

UNCW Coastal & Marine Science News

May/June 2017

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

I hope everyone is having a productive and restful summer! As you may have seen, we have been doing a lot of work around the center: the new wet lab building has been put in place and is being outfitted; we have finished several renovation and repair projects; new equipment has come in (e.g. a new autoclave, a drone system; new freeze drier; new water quality sampling gear; new small boat and motors; and more ...); the classroom has been unfitted with a computer and projection system; and the new student commons space is completed. The center has been active with researchers, various visitors and meetings, and with excited Marine Quest students. As indicated below, there has been considerable activity over the past two months involving outreach, research, and education.

- Martin

Outreach, Recognitions, & Other Notables

- ◆ UNCW Scientist have provided information related to GenX in Cape Fear waters. (Larry Cahoon {Biology and Marine Biology}; Susanne Brander {BMB}, Stan Harts {Environmental Safety}, Roger Shew {Earth and Ocean Sciences}). Some examples of the news articles featuring UNCW researchers include two from StarNews ([StarNews 1](#) & [Star News 2](#)) and one from [WECT](#).
- ◆ From Alison Taylor (BMB): Alexa (in our lab for her entire UG career!) is doing [great things](#) at the University of Rhode Island – MA in Marine Affairs and PhD in Biological and Environmental Sciences and leadership in Women in Science on campus!
- ◆ Work on plastics by Susanne Brander (BMB), Bonnie Monteleone (Chemistry and Biochemistry) and UNCW students was featured in an article on [Coastal Review Online](#).
- ◆ The Plastic Oceans project hosts an [offshore cleanup competition](#) (Executive Director Bonnie Monteleone, CHM).
- ◆ Dr. Wilson Freshwater (Center for Marine Science) has recently been honored by colleagues in the field. A novel genus of marine red algae, "Wilsonosiphonia", including three new species has been established. Well deserved, the paper can be found in the latest issue of the Journal of Phycology.

Outreach, Recognitions, & Other Notables

- ◆ Honors College students Amanda Ceroli '19 (Physics and Physical Oceanography), Joshua Kraft '19 (Environmental Studies) and Hannah Whitaker '19 (BMB and EVS) received prestigious [Hollings Scholarships](#) from NOAA.
- ◆ Brian Arbogast (BMB) identified a new species of flying squirrel. [UNCW article](#). [National Geographic article](#).
 - ◇ The paper in Journal of Mammalogy can be accessed [here](#):
Title: "Genetic data reveal a cryptic species of New World flying squirrel: *Glaucomys oregonensis*"
Brian S. Arbogast, Katelyn I. Schumacher, Nicholas J. Kerhoulas, Allison L. Bidlack, Joseph A. Cook, G. J. Kenagy.
- ◆ The UNCW Shellfish Research Hatchery and UNCW collaborator Tim Holbrook were featured by the [Greater Wilmington Business Journal](#).
- ◆ From Stuart Borrett (BMB): I have good news to share about one of our former MS Marine Science students. Soon to be Dr. Andria Salas was recently awarded a [John A. Knauss Marine Policy Fellowship](#). During her master's work, Ms. Salas used ecological modeling and network analysis to investigate the importance of indirect effects in both ecosystem function and evolution in a community context. After graduating from UNCW, Ms. Salas began her PhD work at the University of Texas at Austin where she is now studying the biological and ecological effects of the marine soundscape. She is one of our UNCW graduate students who build on their successes at UNCW and go on to make a difference in our world.
- ◆ Alina Szmant (CMS) was part of a panel examining environmental stewardship and biodiversity, featured by [WHQR](#).
- ◆ Larry Cahoon (BMB) was interviewed on [how to avoid a shark attack](#).
- ◆ Research on oyster genetics by Varney, Sackett and Wilbur (Shellfish Research Hatchery and BMB) and their research article was highlighted in a recent issue of ["On The Half Shell"](#) (NC Coastal Federation).
- ◆ Charlotte Frank (EVS) was awarded the Dr. Ralph Brauer Fellowship.
- ◆ Ms. Samantha Huskey received the UNCW Carolyn Duffy Sustainability Award (EVS)

Outreach, Recognitions, & Other Notables

- ◆ The Association of Public and Land-grant Universities Board on Agriculture Assembly Academic Programs Section named Rachael Urbanek (EVS) as a winner of its 2017 Innovative Teaching Award in the category of “Educational Workshop for Improving Student Success While Attending a Professional Conference.”
- ◆ From Robert Whitehead and Alina Szmant (CMS): The NASA NEEMO 22 Aquarius mission livestreamed work with their CISME instrument. They used the coral in situ metabolism instrument (CISME) that was developed here at UNCW under NOAA CIOERT. Watch live [here!](#)

Presentations & Publications

- ◆ Easson C4, Thacker RW, Turon X, Erwin PM, López-Legentil S (2017) Temporal dynamics of sponge microbial communities. International Sponge Conference, Galway (Ireland). (BMB).
- ◆ Riesgo A, Pérez-Portela R4, Taboada S4, Pita L4, Erwin PM, Melis P2, Xavier JR, López-Legentil S (2017). “Genetic structure patterns in Atlanto-Mediterranean sponges: environmental factors and biological features driving connectivity in scenarios with mass-mortalities.” International Sponge Conference, Galway (Ireland). (BMB).
- ◆ Mallin, M.A. and B. Saul. 2017. “Finding a way: Cyanobacteria bloom in nutrient-enriched lowland blackwater systems”. Society for Freshwater Science Conference, Raleigh, N.C. (CMS).
- ◆ Mallin, M.A. 2017. “Impacts of swine CAFOs on wetlands and other water bodies”. Carolina Wetlands Association, Raleigh, N.C. (CMS).
- ◆ Hao, H. (2017). “Tenants of sustainable tourism and local market research from home owners.” U.S. Green Building Council’s Cape Fear Branch Conference. (EVS).
- ◆ Maser, M., H. Jones, R. E. Urbanek, C. Olfenbuttel, G. Albers, and C. Gray. 2017. “Preliminary results of the 2016 North Carolina Wildlife Resources Commission Pilot Fox Survey.” Annual meeting of the Southeastern Association of Fish and Wildlife Agencies Furbearer Working Group and The Southeast Section of The Wildlife Society Furbearer Resources Committee, Southern Pines, NC. (EVS).

Presentations & Publications

- ◆ Backstrom, J. & English, P. (2017). “Monitoring Marine Sand & Gravel Extraction: The UK Approach”. Accepted for oral presentation at the 147th Annual Meeting of the American Fisheries Society, August 20, 2017- August 24, 2017 in Tampa, FL (EVS).
 - ◆ Jones, H., M. Maser, R. E. Urbanek, C. Olfenbuttel, G. Albers, and C. Gray. 2017. “Efficacy of timed vs. triggered shots using Reconyx® PC900 hyperfire game cameras.” Annual meeting of the Southeastern Association of Fish and Wildlife Agencies Furbearer Working Group and The Southeast Section of The Wildlife Society Furbearer Resources Committee, Southern Pines, NC. (EVS).
 - ◆ Hardison S and A.E. Wilbur “Soundscape manipulation through the experimental addition of snapping shrimp does not affect rates of *Crassostrea virginica* larval recruitment” (contributed talk). Benthic Ecology meetings Myrtle Beach SC Apr13-15 2017 (Shellfish Research Hatchery, BMB).
 - ◆ Harris Muhlstein represented MarineQuest at the National Marine Educators Association conference in Charleston where he gave a presentation on our NOAA Marine Debris grant funded project Traveling Through Trash. Harris set up the life size inflatable whale classroom for his presentation. NMEA also used it as a selfie station for attendees. Laura Sirak-Schaeffer also attended the conference and presented a talk on our Ghost (net) Busters project funded by NFWF. (MarineQuest).
 - ◆ Hommersand M.H. & D.W. Freshwater. 2017. “Morphology and molecular systematics of the *Dasyptileae*, a new tribe in the *Callithamniaceae* (Ceramiales) containing *Dasyptilon* and *Plumariopsis*.” 52nd Annual Meeting of the Phycological Society of America, Monterey Bay, CA. (CMS).
- ◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆
- ◆ Aaron Ramus (PhD student in Biology and Marine Biology) was lead author on a paper in the Proceedings of the National Academic of Sciences examining the impact of an introduced [marine seaweed](#). Zachary Long (BMB) was a co-author on this paper.
 - ◇ Aaron P. Ramus et al., "An invasive foundation species enhances multifunctionality in a coastal ecosystem," [PNAS](#) (2017).

Presentations & Publications

- ◆ Burtchett, J.M., M.A. Mallin and L.B. Cahoon. 2017. "Micro-zooplankton grazing as a means of fecal bacteria removal in stormwater BMPs. *Water Science and Technology*.75:2702-2715. Note that Jade Burtchett was a 2016 graduate of the MMS program. (BMB, CMS)
- ◆ Hanke, M., Posey, M.H. and Alphin, T.D.. 2017. The influence of habitat characteristics on intertidal oyster *Crassostrea virginica* populations. [Marine Ecology Progress Series](#). 571:121-138. (BMB, CMS)
- ◆ McMurray, S.E., Pawlik, J.R., and Finelli, C.M. 2017. Demography alters carbon flux for a dominant benthic suspension feeder, the giant barrel sponge, on Conch Reef, Florida Keys. *Functional Ecology* DOI: 10.1111/1365-2435.12908. (BMB)
- ◆ 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. (EVS)
- ◆ Monniot F, López-Legentil S (2017) Deep-sea ascidians from Papua New Guinea. *Zootaxa* 4276(2): 529-538 (BMB)
- ◆ Gantt SE2, López-Legentil S, Erwin PM (2017) Stable microbial communities in the sponge *Crambe crambe* from inside and outside a polluted Mediterranean harbor. *FEMS Microbiology Letters* 364: fnx105 (BMB)
- ◆ Jackie Howarth's MS thesis research resulted in 3 peer-reviewed publications in good journals. This research was conducted using the CMS mesocosm facility. (BMB)
 - ◇ Durako, M. J., Howarth, J. F. 2017. Leaf spectral reflectance shows *Thalassia testudinum* seedlings more sensitive to hypersalinity than hyposalinity. *Frontiers in Plant Science*, doi: 10.3389/fpls.2017.01127.
 - ◇ Howarth, J. F., Durako, M. J. 2013. Variation in pigment content of *Thalassia testudinum* seedlings in response to changes in salinity and light. *Botanica Marina* 56: 261-272.
 - ◇ Howarth, J. F., Durako, M. J. 2013. Diurnal variation in chlorophyll fluorescence of *Thalassia testudinum* seedlings in response to controlled salinity and light conditions. *Marine Biology* 160: 591-605.

Presentations & Publications

- ◆ Taylor, R.L., J.C. Bailey & D.W. Freshwater. 2017. Systematics of *Cladophora* spp. (Chlorophyta) from North Carolina, USA, based upon morphology and DNA sequence data with a description of *Cladophora subtilissima* sp. nov. *Journal of Phycology* 53:541-556. (BMB, CMS).
 - ◇ This paper was based on Robin Taylor's (Ms in MB '16) thesis and was noteworthy for its development of a novel system for DNA barcoding in the widespread genus *Cladophora*, as well as being the first study to objectively determine the utility of morphological characters for distinguishing *Cladophora* species and to successfully generate DNA sequence data from *Cladophora* type specimens, some nearly 200 years old.

Grants & Contracts

- ◆ Summer grants and contracts will be listed in the July/August newsletter.

CMS & Partners

- ◆ The Undersea Vehicles Program circumnavigated Cuba from mid-May to mid-June aboard the R/V Walton Smith. The team conducted 21 days of ROV operations, spent 112 hours on the bottom, and took more than 20,000 images during the expedition. Read more on the NOAA Ocean Explorer signature cruise [page](#) or [Cuba Journal](#).
- ◆ In late June the Undersea Vehicles Program boarded the NOAA Ship Pisces for with NOAA NMFS Panama City Lab employees to do our annual Marine Protected Area cruise. This cruise starts off of Ft. Pierce Florida at the Oculina Banks and covers the waters all the way up to the Snowy Grouper MPA off of Wilmington, North Carolina, a total of 12 days of ROV operations. Check out the [highlights!](#)
- ◆ The Undersea Vehicles Program would like to welcome Eric Glidden to our team. Eric obtained his bachelors in marine biology from the University of Maine and he has also participated in several ROV missions with the University of Connecticut's ROV team, operating the Kraken.
- ◆ MarineQuest camps are in full swing. Our base of operations was relocated to the Isaac Bear Early College building for the summer. If you need to reach our director Erin Moran, please call 622-3975. We still have a few spots open in our younger camp programs.

CMS & Partners

- ◆ From Daniel Beguhl, CMS Technology Support Analyst: It's been great getting to know everyone over the last three months - everyone has made me feel very welcome. I wanted to let everyone know the best ways to get in contact with me. If you have a technology issue the best way to get your issue resolved would be to put in a TAC request by submitting a [form](#). If you would like to email me at beguhld@uncw.edu or call me at x22314 after you submit your TAC form that would be fine as well. Putting in a TAC request will guarantee I don't lose your email or miss your phone call. This will also help me prioritize technology requests, and resolve your issue in an appropriate amount of time. Again, thanks for welcoming me with open arms and I look forward to working with everyone here at CREST Research Park.
- ◆ We greatly appreciate everyone's patience during the 3 leak events over the past two months and will be following up soon on replacements and remaining items. Thanks!!

