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The Coastal Monitor

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Winter 2015

## The Coastal Monitor: Vol. 1, No. 1

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# The Coastal Monitor



THE OFFICIAL NEWSLETTER OF CERCOM AT MOLLOY COLLEGE / CENTER FOR ENVIRONMENTAL RESEARCH AND COASTAL OCEANS MONITORING



Dear Molloy College and Long Island Coastal Communities,

Welcome to our inaugural edition of the CERCOM at Molloy College Newsletter, The Coastal Monitor. CERCOM was made possible by the vision of Molloy College President, Dr. Drew Bogner. Dr. Bogner provided the leadership to develop a new science initiative designed not only to serve our future students, but to enhance their abilities to handle and solve some of the most perplexing, environmental problems facing our global society as we approach 2020.

I am honored to be the Director of CERCOM and I hope you will provide feedback regarding CERCOM's operation, research, academic support, monitoring efforts, and mission, as a monitoring field station.

If you have any questions, or would like to take part as a "citizen scientist", contact my office at 516.323.3594 or send me an email at [jtanacredi@molloy.edu](mailto:jtanacredi@molloy.edu).

Sincerely,

**John T. Tanacredi, Ph.D.**  
 Director of CERCOM, Professor of Earth & Environmental Studies at Molloy College, Department of Biology, Chemistry, and Environmental Studies (BCES)

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## Did You Know?

After three expeditions to Easter Island, a new species of crustacean was discovered and now named for the Director of CERCOM, Dr. John T. Tanacredi,

*Cryptopontius tanacredii.*



## CERCOM Personnel

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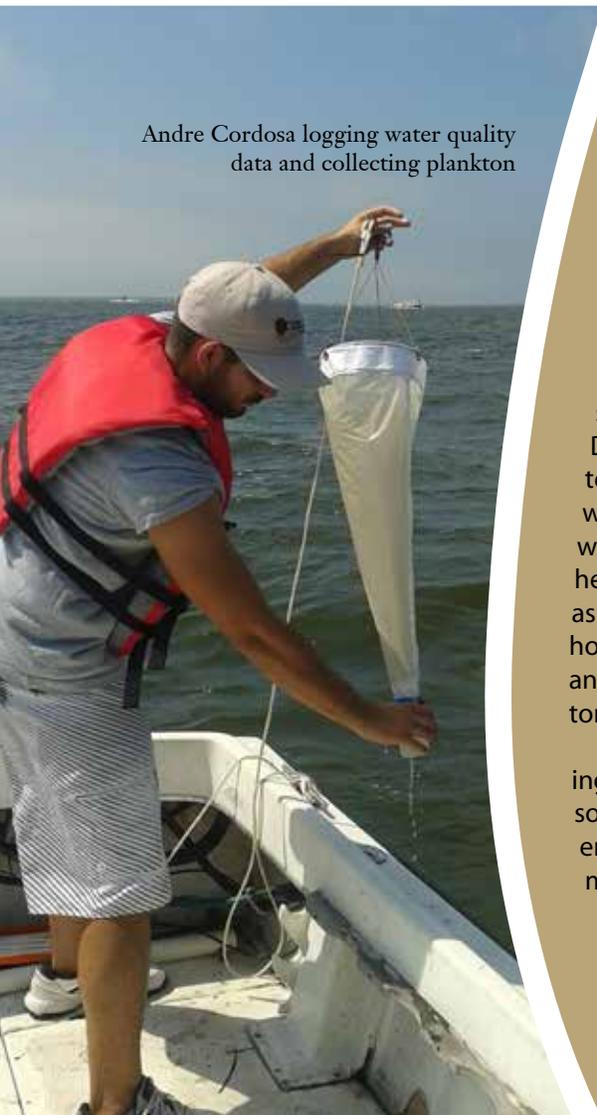
## What is CERCOM?

The Center for Environmental Research and Coastal Oceans Monitoring (CERCOM) is a scientific coastal research center and field station dedicated to exploring our global coastal environments and near-shore oceans.

CERCOM is the field station support facility for all sciences at Molloy College and services the degree programs of Biology, Chemistry, and Environmental Studies, with special attention to a B.S. degree in Earth and Environmental Studies.

Located at the West Sayville Boat Basin on the Great South Bay, CERCOM is a 2,500 sq. ft. field station estuarine/ marine science laboratory where environmental monitoring and analysis is conducted 365 days a year.

**Contact us at 516.323.3594, if you would like to take a tour of our facility. Look for our open house events and more information on CERCOM at [www.molloy.edu/cercom](http://www.molloy.edu/cercom)**



Andre Cordosa logging water quality data and collecting plankton

## INTERNShips

Molloy College student Kirstie Dominique, a biology major, spent several weeks at the end of the spring 2015 semester as a CERCOM inter. Her time was spent maintaining aquaculture systems, logging and submitting daily weather data to National Oceanic and Atmospheric Administration (NOAA), and analyzing plankton samples from the waters of the Great South Bay.

Andre Cordosa, an intern from Brazil, currently attends Arizona State University and is pursuing a degree in environmental engineering. Cordosa contacted Dr. Tanacredi in early Spring of 2015 to inquire about CERCOM and potential internship opportunities. We were happy that he was willing to work with us and help with lab research such as water quality analysis, horseshoe crab inventory, and weather station monitoring.

"The feeling of knowing that you are doing something to preserve the environment is what I liked most", said Cordoza.



Andre and Kirstie identify plankton

**Ask us about our Internship Experiences @ CERCOM, American Museum of Natural History, CRESLI, and National Park Service! 516.323.3594**

# Meet the CERCOM Executive Director: John T. Tanacredi, Ph.D.

In 2014 he escorted 50 Molloy College Global Studies students to Sicily, Italy, teaching marine biology giving them an incredible coastal experience. He also presented CERCOM's Horseshoe Crab Research at Goethe University in Frankfurt Germany and initiated the development of a new natural history book on wildlife of Cyprus, Greece.

In 2015, he guided two Molloy College students to the IUCN SSC Specialist Group International Conference in Sasebo, Japan for the Third International Conference on Horseshoe Crab Biology and Conservation. (page 5)

In February of 2015, Dr. Tanacredi was asked to present his presentation "Coastlines Under Siege", at Freeport High School's, 11th Annual Science Awards and New York State Honor Society Induction.

This past September, Dr. Tanacredi was awarded the Kinghan Service Award at the annual New York State Marine Education Association (NYSMEA) Conference for his outstanding participation in the Association and his contributions to marine environmental education. CERCOM was mentioned in the 2014 update of Strong Island, a Continuing Story of Recovery and Resurgence, the Strategic Economic Development Plan for Long Island prepared by The Long Island Regional Economic Development Council (LIREDC.)

On May 28, 2015 the South Shore Estuary Reserve Coordinated Water Resources Monitoring Strategy Workshop was given at Farmingdale State College. Top local scientists from Long Island met to discuss water quality around the island. Dr. Tanacredi was one of four distinguished panelists. [www.molloy.edu/cercom](http://www.molloy.edu/cercom) to view his presentation.



## REPORTS: Water Quality & Horseshoe Crab

CERCOM's monitoring efforts supply data regarding both water quality and horseshoe crab habitat on the nation's largest island ... Long Island. Each year that information is provided to the public gathered and compiled into, two summary reports which are available for viewing on the Molloy College web page.

You can find the reports on the Molloy College web page at:  
[www.molloy.edu/cercom/reports](http://www.molloy.edu/cercom/reports)

We look forward to your comments and concerns on these reports.

### DID YOU KNOW?

The Horseshoe Crab is listed as a Near Threatened species by the IUCN [www.iucnredlist.org](http://www.iucnredlist.org)



# Summer is Horseshoe Crab Monitoring Season

(CERCOM at Molloy College Annual Long Island Horseshoe Crab Inventory)

Each summer, horseshoe crabs (*Limulus Polyphemus*) begin their journey along east coast beaches in preparation for spawning. Long Island's many beaches host the crabs, from the tip of Brooklyn to the tip of Montauk. Beginning with the first full moon in May and ending with the new moon in July, horseshoe crabs arrive at Long Island beaches to lay their eggs. Spawning adults are counted at high tides.

This past spring Sixto Portilla, Scientific Technical Assistant at CERCOM, led the charge in gathering members of the Molloy College community, and other volunteers from around Long Island, to assist with inventory of horseshoe crabs in their habitat, along Long Island beaches.

Visit our website at [www.molloy.edu/cercom](http://www.molloy.edu/cercom), to view the map of 100 beach sites on Long Island where beach captains

give their time to monitor Horseshoe Crabs, and view the latest HSC Inventory, and Water Quality Reports. For more information email Sixto Portilla at [sportilla@molloy.edu](mailto:sportilla@molloy.edu).

**Join us for 2016 ...it's not too early to join the "CRAB Club"!**

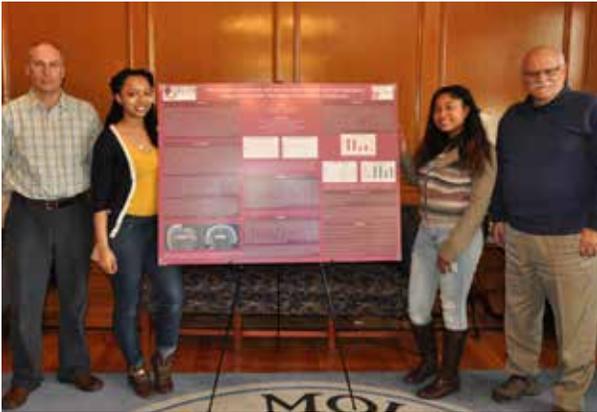


## Girls Inc. Partners with CERCOM for STEM Experience



Over the summer, Girls Inc. had the opportunity to participate in horseshoe crab counting at Watch Hill, Fire Island. "The girls absolutely loved learning about horseshoe crabs giving them an interactive and interesting STEM experience. We hope to continue to partner with CERCOM in the future", said, Neela Lockel, Executive Director of Girls Inc.

# CERCOM Goes Global



Sixto Portilla, Scientific Technical Assistant (CERCOM), with Molloy College students, Katia Macklin, Jacinta Marshall, and Dr. John T. Tanacredi, Executive Director of CERCOM and Professor Earth & Environmental Science, BCES

Molloy College biology student's, Katia Macklin and Jacinta Marshall, traveled to Japan with Molloy College Global Learning this past June to present research performed at CERCOM under the direction of Dr. John T. Tanacredi and Sixto Portilla.

Their research entitled, Effect of pH on Hatch Rate and Advancement Through Early Developmental Stages of the Atlantic Horseshoe Crab, *Limulus Polyphemus*, was presented in Japan at the Third International Workshop on the Science and Conservation of Horseshoe Crabs, at Saikai National Park, Kujukushima Sasebo-City, Nagasaki, Japan. Their undergraduate research experience helped in the conservation of horseshoe crabs on a global scale.



Dr. Drew Bogner, President of Molloy College, Mr. Masami Nakajima, President of the Pearl Sea Resort, and Dr. John T. Tanacredi



Students Katia Macklin and Jacinta Tatiana Marshall with Dr. Drew Bogner, President of Molloy College

## Global Conservation Concerns Horseshoe Crab Conservation

It is a sad fact that this ancient living fossil, which has been carrying out its unique life cycle for hundreds of millions of years, is now threatened by human activities. It is clear that the massive level of harvesting of this species must be carefully controlled if the horseshoe crab is to survive, and finding a sustainable level of exploitation is essential. It must be carefully managed both as a valuable biological resource, and in its own right, as an amazing remnant of an ancient lineage that pre-dates the dinosaurs.

Current actions to conserve the horseshoe crab include tagging and radio-tracking schemes that aim to shed light on the migratory patterns and spawning behavior of this species. Hopes are that the more we learn about the horseshoe crab, the more likely it is that increasingly effective conservation actions can be devised. One of the CERCOM cooperators, the Delaware-based Ecological Research and Development Group (ERDG) have been working towards the conservation of the horseshoe crab for a number of years. It places a strong emphasis on educating people about this

species and encouraging locals to get involved in conservation action.

In 2000 the residents of Broadkill Beach, Delaware designated the three-mile stretch of coast as a horseshoe crab sanctuary, which bans harvesting on the beach. Local people also venture out to return stranded crabs to the water. In 2002 the ERDG helped a second Delaware shorefront community, Kitts Hummock, to set up a sanctuary. These are encouraging signs and indicate that decisive conservation action can take place without government intervention.

CERCOM wishes to thank the ERDG for this valuable information that is being shared to our Molloy College and Long Island communities, and as an important cooperator in the conservation of all horseshoe crab species around the world.

**For further information on the horseshoe crab contact ERDG - The Horseshoe Crab:**  
<http://www.horseshoecrab.org/>

**“STEM” Connections:** Coastal Sciences, Monitoring Technology and Collecting and Analyzing Data.

**“Plan Globally;  
Act Locally”**

-Rene Dubos



Rachel Carson H.S. students release Horseshoe Crabs back into their original habitat on the Great South Bay.

**D**uring the 2014-2015 academic year, CERCOM brought science to high school classrooms in NJ, CT, NYC, and Long Island. Two of the high schools were able to raise horseshoe crabs for several months, giving the students the opportunity to witness first hand various stages of development. Later, they returned to CERCOM to re-nest the developing trilobite larvae.



## EDUCATORS TAKE NOTE

### TEACHER HORSESHOE CRAB TOOLBOX

Molloy College sponsored the development of the Teacher's Toolbox, created by ERDG\* and their affiliates.

The Toolbox offers horseshoe crab (HSC) education materials for K-12 to college in the forms of lesson plans, Power point presentations, videos and links. Other materials such as hand-outs, pamphlets, and posters are also available.

The Teacher's Toolbox for HSC education can be accessed at: <http://horseshoecrab.org/teacher-toolbox/>

We hope our Molloy College science teacher education students, and all science teachers will find this tool-

box useful.

Please give us your feedback by emailing Regina Gorney at [rgorney@molloy.edu](mailto:rgorney@molloy.edu).

Feed the Toolbox! The HSC Teacher Toolbox can only grow and become useful if teachers help it develop.

\*The Ecological Research & Development Group, founded in 1995, is a 501(c)3 non-profit wildlife conservation organization whose primary focus is the conservation of the world's four remaining horseshoe crab species.





**CERCOM**  
Summer Science

# It's Never too Early to Explore Science and Nature

## Campers Visit **CERCOM** at Molloy College

**Long Island Maritime Museum**  
**"BAY DAYS" are here again...**

Since 2010, CERCOM has welcomed the L.I. Maritime Museum's young summer campers ages 6 to 11 years old, for a hands-on marine/coastal ecology experience.

In cooperation with CERCOM at Molloy College, the Long Island Maritime Museum's program is designed to engage youngsters in all aspects of the estuarine ecosystem. The partnership encourages them to play their part as "citizen scientists" focusing on preservation and Long Island's maritime history from boat building to clamming.

### Molloy College BCES Summer Science Camp

For two weeks in August Dr. Chris Massone, Chair of the Molloy College Biology, Chemistry, & Environmental Science department, leads a science camp for high school students. Students take part in advanced level research in laboratories, which support multiple methodologies including: recombinant DNA technology, cell hybridization, electrophoresis, inflorescence microscopy and immunochemistry. A visit to CERCOM for an experience in Marine Biology and Environmental Studies is also included.

For more information on the High School Summer Science Camp program at Molloy College contact:

Dr. Chris Massone,  
Biology, Chemistry, and Environmental  
Science, Chair  
516-323-3403  
cmassone@molloy.edu



LI Maritime Museum Bay Day campers, Aaron C. and Michael G. are excited about what they discovered on the beach at CERCOM



Sixto E. Portilla, Scientific Technical Assistant identifies parts of the HSC to visiting students

# CERCOM Cooperators

Our cooperators are members of the CERCOM Advisory Council whose personal commitment and expertise to Long Island are important in assisting and guiding CERCOM's academic research in long term monitoring and ecosystem health evaluation activities into the future.

## CERCOM Past and Present Cooperators and Partnerships

