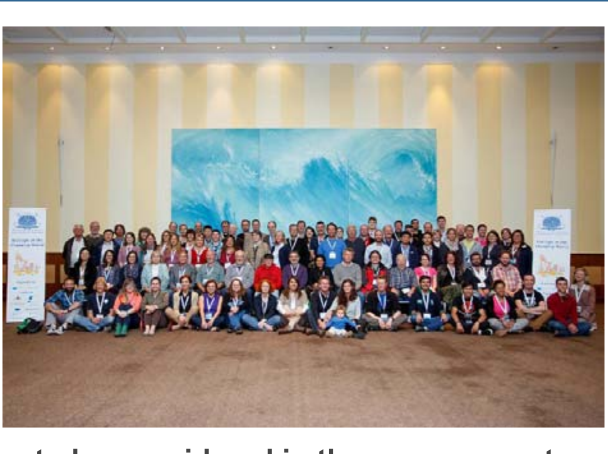
In addition to the research activities, a number of SMAST personnel have been traveling to various meetings to present their work and interact with colleagues around the world.

Read more about it in the stories below. Have a great summer.

-Steven E. Lohrenz, Dean

SMAST research has an international, national, and local impact

International travel



On June 15-19, Professor Steve Cadrin taught a course in fisheries stock assessment for the International Council for Exploration of the Seas (ICES). In addition, an SMAST student panel under the leadership of Professor Cadrin reviewed stock assessments of 14 species from the North Sea, **and sent the results to Copenhagen via co-chair Greg DeCelles to be considered in the management advice given to ICES member countries.**

Professor **Kevin Stokesbury and SMAST researchers** Dave Bethoney and Susan Inglis recently returned from Galway, Ireland, where they presented their work at the 20th International Pectinid Workshop. Professor Stokesbury delivered a keynote address entitled "Marine protected areas and the US sea scallop fishery."

Other world travelers include Professor Changsheng Chen, who recently returned from China and Australia, and Professor Mark Altabet, who just returned from Israel, both of whom delivered invited keynote addresses at international conferences, as well as Professor Pingguo He, who travelled to Shanghai, Zhoushan, and Taipei to attend a workshop, to give seminars and to advance collaborations.

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National and local travel

On the local scene, an SMAST team presented **"Fishing for Knowledge: Cooperative Research for Sustainable Fisheries in New England" at the Whaling Museum Theater** in New Bedford on May 15. The presenters, students and staff researchers from the Department of Fisheries Oceanography, brought the audience up to date on current research on cod, scallops, flounder and sea bass. The event was part of the "Dock-u-Mentaries" program organized by the New Bedford Working Waterfront Festival.

Dean Steve Lohrenz was one of 270 attendees at the International Ocean Colour Science Meeting in San Francisco June 14-19. The meeting covered a broad range of topics related to the use of satellite ocean color to study various ocean and coastal phenomena.

SMAST Research Associate **Susan Inglis was an invited speaker at the Northeast Coastal Acidification Network workshop** held in Gloucester, MA on June 23. Susan made a presentation on "Setting the Local Context: Changes in the Scallop fishery."

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Research news & funding

SMAST faculty continue their strong track record of external funding for research.

The National Oceanic and Atmospheric Administration recently awarded $534,660 to SMAST for research to benefit the sea scallop fishery, $373,922 to support "Broadscale Video Survey of Georges Bank Scallop Open Areas," (Prof. Kevin Stokesbury, PI), and $160,738 to fund "Scallop Fishery Bycatch Avoidance System 2015" (Dr. Catherine O'Keefe, PI). The awards were granted through NOAA's Sea Scallop Research Set-Aside (RSA) Program, which reserves a portion of the scallop catch to fund research to advance the health and sustainability of the fishery.

SMAST Professor Mark Altabet is leading one of three studies of Long Island Sound biogeochemistry administered by NOAA Sea Grant and funded by the U.S. Environmental Protection Agency. The two-year program, already underway, also includes research groups from the University of Connecticut and Boston University. **Professor Altabet, Chair of the Department of Estuarine and Ocean Sciences, will use isotope geochemical techniques** to examine the impact of recent changes in nitrogen inputs and oxygen levels due to upgrades to wastewater treatment plants.

SMAST Professors **Cynthia Pilskaln and Brian Howes are co-investigators in a multi-campus Sustainable Seafood Collaboratory**, recently funded by the UMass Science and Technology Initiatives Fund. Led by UMass Boston, the collaboratory will assess and advance opportunities for sustainable marine aquaculture in the Commonwealth, and evaluate the impact of climate change on shellfish ecology.

NOAA recently recommended SMAST fisheries researchers for more than $950,000 in funding through the Saltonstall-Kennedy program. Projects range from scallop health and physiology to new methods for avoiding bycatch of sensitive species and improving stock assessments. Participating researchers included Pingguo He (Professor), Dan Georgianna (Professor Emeritus), Geoff Cowles (Associate Professor), Susan Inglis (Research Associate), Gavin Fay (Assistant Professor), Kevin Stokesbury (Professor and Chair), Steve Cadrin (Associate Professor), Doug Zemeckis (PhD student), and Chang Liu (PhD student).

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SMAST expansion

Entering design stage

Progress continues on the SMAST Expansion, which will consolidate our faculty, staff and students at a single location in the South End of New Bedford. We have progressed into the Design Development stage of the construction process and will soon be seeing activity related to the demolition of the existing former Naval Research Training Center building to make way for the 34,000 net square feet expansion. Planned completion of the project is summer 2017.

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Student, faculty, alumni spotlights

Student spotlight: Brooke Wright

Brooke Wright earned her bachelor's degree in Biology at The College of William and Mary, where she served for two years as undergraduate laboratory research assistant. In that role, she supported laboratory research, collected and maintained living specimens, and became familiar with the equipment and procedures of a biological lab.

Also during her undergraduate days, Brooke spent a year as an aquarium volunteer at the Virginia Living Museum, maintaining aquarium health and interacting with guests to answer questions and provide information.

Brooke started her master's program at SMAST in Living Marine Resources Science and Management in September of 2012. During the summer of 2013, she enhanced her field experience working as a volunteer scientist with the National Marine Fisheries Service sea scallop survey, assisting with the collection of data at sea for assessment of the scallop resource.

Brooke's MS research builds on SMAST's bycatch avoidance program by examining the use of environmental variables as predictive factors for bycatch occurrence. The existing program uses near-realtime catch data to help scallopers avoid yellowtail flounder "hotspots" and thus prevent early closures of the scallop fishery due to exceeding yellowtail catch limits. In collaboration with SMAST colleagues, Brooke is analyzing catch data from a bycatch survey to develop models of yellowtail flounder bycatch in the scallop fishery in response to depth, temperature, substrate, zenith angle, month, time of day, and location.

About her graduate program at SMAST, Brooke says, "I have grown personally and professionally in my time at SMAST through gaining knowledge, overcoming challenges, and building relationships. The support of the SMAST community and the opportunities afforded to me through the program have been absolutely invaluable in preparing me for a fulfilling career in fisheries science."

Faculty spotlight: Dr. Avijit Gangopadhyay

One of SMAST's first-generation professors, Dr. Avijit Gangopadhyay joined the school's faculty in 1997 and has served as the school's interim dean and associate dean (2005-2012). He holds a BTech (1979) in Naval Architecture from the Indian Institute of Technology (IIT) Kharagpur, an MTech in Applied Mechanics from IIT Delhi, and a PhD (1990) in Ocean Engineering from the University of Rhode Island.

Before joining SMAST, Avijit was a research associate at Harvard University and a scientist at the Jet Propulsion Laboratory. His group and collaborations have produced more than 60 peer-reviewed publications, and he has served as advisor and mentor to more than 20 MS and PhD students and postdoctoral fellows who have gone on to fill significant positions in the global ocean science community. He spearheaded the establishment of the first dual-degree PhD program between SMAST/UMassD and the Oceanographic Institute of the University of São Paulo (Brazil).

Avijit has helped initiate and develop new oceanography programs in India, including the Center for Oceans, Rivers, Atmosphere and Land Sciences (CORAL) at IIT Kharagpur in 2005, the School for Earth, Ocean and Climate Sciences at IIT Bhubaneswar in 2011, and a Bay of Bengal Coastal Observatory at IIT Bhubaneswar in 2014. The first tsunami travel-time atlas for the Indian Ocean was published under his initiation and guidance in 2005. He also has been offered the prestigious Samudragupta Chair Professorship at IIT Kharagpur by the Ministry of Earth Sciences, Government of India. He is a U.S. Fulbright Fellow to India (2013-2014).

Avijit's research interests and contributions include operational ocean modeling and data assimilation, basin-scale climate-related modeling, multiscale multidisciplinary data-model synthesis studies, and the dynamics of western boundary currents. He has led the development of feature-oriented regional modeling systems in many different oceanic regions around the world, including the western North Atlantic, South Atlantic, Pacific and Indian Oceans. He is currently the Director of the Oceanographic Modeling and Analysis Laboratory at SMAST/Fairhaven, where operational ocean forecast for the Gulf Stream, eddies and shelf oceans are being carried out every week for the past six years under the MARACOOS program.

Alumni spotlight: Kazuhiro Hayashi

Kazuhiro Hayashi earned his bachelor's degree in Chemistry from Nihon (Japan) University in 1994 and his master's in Environmental Science (Paleoceanography) at Hokkaido University in 1997. For the next seven years, he worked as a chemist and laboratory officer for the Japan Agency for Marine-Earth Science and Technology, a stint only interrupted by a year as a Guest Investigator at the Woods Hole Oceanographic Institution.

In 2008, Kaz returned to the U.S. to undertake a doctoral program at SMAST under the guidance of Prof. Cynthia Pilskaln. He completed his PhD in 2014, successfully defending his dissertation, "Biogeochemical particle flux, resuspension and deposition in the western Gulf of Maine."

Since graduating, Kaz got married (Natsumi), had a son (Kaygo), and got a new position at the Japanese National Institution of Polar Research, where he has been engaged in the development of a continuous flow analysis (CFA) system for analyzing ice cores. Kaz's only complaint is the commute: 150 minutes each way!

Now, Kaz reports a new opportunity has come his way: **a two-year post-doctoral research position at the Japanese National Institute for Environmental Science, beginning in September, studying CO2 at the surface of the ocean.**

"The study is a little bit different from my PhD research," he acknowledges, "but it's interesting to me as a part of the carbon cycle."

We only hope it offers an easier commute.

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If you're an SMAST alumni, we'd like to hear from you.

Stay in touch

Use our new Alumni Connection Tool to keep us up to date.

SMAST graduates

Congratulations!

We are pleased to honor our graduates of the Intercampus Marine Science Program, a number of whom attended commencement ceremonies on May 15. Graduates include Erin Adams (MS), Haibei Hu (MS), Shannon Bayse (PhD), Ara Hakim (MS), Natalie Jones (MS), Georgia Kakoulaki (PhD), Chrissy Petitpas (PhD) and Ana Paula Krelling (PhD). Ana Paula was the first recipient of a PhD through the UMass Dartmouth-University of São Paulo, Brazil dual degree program. To all, congratulations and best of luck!

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