

UNCW Coastal & Marine March 2017 Science News

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

Thanks to all the folks (57 faculty, staff and administrators) who have worked hard on various subcommittees to produce the initial draft of our self-study. The Faculty Advisory Committee is putting together the full document and everyone will be receiving the draft within the next few days (or may have received it by time you get this news update). I encourage everyone to carefully review the document and provide their input to the FAC. We will discuss the self-study at our next faculty / staff meeting on 17 April. It takes a lot of time to do a self-study, but this effort is important in defining our goals, needs, and shared vision. Best wishes to all as we enter the final weeks of the semester!! - Martin

Outreach, Recognitions, & Other Notables

- ◆ UNCW senior Mary Jaskowiak '17 won the latest BB&T Discovery Forum Series for developing an affordable, effective method for testing water quality using a substance found in laundry detergent. The project earned the \$10,000 first prize in the competition for young social entrepreneurs. [Jaskowiak's research](#), conducted under the supervision of UNCW professor of Biology and Marine Biology Larry Cahoon, helped her isolate optical brighteners in natural waters to detect human waste. She used the results of her research to develop the "Fecal Finders" project.
- ◆ Honors student, Tiffany Ernst (Advisor: Heather Koopman, BMB), was awarded a [Fulbright](#) to study in the Netherlands next year.
- ◆ Robert Snowden, a MS in the Danner lab (BMB), was awarded the North Carolina Coastal Reserve Fellowship for 2017. His project is entitled "The Effects of Temperature and Disturbance on the Incubation Behavior of Beach-Nesting Least Terns (*Sternula antillarum*)." This was featured in a [Seagrant article](#) and [UNCW article](#).
- ◆ Biology and Marine Biology student Madison Dunning was featured in "[WE ARE UNCW.](#)"

Outreach, Recognitions, & Other Notables

- ◆ Alina Szmant and Robert Whitehead (CMS) taught their second CISME training workshop at the Hawaii Institute of Marine Biology, March 6-8, with 11 participants from 5 different institutions. They also sold their first CISME unit to the City University of Hong Kong, where researchers plan to use it to investigate the role of harmful algal blooms on coral health in the Hong Kong region and Kitibati.
- ◆ CAS Open House: CAS Departments and CMS exhibited their programs, activities, and research / outreach efforts at the CAS Open House held on main campus. Exhibits included live animals, sampling gear, fossil hunts and much more. This event was held in conjunction with a visitation event and many students and their families were able to see the wide range of opportunities among our programs.



Presentations & Publications

- ◆ Mike Mallin, CMS, gave the following presentation: Mallin, M.A. and M.R. McIver. 2017. Season matters when sampling streams for swine waste disposal impacts. Water Resources Research Institute Annual Conference, Raleigh, NC.
- ◆ Nick Iraola, MS graduate student, gave the following at the same conference: Iraola, N., M.A. Mallin and L.B. Cahoon. 2017. "Determining nutrient input from tributaries to eutrophic Greenfield Lake, North Carolina. Water Resources Research Institute Annual Conference, Raleigh, NC.
- ◆ Stuart Borrett (BMB):
 - ◇ Borrett, S.R. 2017. Network Ecology: Using Math to Study Ecosystems. Discrete Math Seminar, Kennesaw State University, Kennesaw, GA. Invited Presentation.
 - ◇ Borrett, S.R. 2017. Network Insights into Ecosystem Function: Food Web Organization and Estuarine Nitrogen Cycling. Duke Marine Laboratory, Duke University, Beaufort, NC. Invited Presentation.
- ◆ Dr. Larry Cahoon (BMB) was part of the Nile Project water quality panel discussion held at CMS. In this event, The Nile Project producer and CEO, Mina Girgis, and regional researchers explored scientific and community implications of water quality issues.

Presentations & Publications

- ◆ The following UNCW students presented at the NC MarCo Consortium Graduate Symposium:
 - ◇ **Eden Garcia:** Life history characterization and population dynamics of juvenile Permit fish in the Turneffe Atoll, Belize.
 - ◇ **Melissa LaCroce:** Seasonal recruitment of epibenthic organisms on the hard bottom at Five Mile Ledge in Onslow Bay, North Carolina.
 - ◇ **Nicholas Iraola:** Nutrient loading by tributaries leads to eutrophism in Greenfield Lake, North Carolina.
 - ◇ **Conor Murphy:** The role of habitat connectivity in a restored marsh system: Influence on nekton populations.
 - ◇ **Madison Lytle:** Impacts of oyster structures (reefs and culture operations) on adjacent benthic community assemblages.
- ◆ Joni Blackstrom (EVS): English, P.A., Mason, T.I., Backstrom, J.T., Tibbles, B.J., Mackay, A.A., Smith, M.J. and Mitchell, T. 2017. Improving Efficiencies of National Environmental Policy Act Documentation for Offshore Wind Facilities Case Studies Report. US Dept. of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon. OCS Study BOEM 2017 - 026. 217pp.
- ◆ Wilson Freshwater's Marine Phycology Lab (CMS):
 - ◇ Díaz-Tapia, P., L. McIvor, D.W. Freshwater, H. Verbruggen, M.J. Wynne & C.A. Maggs. 2017. The genera *Melanothamnus* Bornet & Falkenberg and *Vertebrata* S.F. Gray constitute well-defined clades of the red algal tribe Polysiphonieae (Rhodomelaceae, Ceramiales). *European Journal of Phycology* 52:1-30. DOI 10.1080/09670262.2016.1256436.
 - ◇ The paper above builds upon work published by former MS in Marine Science students Brooke Stuercke and Nadya Mamoozadeh and former undergraduate student Jennifer Kelly.
- ◆ Watanabe (CMS); Kinsey (BMB); Seaton (Chemistry and Biochemistry):
 - ◇ Russo, D.J., Watanabe, W.O., Kinsey, S.T., and Seaton, P.J. 2017. Effects of feeding frequency of live prey on larval growth, survival, resistance to hyposalinity stress, Na⁺/K⁺ ATPase activity, and fatty acid profiles in black sea bass *Centropristis striata*. *Aquaculture* 470: 56-67.
 - ◇ The senior author Daniel J. Russo is a graduate of the MMS program.
- ◆ Stuart Borrett (BMB):
 - ◇ McCoy, E., Borrett, S.R., LaPeyre, M.K., Peterson, B.J. 2017. Estimating the impact of oyster restoration scenarios on transient fish production. *Restoration Ecology*. 10.1111/rec.12498

Presentations & Publications

- ◆ Eight students from the Masters in Coastal Ocean Policy Program (PIA) as well as three students from BMB presented posters at the North Carolina Coastal Conference (coordinated by NC SeaGrant):
 - ◇ **Betsy Baldwin:** North Carolina Coastal Area Management Act (CAMA) Goal Analysis: Estuarine Shoreline Stabilization Permitting. Faculty Adviser: Jessica Weinkle
 - ◇ **Kathy Cyr:** The Flower Garden Banks National Marine Sanctuary and the Red Snapper. Faculty Adviser: Jessica Weinkle.
 - ◇ **Hayley Grabner:** OBX Stakeholder Values and the CZMA: What is 'Wise Use' and How Can We Achieve It? Faculty Adviser: Jessica Weinkle.
 - ◇ **Genevieve Guerry:** Goal of the Beach Act: Implications for Myrtle Beach, South Carolina. Faculty Adviser: Jessica Weinkle.
 - ◇ **Lisa Hollensead:** Examining Fine-Scale Movement of Estuarine Southern Flounder (*Paralichthys lethostigma*) Using a Combination of Active and Passive Acoustic Techniques, Faculty Adviser: Frederick Scharf.
 - ◇ **Caitlin Lashbrook:** American Aquaculture: Pitfalls, Values, and Alternatives. Faculty Adviser: Jessica Weinkle.
 - ◇ **Jackie Meyle:** Affects of Noise Pollution on Marine Mammals. Faculty Adviser: Jessica Weinkle
 - ◇ **Jennifer Ryan:** Shellfish in the Human Dimension: An Examination of CAMA Protection of Coastal Resources. Faculty Adviser: Jessica Weinkle.
 - ◇ **Trevor Scheffel:** Estimating Mortality for Southern Flounder Using a Combined Telemetry and Conventional Tagging Approach. Faculty Adviser: Frederick Scharf.
 - ◇ **Verena Wang:** Estimating Southern Flounder Population Connectivity Using Otolith Geochemistry. Faculty Adviser: Frederick Scharf.
 - ◇ **Christopher Yoda:** New Jersey Public Beach Access. Faculty Adviser: Jennifer Biddle.

Grants & Contracts

- ◆ Jennifer McCall (BMB / CMS) received notice that her Phase II STTR grant for collaborative work between her small business (SeaTox Research Inc, located in the Biotech building) and UNCW was funded. \$1.47M for 2 years.
- ◆ Joseph Covi (BMB); Biochemical regulation of dormancy and resurrection from dormancy in the Antarctic copepod, *Boeckella poppei*.; Korea Polar Research Institute; \$ 44,833.00.

Grants & Contracts

- ◆ Aswani Volety, Ai Ning Loh (CAS/BMB; Earth and Ocean Sciences); Monitoring and Assessment Plan: Oyster Health and abundance in the Caloosahatchee Estuary, Florida; Florida Gulf Coast University; \$112,787.00
- ◆ John Morrison (Physics and Physical Oceanography); SOCON: Sustained Ocean Color Observations with Nanosatellites; Gordon and Betty Moore Foundation; \$167,000.00
- ◆ Elizabeth Condon, Troy Alphin, Martin Posey, Aswani Volety (BMB; CMS); Evaluation of Ecosystem Services Associated with Shellfish Culture Operations in Coastal Regions Served by the National Estuarine Research Reserve; University of Michigan Water Center; \$225,745.00.
- ◆ Martin Posey (CMS); 2017 Blue Heron Bowl; Consortium for Ocean Leadership; \$9,000.00.
- ◆ Wade Watanabe, Md Alam, Patrick Carroll (CMS); Overcoming Technical Barriers to Cost-Effective Production of Marine Finfish Finger-lings and Expanded Growout Production: Optimizing Nursery Stocking, Feeding and Harvesting Strategies; NCSU North Carolina Sea Grant; \$4,919.

- ◆ Please remember to include CMS as an associated center or administering department (as applicable) on grant submissions if using CMS supported resources. These resources are available to all coastal and marine faculty, but it is important that we indicate their use and importance for our work.

CMS & Partners

- ◆ CMS was a co-sponsor of the following events:
 - ◇ 2017 Benthic Ecology Meeting
 - ◇ NC MarCo Consortium graduate student symposium
 - ◇ SeaGrant North Carolina's Coastal Conference
 - ◇ Fish 2.0
- ◆ The MG 1109 classroom has been set up with electronic projection so it can now be easily used for classes, defenses, and small group presentations.
- ◆ The CMS lobby tank is nearing completion!! Watch the growth...
- ◆ The CREST campus hosted the Southeastern Oyster Workgroup Meeting; Friday, March 10.
- ◆ Please use the event form found on the CMS website if you are working with classes or other groups who are using our facilities, grounds, docks, marsh / outdoor areas, or other parts of the campus.
- ◆ A reminder of our next coastal and Marine Science faculty and staff meeting on 17 April. This is an important meeting where we will discuss the draft Self Study.

CMS & Partners

- ◆ From Dr. Jarvis: Dr. Kenji Sugimoto from the department of Chemical and Biological Engineering at the National Institute of Technology, Ube College will be visiting UNCW from March 2017-2018. Dr. Sugimoto's primary research areas are on the physical and chemical effects of local environmental conditions on the growth of seagrasses, in particular *Zostera marina*. In addition, he is interested in investigating factors influencing the spatial and temporal recovery patterns of eelgrass after disturbances such as typhoons. Dr. Sugimoto is hosted by Dr. Jessie Jarvis and will be located at the Center for Marine Science. He is eager to collaborate with UNCW faculty and students during his time here, if you would like to meet with Dr. Sugimoto please contact Jessie at jarvisj@uncw.edu.
- ◆ Welcome to our new IT and electronics support person, Dan Beguhl: Dan Beguhl is a Pender County native and a UNCW graduate. He has been with the University for the past ten years and was most recently with the Watson College of Education as IT support. His start date for CMS was the 27th of March. Dan is located in Randy Turner's old office.
- ◆ Tuesday, April 11th - Planet Ocean Seminar - 6:30pm CMS Lobby - Presentation by Dr. Darren Rumbold, Professor of Marine Science at Florida Gulf Coast University - Title: Marine Pollution: Is it all Gloom and Doom?
- ◆ From Facilities: As of Monday April 3rd we will be making a change to the Physical Plant staff regularly assigned to the CMS campus. Andy Duskie will be moved to the main campus where his skills and professionalism will continue to be appreciated. Peter Bullock will replace Andy at CMS. Peter worked with Andy at CMS for about 4 years prior to being transferred to main campus and looks forward to continuing the customer service Andy has provided over the years. In addition, an HVAC mechanic will be assigned at CMS to assist Pete and concentrate on preventative maintenance. Andy's work load on main campus will be planned around him providing as much on site support to CMS as required to make this a smooth transition.
- ◆ From Marine Quest:
 - ◇ Summer staff positions: MarineQuest still has openings for summer positions. Please contact Erin Moran (morane@uncw.edu) if you would like to know more about specific openings. We are still looking for surf and kayak instructors. If you need a place to stay this summer, we are also looking for night staff. For more info click [here](#).

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- ◆ MarineQuest welcomes Laura Sirak-Schaeffer, program coordinator for NFWF ghost net project: Laura grew up in New Jersey, but has spent the last four years up in New England, attending graduate school and working at the Museum of Science, Boston. After four years of bitter cold and snow, Laura is very excited to move to sunny and warm North Carolina! Laura has a bachelor's degree in marine science from Stockton University and a Master's degree in marine science from the University of New England, where she researched seal-fishery interactions. Laura is now working on a NFWF funded project called Ghost(net) Busters! with UNCW Marine Quest. She will be traveling around the state with our giant inflatable whale to teach 6th-9th graders about the impacts of derelict fishing gear and inspire them to engineer new and creative solutions to this global problem. When not in the office or on the road, Laura enjoys spending time with her husband and dogs, going to the beach, visiting her family in NJ, and dreaming about (and occasionally going to) Disney World.
- ◆ MarineQuest's AmeriCorps Project Ocean Change: Through its grant supported efforts MarineQuest has begun working with a team of researchers from NCSU examining climate change education. This team includes Dr. Kathryn Stevenson and past UNCW MarineQuest employee and AmeriCorps member Danielle Lawson. Dr. Stevenson's group is researching the effectiveness of various teaching

approaches, experiential learning and intergenerational knowledge transfer of climate change. MarineQuest agreed to support this research by serving as a citizen science partner for one of the school participating in the study. Current AmeriCorps member Carey Goldman is facilitating a citizen science project for a class of Burgaw Middle School eighth graders focused on water quality and climate change. This partnership will provide opportunities to enrich underserved communities while learning how climate change knowledge is spread from students to parents and the impact this may have.



CMS & Partners

- ◆ From MBCOI:
- ◆ The FISH 2.0 South Atlantic and Gulf Coast Shellfish (& Crustaceans) Regional Track competition and [workshop was held on the CREST campus](#). The workshop was extremely well received by all and the Fish 2.0 staff were very impressed with the high quality of the participants.
 - ◇ Of note is that several of our NC start-ups performed very well at the final pitch contest on Friday:
 - * Best business idea:
 - * First place - Kepley Biosystems/Anthony Dellinger
 - * Runner up - Shure Foods/Gabe Dough
 - * Best social/environmental impact:
 - * First place - Sandbar Oyster Co/Niels Lindquist
 - ◇ We look forward to shepherding them through the competition and hope that several of our 'homies' make it to the finals in November.
- ◆ Fish 2.0 South Atlantic & Gulf Coast Shellfish/Crustacean Regional Track deadline April 29, 2017:
 - ◇ Apply now, no cost, online application.
 - ◇ Open to businesses/entrepreneurs from AL, DE, FL, GA, LA, MD, MS, NC, SC, TX, VA, & DC.
 - ◇ Finalists will compete for cash and prizes at Stanford University, CA, November 7-8, 2017.
 - ◇ Other ways to be involved: become a **sponsor**, share your expertise as an **advisor** or **online judge**.
- ◆ Ocean Exchange Collegiate Call for Solutions 2017 with \$10,000 Award application process now open deadline September 6, 2017.
 - ◇ Open to any undergraduate or graduate student innovators (May 2017 graduates **DO** qualify).
 - ◇ Looking for innovations that improve economies, health, and the environment, fitting under the theme of sustainability.
 - ◇ For more information and how to apply click [here](#).
- ◆ MBCOI and UNC Chapel Hill Institute of Marine Science (UNC-IMS) need your **HELP** with a [Survey](#).
 - ◇ Joint effort to understand the community needs for improved diagnostic kits for water safety.
 - ◇ Development of quantitative, cost-effective rapid tests for pathogenic forms of *V. parahaemolyticus* (Vp) and *V. vulnificus* (Vv).
 - ◇ Please share the survey [link](#). Thank you for participating.