

SUMMER 2020

THE LIVING SEA

The e-newsletter of the LMRCSC



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TO THE LMRCSC COMMUNITY

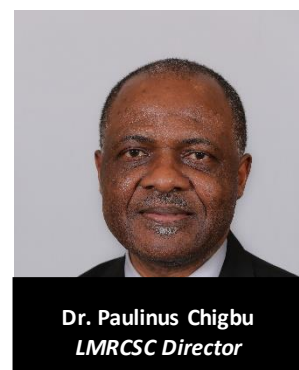
It is with great pleasure that I present to you the Summer 2020 edition of the LMRCSC's publication, *The Living Sea*.

With the many recent challenges that have presented themselves this semester, the Center and our partner institutions have made great adjustments in our teaching and mentoring styles. Due to the COVID-19 pandemic, our students have gone from a traditional campus setting to working and learning remotely. In-person lectures have been replaced with videoconferencing, and internships have now gone to a remote learning style, but nevertheless, our scientists and students have not only adapted, but thrived in these challenging times.

In this edition, you will see our most recent graduates, along with the honors and awards that some of our students have received.

Through it all, the LMRCSC continues to thrive and produce excellent science, in spite of any adversities. As always, we thank you for your continued support and please enjoy *The Living Sea*.

Paulinus Chigbu, Ph.D.



RECENT GRADUATES

In spite of the COVID-19 pandemic, the LMRCSC had a number of students earn their respective degrees in spring 2020. The perseverance and tenacity of our recent graduates show that they will succeed in their careers.

Congratulations!



Chryston Best-Otubu graduated from the University of Maryland Eastern Shore with a Bachelor of Science degree in environmental science with a concentration in marine science. Chryston plans to continue his education at the University of Miami in fall 2020 and pursue a master's degree in marine science.



Wilmelie Cruz-Marrero graduated with her Ph.D. in marine, estuarine and environmental science from the University of Maryland Eastern Shore. Wilmelie's research focused on offshore wind sites and conducting a benthic habitat assessment of the Maryland coast using video technology.



Davielle Drayton earned her master's degree in marine sciences from Savannah State University. Davielle's research involved evaluating microplastic consumption by oysters (*Crassostrea virginica*) in coastal Georgia through the analysis of oysters and sediment samples collected from both naturally occurring and restored reefs.



Ileana Fenwick graduated with her Bachelor of Science degree in Marine and Environmental Science from Hampton University. Ileana's future plans include pursuing her Ph.D. in Marine Science in the Quantitative Fisheries Lab., at the University of North Carolina Chapel Hill in the fall of 2020.



Ammar Hanif completed his doctoral degree in Marine, Estuarine and Environmental Science at the University of Maryland Center for Environmental Science – Institute of Marine and Environmental Technology. His research focused on using molecular techniques and bioinformatics as tools to study the marine environment and answer ecological questions.



Rhyan Knight earned her bachelor's degree in environmental science from the University of Maryland Eastern Shore. Rhyan's future goals are to complete her graduate degree at UMES, beginning in fall 2020, and subsequently pursue a career as a marine mammologist.



Janelle Layton received her Bachelor of Science degree from Hampton University in marine and environmental science. Janelle plans to attend Oregon State University to pursue her Master of Science degree in fall 2020.



Nylah McClain graduated with her bachelor's degree in marine and environmental science from the University of Maryland Eastern Shore. Nylah's future endeavors include attending graduate school and completing her master's degree at UMES beginning in fall 2020. Concerning her career path, Nylah aspires to work as an environmental scientist for NOAA or the Peace Corp.



Enid Munoz Ruiz graduated with her master's degree in aquatic toxicology from the University of Maryland Eastern Shore. Enid's future plans include pursuing her Ph.D. and becoming an asset in ecotoxicological sciences.



India Oliver is a graduate of the University of Maryland Eastern Shore, where she earned her Bachelor of Science degree in biology. India plans to pursue her master's degree and afterward work for NOAA as a research biologist.



Having earned her first bachelor's degree in environmental policy from Keene State College, Sena Tay earned her second bachelor's degree as a NOAA EPP Fellow Scholar at Savannah State University. Sena majored in marine science and plans to pursue her master's and doctoral degrees so she can further her research interests in environmental toxicology.

**Not pictured: Kiani Simmons graduated with her Bachelor of Science degree in marine science from Delaware State University.*

LMRCSC HOSTS ANNUAL SCIENCE MEETING

The LMRCSC's annual science fair was a bit different this year. Due to the ongoing pandemic, the Center held the fair virtually for the first time. Although the mode of implementation was different, the work and research of Center scientists and NOAA collaborators were still top notch!

The Living Marine Resources Cooperative Science Center, in conjunction with the National Oceanic and Atmospheric Administration, held its 2020 Science Meeting in April. This year, the annual event was held via videoconferencing due to the social distancing guidelines put in place as a measure to prevent the spread of COVID-19. Although the virtual aspect was a new endeavor for the center, the event was still informative and allowed all parties involved to showcase the cutting-edge accomplishments made by students and scientists in their respective research areas.

The program organizer and moderator was LMRCSC Distinguished Research Scientist, Dr. Bradley Stevens. In addition to organizing the event, he also presented the research accomplishments of the center. Dr. Stevens focused on the importance of the Technical Advisory Board (TAB) process and the benefit that it provides to students. Every NOAA Educational Partnership Program LMRCSC Scholar completes an independent research project before graduation.

“The TAB Research process is all about the students,” stated Dr. Stevens. “The purpose of the TAB is to help students become independent researchers and successful future scientists.”

The LMRCSC TAB proposal review process creates an opportunity and serves as a funding source that allows for students to submit a proposal for a research project; and upon approval, they can have all related expenses paid by the Center.

The TAB projects allow students to acquire hands-on research experience, while also affording future scientists opportunities to network with professionals in their fields.

In addition to the presentation from Dr. Stevens, other notable speakers were also on the agenda for the scientific forum. LMRCSC Director, Dr. Paulinus Chigbu provided attendees with an overview of the center and its various accomplishments. NOAA-EPP Lead Program and Policy Analyst, Dr. Audrey Trotman; NOAA Deputy Assistant Administrator for Regulatory Programs, Sam Rauch; and Director of Scientific Programs and Chief Advisor of NOAA Fisheries, Dr. Cisco Werner all provided talks on Fisheries Science and NOAA strategies.

This year's meeting focused on four different themes: artificial intelligence, OMICS, unmanned systems and cloud computing, which are all emerging science strategies on which NOAA is focusing. These themes were developed by NOAA in conjunction with guidance provided by the agency and Congress.

"NOAA already has robust experience with these applications across a range of mission areas and is delivering successful operational systems that are beginning to pay dividends, whether in helping to improve weather forecasts or fish stock assessments," said retired Navy Rear Admiral Tim Gallaudet, Ph.D., assistant secretary of commerce for oceans and atmosphere and deputy NOAA administrator, speaking at the American Geophysical Union's Ocean Sciences Meeting.

"These strategies will accelerate the implementation of the most effective science and technology applications to advance NOAA's mission to protect life and property and grow the American economy," said RDML Gallaudet.

Although many professionals were active participants in the science meeting, many students were also afforded the opportunity to display their expertise. Students from all seven partner institutions presented on a host of topics related to fisheries science, including studies on the Blue Crab, and the thermal effects on juvenile Pacific Cod.

The 2020 Annual Science Meeting was unprecedented in that it was held virtually; but fortunately, this format and the social distancing guidelines allowed the center's event to reach a larger audience than previous science meetings. With the aid of the NOAA Educational Partnership Program, the expertise of LMRCSC scholars and organizing by Dr. Stevens and Dr. Werner, the forum was nothing short of a success!

STUDENT SPOTLIGHT

The students of the LMRCSC work diligently to ensure that they conduct excellent research. Below, we have highlighted a few who finished the semester strong and received recognition for their accomplishments!

LMRCSC SCHOLARS EARN NOAA SCHOLARSHIP



Teemer Barry

Teemer Barry (left), Erianna Hammond (below) and Semaj Fielding (next page), NOAA Living Marine Resources Cooperative Science Center scholars, were recipients of a prestigious STEM award. All three scholars received the NOAA Educational Partnership Program with Minority Serving Institutions Undergraduate Scholarship earlier this month.

NOAA's undergraduate scholarship is a federally supported program that aims to provide financial assistance to students attending minority serving institutions. The program provides up to \$45,000 of

support to rising juniors who are pursuing a bachelor's degree in a STEM-related field. During the recipients' junior and senior years of college, the scholarship will aid in tuition, travel and other educational expenses.

The scholarship program not only provides financial support, it also provides opportunities for students to expand their knowledge and skills.



Erianna Hammond

During their first summer in the program, undergraduates participate in a 10-week orientation and a summer internship at NOAA's headquarters in Silver Spring, Maryland. Scholarship recipients also complete an additional 10-week paid internship at another NOAA facility during their second year in the program.

Environmental science majors Fielding and Barry have already gained experience in the field with multiple internships under their belt. Fielding participated in UMES' Geoscience Bridge Program during the summer of 2018, before enrolling in the UMES Environmental Science Program. In addition, she also completed an internship last summer with the Ackerman Foundation in Charleston, South Carolina, as a member of the inaugural class of the Mayor John T. Tecklenburg Fellowship.

Barry, a UMES undergraduate student, also participated in UMES' 2018 Geoscience Bridge Program. He took part in Savannah State University's 2019 Bridge to Marine Science Research Program in Savannah, Georgia, as well.

Savannah State University student and marine science major, Erianna Hammond also has an expansive research portfolio. The undergraduate's research focuses on bottlenose dolphins. During the summer of 2019, Hammond aided in the rehabilitation of marine mammals off of the coast of California.



Semaj Fielding

Since the program's inception in 2001, over 186 students have been recipients of the NOAA Educational Partnership Program/Minority Serving Institutions Undergraduate Scholarship. The program has continued to provide support and academic opportunities to those who are pursuing an education in fields that align with NOAA's mission and objectives.

GRADUATING SENIOR MAKES STRONG SHOWING AT RESEARCH SYMPOSIUM



University of Maryland Eastern Shore student Rhyan Knight received an honorable mention for her presentation at the University of New Hampshire's Undergraduate Research Conference Interdisciplinary Science & Engineering Symposium in April.

The annual conference was held virtually this year due to the global coronavirus pandemic. Knight, who is a NOAA Educational Partnership Program Living Marine Resources Cooperative Science Center Scholar, presented a pre-recorded talk on her poster titled, "Mercury Accumulation in the Great Bay Ecosystem - Links with Carbon and Sediment Size."

"The research I conducted found that certain areas of the bay had elevated mercury and carbon content," Knight said. "I tested two samples from different areas of the bay. One sample had a relatively low mercury concentration, while the other sample contained high mercury and carbon levels."

The scholar was invited to present at the symposium as a result of her participation in the university's Closes-GAP internship program last spring. The environmental science major spent four weeks on the campus of the University of New Hampshire where she conducted research in the Great Bay.



Although her time there was brief, her findings had an impact on the university long after she left, said her advisor Dr. Maurice Crawford, an associate professor in UMES' Department of Natural Sciences. Due to her discoveries, others have begun to look into the causes of the high mercury concentration, which could adversely affect the local oyster bays in the Great Bay.

"I think it was very valuable to gain experience not only in the field, but also in giving scientific talks and presentations," Knight said.



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