A note from the director of CMS, Dr. Martin Posey:

We are well into another semester with a lot going on. I want to extend my thanks again for all those helping with the various initiatives related to coastal and marine sciences on campus, such as the self-study and research collaboratives, as well as the tremendous work going on related to individual research efforts, undergraduate & graduate student mentoring, teaching, and outreach. –Martin

Outreach, Recognitions, & Other Notables

♦ Scott Nooner’s (Earth and Ocean Sciences) work on undersea seamounts was published in the journal Science (see Publications below) and was featured in several news outlets.
  ◦ UNCW News
  ◦ Video & Article on Port City Daily
  ◦ WECT
  ◦ National Science Foundation

♦ Larry Cahoon (Biology and Marine Biology) was interviewed Dec. 14 live on WHQR’s Coastline program (along with Phil Prete, Senior Environmental Planner, City of Wilmington) about coastal impacts of sea level rise. The tape of the broadcast is available here.

♦ Erin Cummings (BMB) was interviewed on Public Radio East about manatees making their way back to Florida as temperatures fall.

♦ UNCW hosted a delegation from the University of Brest (France) / European Oceanographic Centre, exploring opportunities for expanded collaboration between their center and UNCW.

♦ UNCW hosted a visiting researcher from Nelson Mandela University exploring possible collaborations between our universities in coastal and marine sciences.

♦ Mellissa Dionesotes’s (NCNERR and EVS) work with sea turtles was featured in the Coastal Review Online.

♦ Jessie Jarvis (BMB) was featured in SWOOP.
Outreach, Recognitions, & Other Notables

- From Larry Cahoon (BMB): Former student Charles D. (Chuck) Amsler has just been elected an AAAS Fellow in Biological Sciences. Chuck earned his M.S. in Marine Biology (one of our first graduates) in 1983 under Fritz Kapraun. Larry knew Chuck from his UG days at Duke.
- Bill McLellan (BMB) was interviewed by WWAY and the Myrtle Beach Sun News regarding the current status of humpback whales. His work was also featured by Higher Education Works.
- IKA Works collaborative work with UNCW Marine Biotechnology researchers was highlighted in the Greater Wilmington Business Journal.
- UNCW professor Philip Gerard (Creative Writing) had a new novel out in 2016: "Dark of the Island," from John F. Blair. The thriller, dealing with offshore oil drilling on the North Carolina coast, employed some characters Gerard had introduced in his earlier novel "Hatteras Light.” Star News article here.
- Troy Alphin (BMB) and Jack Hall (EVS) led a tropical coastal ecology course in Belize over winter break. This course has students from EVS and BMB as well as from the University of Belize. This was the 4th year it has been offered.
- UNCW’s collaboration with the Town of St. James (coordinated by Troy Alphin, BMB) was highlighted in UNCW’s Golden Seahawk magazine.
- Former CMS student, Kevin Zelnio, was highlighted for his new career on Port City Daily.

Presentations & Publications

- NIIMBL Seminar presented by Professor Ruben Carbonell, Chief Technical Officer of NIIMBL at MARBIONC
Presentations & Publications

♦ From Joe Pawlik (BMB): May 2015 graduate of the BS Marine Biology program, Michael Wooster, has had his Honors Thesis work published in the international journal Marine Ecology. The paper is coauthored by recent MS graduate, Micha Marty. The full citation is:
  ◊ Michael is currently an MS student at KAUST (King Abdullah University of Science and Technology) in Saudi Arabia in the coral reef research group of Dr. Michael Berumen. He won a UNCW Undergraduate Research Scholar award, as well as CSURF awards for travel and research supplies.

  ◊ This paper announces the development of a publically available on-line illustrated multilingual glossary and translation tool for technical taxonomic terms, and is useful for a variety of audiences from researchers to students.

♦ The Marine and Atmospheric Chemistry Research laboratory (MACRL; Chemistry and Biochemistry): The MACRL lab published two research articles from their recently completed NSF funded project "RUI: Photochemical Transformations of Algal Toxins (PbTx-2, PbTx-3 and microcystin-LR) on resuspended sediments in Coastal Ecosystems”:

♦ Narcissa Pricope (EOS): UNCW assistant professor of Geography Narcisa Pricope serves as second author on a scholarly article entitled “Biodiversity Areas Under Threat: Overlap of Climate Change and Population Pressures on the World’s Biodiversity Priorities,” which has been published in the prestigious multidisciplinary open access journal PLOS ONE.
Presentations & Publications

♦ Beth Darrow (CMS):
  ◦ Darrow, E.S., R.H. Carmichael, K.R. Calci, W. Burkhardt III. 2016. Land-use related changes to sedimentary organic matter in a northern Gulf of Mexico estuary. Limnology & Oceanography, doi:0.1002/lno.10453

♦ Amanda Williard’s former MSc student Stephanie Chavez published her work on effects of BRDs on terrapin and blue crab catch:

♦ Chad Lane (EOS):

♦ Steve Ross (CMS):
  ◦ Ross continued on next page...
Presentations & Publications


Presentations & Publications

♦ Will White and Susanne Brander (BMB): Will White and Suzanne Brander have a paper in press in Env Science and Technology that includes some experiments done with CMS pilot funding (from 2011).
  ◦ White, J. W.; Cole, B. J.; Cherr, G. N.; Connon, R. E.; Brander, S. M., Scaling up endocrine disruption effects from individuals to populations: outcomes depend on how many males a population needs. Environmental Science & Technology 2017 (in press).

♦ Varadarajan (CHM), Frampton (BMB), Bourderlais (MARBIONC): Their research article Glycoconjugated site-selective DNA-methylating agent targeting glucose transporters on glioma cells was published in the journal Biochemistry. This was a collaborative effort between the Varadarajan, Bourdelais, Frampton labs (Varadarajan is lead author) and multiple UNCW graduate students are authors.

Grants and Contracts

♦ Scott Nooner (EOS): Nooner, Scott; Collaborative Research: Modeling ground deformation at Axial Seamount; National Science Foundation (NSF); $72,596.00.

♦ Beth Darrow (CMS, Project Director), Troy Alphin (BMB), Susanne Brander (BMB), Martin Posey (CMS and BMB) and Aswani Volety (CAS and BMB): Evaluation of Ecosystem Services Associated with Shellfish Culture Operations in Coastal Regions Served by the National Estuarine Research Reserve. NERRS Science Collaborative. $673,397. 2016 -- 2019 (approved for funding).
Grants and Contracts

- Baden et al. (MARBIONC): UNCW through MARBIONC was recently named as part of the $250 million National Institute for Innovation in Manufacturing Biopharmaceuticals initiative.
  - UNCGA
  - Port City Daily
  - Lumina News
  - Greater Wilmington Business Journal

- Joe Covi (BMB): The Covi lab received a one-year grant of 50,000 South Korean Won ($44,833) to describe early development in the Antarctic copepod, Boeckella poppei, and subsequently investigate the mechanisms behind cryptobiosis in embryos of this species.

- Chad Lane and Doug Gamble (EOS): Chad Lane and Doug Gamble were notified that their collaborative NSF project with researchers at the University of Tennessee entitled ‘Developing a Network of n-Alkane Hydrogen Isotope Records in Costa Rica to Elucidate Drivers and Impacts of Holocene Droughts’ will be recommended for funding. This $385,000 project will be using isotopic analyses of organic molecules in sediment cores from multiple lakes in Costa Rica to better understand the patterns and mechanisms responsible for centennial-scale precipitation variability in Central America and the circum-Caribbean as a whole.


- Jason White (CMS) and Lance Horn (CMS): White, Jason and Horn, Lance; ROV support for habitat mapping and documentation in the Marine Protected Areas off of the U.S. South Atlantic for relevant formulation of rational management plans of the marine fishery resources. NOAA National Marine Fisheries Service (NMFS); $70,900.00.

- Jennifer Dorton (EOS and CMS): Dorton, Jennifer; NCSG Sentinel Site Coordinator Extension Specialist NC SeaGrant; $24,441.
CMS & Partners

- New DNA sequence and fragment analyzer for the DNA Analysis Core Facility: Thanks to the tireless work of Ami Wilbur, who coordinated the funding, an ABI 3500 was purchased by the University just before Christmas break and was installed during January. A number of people and University organizations made this happen and need to be thanked. Dr. Stephanie Kamel organized a number of proposals for this instrument as part of University one-time money request, and funding came from Dr. Vetter and Academic Affairs, Dr. Volety and the College of Arts & Sciences, Dr. Finelli and the Department of Biology & Marine Biology, Dr. Wilbur and the Shellfish Hatchery, and the DNA Analysis Core Facility. The 3500 should be as user-friendly as the 3130xl, but there will be some run setup differences in the software.

- Apply for Friends of UNCW grants; 15 February deadline.

- MJ West will be available for assistance on grant preparation on Wednesday’s (this is a change from last semester when she was at CMS on Tuesdays).

- North Carolina’s Coastal Conference is set for April 4 and 5, 2017. The program includes a free reception on April 4, 2017, at the N.C. Museum of Natural Sciences in Raleigh.

- Fish 2.0 South Atlantic and Gulf Coast Shellfish Regional Workshop, CREST Research Park, Wilmington, NC, 15-17 March. UNCW, in collaboration with MBCOI and Innovate SENC, will be hosting this workshop. This is part of a larger international innovation competition, the southeastern US (DE, MD, Washington DC, VA, NC, SC, GA, FL, AL, MS, LA, TX) theme concentrates on aspects of the shellfish industry. Great Wilmington Business Journal article.
From the NCNERR: The NC National Estuarine Research Reserve has been working to develop its policy regarding shellfish lease activity within Reserve boundaries. Thanks to CMS faculty and staff who recently attended a meeting to provide input on this topic. The NCNERR would also like to welcome back UNCW alum, Elizabeth Colhoun, who returns from completing Master’s work in Marine Biology at Nova Southeastern University and will serve as our new Stewardship and Education Specialist. Projects NCNERR staff are currently working on include: collaboration and support for the “Evaluation of Ecosystem Services Associated with Shellfish Culture Operations in Coastal Regions Served by the National Estuarine Research Reserve” led by Dr. Beth Darrow; implementation of a demonstration project on Masonboro Island associated with the National Fish and Wildlife Foundation funded project, “Coordinated Predation Management for Focal Temperate Breeding Shorebirds in the Atlantic Flyway” in collaboration with the NC Wildlife Resources Commission and Audubon; and the NERRS Science Collaborative funded climate change vulnerability assessment entitled “Creating a shared understanding of the specific vulnerabilities of southeastern habitats to climate change impacts.” Stakeholders and subject matter experts from the Wilmington science and conservation community will be invited to participate in this vulnerability assessment project hosted by the NCNERR in the fall of 2017.

MarineQuest’s Ghost Busters Program Receives NFWF Grant: Watson the Whale will be continuing his adventures this spring! UNCW’s MarineQuest has received a $70,630 Fishing for Energy grant from the National Fish and Wildlife Foundation, with funding provided by Covanta. Funds will be used to help educate students about the problem of derelict fishing nets, a harmful form of marine debris. The Ghost Busters program builds on Marine Quest’s successful Traveling Through Trash program offered last year in partnership with NOAA. Beginning this spring, MarineQuest staff will take Watson the Whale and the Ghost Busters program to coastal schools in Brunswick, Carteret, New Hanover, Onslow and Pender counties. The Ghost Busters curriculum has been designed to inform and inspire students. Interactive STEM learning kits, historic lessons on the creation and use of nets in fisheries, first person video documentaries and team debates will all be used to increase awareness of the ghost net problem. Students will be challenged to engineer solutions to this problem by designing new types of nets and harvesting equipment. At the end of the school year MarineQuest will host a regional engineering competition where students can showcase their designs. The grant funds will be used to hire a program coordinator, cover the costs of travel to schools and create the educational materials. For more information, contact project staff at MarineQuest@uncw.edu and include Ghost Busters in the subject line.
Southeast Regional Blue Heron Bowl update: Things are shaping up nicely for the upcoming Blue Heron Bowl on Saturday, February 18th. We have been notified that monitors from the national office will be on hand to support our efforts since it has been six years since UNCW hosted the bowl. On Friday evening (February 17th) teams will arrive and attend a buffet dinner at CMS where guest speaker Roger Shew will present on this year’s theme “Blue Energy”. Afterwards the teams will tour CMS. It would be most appreciated if some CMS labs and program areas could be open for viewing. If you are interested in welcoming teams to view your labs, talking to them about what you do, or otherwise helping with the tour, please contact Harris Muhlstein at muhlsteinh@uncw.edu or 962-3795.

The iMESA Lab (2nd floor at CMS; Susanna Lopez-Legentil and Patrick Erwin) is now recycling non-rechargeable batteries (AA, AAA, V9, etc), light bulbs with mercury (Hg), and sharps (blades and needles), and everybody is welcome to drop these items at their Lab. More information about what exactly we are recycling, what we will do with it, and what else can be recycled elsewhere can be found here.

From Alina Szmant: The link below is to a video produced by the State Key Laboratory of Marine Pollution of the City University of Hong Kong. In it is a segment about CISME. Dr. Leo Chan is the researcher who is waiting to buy the CISME we have built for him from spare parts. Thought you might be interested in seeing an overview of what that laboratory does. Rob Whitehead and I are part of new proposals they are writing for major funding to acquire new marine technologies, and to fund additional CISME training workshops in Hong Kong next summer.

SKLMP Marine Innovation Technology (MIT) video presented by Mr. Alan Lau (Cinematography and Creative Media Director of SKLMP).

Community Outreach - Wave Energy Powered Desalination System: SAROS (Swell Actuated Reverse Osmosis System) is a small NC marine renewables company that has recently located to Wilmington from Charlotte. They have developed a wave buoy that pumps high pressure seawater through a reverse osmosis (RO) system to generate freshwater – literally turning ocean waves into drinking water. They are currently at a testing phase and have one of their buoys operating off Masonboro Island. They aim to have a fully operational system off Crystal Pier, Wrightsville Beach, over the coming months. Their ultimate goal is to assist island nations and other coastal regions facing water shortages, without having to rely on fossil fuels to obtain freshwater. Dr. Joni ’Osku’ Backstrom, part-time faculty with EVS and EOS, has been collaborating closely with them since they located to Wilmington. He continues to advise them on coastal environmental issues, has conducted side scan sonar and grab-sampling surveys with them off Wrightsville Beach and will act as an advisory member for future grant funding opportunities. SAROS also recently hosted an undergraduate practicum in Environmental Studies with Rachel Mott, EVS undergraduate student, which was a great experience for her. More information on SAROS can be found here or email Osku at: backstromj@uncw.edu.