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From the Directors Desk:

At a recent event a colleague asked me, “So what do you do at CERCOM?” My immediate response was the “M” word fundamentally! After 45 years involved in environmental sciences, monitoring remains the most important and critical aspect of not only any field station in support of the academics conducted, but the seminal responsibility to be able, as a scientist, to reveal trends in the massive volume of data collected through routine monitoring exercises. It is extremely rare for a single data point, or even a single season of data, no matter how accurate the individual data point is, to reveal the health or condition of a functioning ecosystem. Monitoring data requires the use of standard protocols, quality assurance and quality control, so the amassed data can be appropriately subjected to statistical analysis and interpretive review. Molloy Colleges’ CERCOM facility monitors the environment which includes water quality parameters at Long Island’s coastline estuaries with emphasis on Great South Bay; as well as meteorological data and a USGS tide gage station that monitors the tides along the Great South Bay. Since 2004, CERCOM has been monitoring the horseshoe crab habitat covering 111 sites on Long Island, from the tip of Brooklyn to the tip of Montauk and the water quality in the Great South Bay. In 2008, CERCOM began monitoring the daily meteorological data retrieval co-op station; and in 2014 added a phytoplankton monitoring for NOAA; genetics barcode work for horseshoe crabs; and extended pH sampling sites for Great South Bay. Finally, a robust monitoring program is assisted by Molloy College science students. Reports are available on the Molloy College website at www.molloy.edu/cercom.

This is the “what” we do at CERCOM for monitoring, but it is the “why” that monitoring is done, that is the key to ecosystem based management practices. Two examples of the importance of monitoring should reveal its significance. It is CERCOM’s continuous monitoring that provided water quality data to the Peconic Baykeeper that was critical in establishing the “no discharge zone” designation for the South shore Estuary Reserve in 2009. It was the CERCOM co-op site meteorological data monitoring reports that were the only continuous, uninterrupted meteorological data collected in the Great South Bay during and post Superstorm Sandy; and lastly, it was ten years of water quality monitoring data that revealed a significant increase in marine water acidification of the Great South Bay ecosystem, which continues in spite of results from Superstorm Sandy, that have been promoted as “cleaning up the Great South Bay”, namely the new inlet on Fire Island.

I hope you enjoy our latest issue and if you’d like to take a tour of our facility, contact me at 516.323.3594 or jtanacredi@molloy.edu to arrange for a tour.

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

Did You Know?

The copper-based blueblood of the horseshoe crab is used to detect when gram-negative bacteria are present. This is particularly important when medical procedures or testing is performed to detect bacterial contamination.
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.

**Open House / Sunday, April 24, 2016**  
12:30 p.m. to 3:30 p.m.  
at Molloy College RVC Campus

Followed by an Open House at CERCOM from 3:30 p.m. to 5:30 p.m.

Molloy College is hosting its Spring Open House on Sunday, April 24, 2016, in Rockville Centre. Meet Dr. Tanacredi and learn about the B.S. in Earth and Environmental Studies. Then visit CERCOM in West Sayville, where you can take a tour of our laboratories and sign up for an excursion weather permitting. Contact Regina Gorney at rgorney@molloy.edu or call 516.323.3594 for more information.

**INTERNShips**

Summer is the time of year when there are a number of internships opportunities available at CERCOM and with our cooperators such as at The American Museum of Natural History, CRESLI and several others.

**Email Dr. Tanacredi at jtanacredi@molloy.edu for more information on internship opportunities.**
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

We look forward to your comments and any concerns.
Horseshoe Crab Counting Season is Here!

In the next few weeks, horseshoe crabs will be making their journey to the beaches of Long Island to spawn. Get ready to count! Beginning with the spring tide new moon on May 6th and Ending with the Full Moon on July 19th, any of you will have the delight to see the horseshoe crabs beginning to nest on the beaches, in your community. Our research at CERCOM includes taking inventory at as many beaches as possible during these nesting periods. (Note: Spring Tide Schedule) Spawning adults are counted at high tides (insert link to high tide table). With so many beaches on Long Island it is almost impossible to inventory every beach especially if they are on private property. If you are fortunate to have a private beach, or have access to the beaches in your area, CERCOM would be delighted to have you as a citizen scientist and become part of the Molloy College/CERCOM Crab Club! A list of monitoring sites can be found at www.molloy.edu/cercom. If you would like to take part in this important scientific research, contact Sixto Portilla at 516.323.3590 or sportilla@molloy.edu. If you schedule permits, Mr. Portilla will be giving demonstrations at the “Earth Day Colloquium” on April 22nd. (see page 3 for details)

### 2016 Spring Tide Schedule

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### Want to Watch some Whales?

CERCOM Cooperator, CRESLI (Coastal Research and Education Society of Long Island) led by Dr. Artie Kopelman, President, leads workshops to train whale watch volunteers.

**What do CRESLI whale watch volunteers do?**

The whale watch volunteers are involved in a variety of tasks, including being spotters for whales, dolphins, sea turtles, pelagic birds, other marine organisms, garbage, etc. Volunteers are stationed to look 360 degrees around the vessel, ostensibly for whales, but for just about anything of interest. Volunteers are also used to record data about a variety of oceanographic and biological parameters, under the direction of the naturalist. The volunteers play critical roles in our work. It’s a challenge, but well worth it

Anyone wishing to become a whale watch CRESLI volunteer must attend one of these sessions which are held at CERCOM.

Volunteers are expected to attend one session and if you are interested please contact Dr. Kopelman at president@cresl.org to register.

- Saturday, June 4, 2016 at 9:00 a.m.
- Sunday, June 5, 2016 at 9:00 a.m.
- Saturday, June 11, 2016 at 9:00 a.m.
- Sunday, June 12, 2016 at 9:00 a.m.

**Did You Know?**

You can become a Citizen Scientist or a member of the Crab Club. Contact Sixto Portilla at CERCOM 516.323.3590 or sportilla@molloy.edu for more information.
Global Conservation
An Important Note to Our Readers from the Director of CERCOM:

On February 17, 2016, Molloy College was honored with a visit from Cardinal Peter Turkson, President of the Pontifical Council for Justice and Peace and primary contributor to the recent papal encyclical letter, "Laudato Si': On Care for our Common Home" which calls all of us to rethink humanity's relationship with the planet.

In furtherance of the general tenor of environmental protection for which the papal letter advocates, I, as Director of CERCOM, support a proposal for Fire Island National Seashore being designated a World Heritage Site.

A World Heritage Site (WHS) is a place listed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as being of special cultural and/or physical significance. There are 1031 sites (and counting) throughout the world, 24 of which were added in 2015 including the San Antonio Missions in Texas. The Statue of Liberty is a WHS, as are the Great Barrier Reef in Australia, Easter Island (Rapa Nui) Chile, Petra in Jordan, Machu Picchu, and the Great Wall of China.

To become listed, the site must be of "universal value and meet at least one out of ten selection criteria." These criteria seek to protect and preserve the sites, linking the concepts of conservation with the preservation of cultural properties while recognizing the need to balance those concerns with the ways in which people interact with the sites.

Fire Island meets the criteria as specified by UNESCO:

Criteria V – "to be an outstanding example of a traditional human settlement, land-use which is representative of a culture (cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change."

Criteria VII – "to contain superlative natural phenomena or areas of exceptional beauty and aesthetic importance."

Criteria X – "to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those threatened species of outstanding universal value from the point of view of science or conservation."

Irving Like, Esq., one of the founders and only surviving member of the Citizens Committee for the Preservation of Fire Island National Seashore and Jerry Stoddard has named several prominent experts as an advisory technical committee. To this end, Jerry Stoddard and Irving Like have formed the Fire Island Conservancy, a 501(c) (3) not-for-profit corporation to advance the long-term protection of the barrier island, and its communities and to gain World Heritage Site status for FINS.

Fire Island serves a population in excess of 12 million people within a 50-mile radius. This area includes the Statue of Liberty (A World Heritage Site itself), New York City itself with all its financial, cultural, and artistic treasures, and the United Nations headquarters, home of UNESCO. Where else in the world can you find such rarity so close to an extensive populace?

The case is clear – the Fire Island National Seashore should be designated as a world heritage site. Please join us in making this uniquely human endeavor a reality.

Please email me with your comments at jtanacredi@molloy.edu.
“STEM” Connections:
Coastal Sciences, Monitoring Technology and Collecting and Analyzing Data.

Every fall students all over Long Island and NYC participate in the CERCOM Horseshoe Crab Club. This past fall, students from Staten Island, Brooklyn, Nassau, and Suffolk counties have been caring for horseshoe crabs at their earliest stage of development. They learn how to feed, monitor their development, and maintain a healthy environment for these prehistoric creatures. If your class would like to take part in the “Crab Club”, email Dr. Tanacredi at jtanacredi@molloy.edu.

Saturday Science for Students
at the Explorer’s Club at 70th and Park in NYC

Each academic year, Dr. Tanacredi hosts visits to the Explorer’s Club where Molloy College students and the general public are invited to attend lectures from local scientists who are invited to give talks on their expertise. The lecture series began with Dr. Tanacredi’s lecture, “Coastlines Under Siege”, followed by Dr. John Vargas, Associate Professor at Dowling College’s, talk on “Survey of Historic Volcanic Eruptions and Tsunamigenic Events” in October. In November, Dr. Arnold Gordon, a Professor at Columbia University, enlightened students with his lecture, “Observational Based Discoveries of Ocean Circulation”. In December, Dr. Chester Zarnoch of Baruch College asked the question, “Will habitat restoration improve water Quality in NY estuaries”? Our last lecture was given by Dr. Mark Ringenary, Water Resources Specialist and Environmental Scientist for the National Park Service. Mr. Ringenary shared his knowledge about “The Gateway National Recreation Area and New York Harbor Parks”. If you would like more information on the Saturday Science for Students Lecture series, please email us at rgorney@molloy.edu or call 516.323.3594.

“Plan Globally; Act Locally”
-Rene Dubos

Did You Know?
CERCOM hosts many events pertaining to Earth & Environmental Studies.
Go to www.molloy.edu/cercom/events
Explore Science and Nature

Spring / Summer at Molloy/CERCOM

Special Topics Course
Open to ALL STUDENTS and the GENERAL PUBLIC! Limited to 15 participants

“Our World and its Future: Our National Park System and Its Centennial”
Semester 2016: Summer 1, Monday, Tuesday, Wednesday, and Thursday, 6/6 – 6/30/2016,
Register by May 16th. 3 credits/ 10 a.m. to 12:25 p.m., Main Rockville Centre Campus, Kellenberg Hall, K308
Instructor: John T. Tanacredi, PhD., Professor of Earth and Environmental Studies
Phone: 516.323.3415 | Email: jtanacredi@molloy.edu

Course: ESC/ENV / Urban National Parks: A Template for Ecological Restoration

Course Description:
The National Park Service System in the United States celebrating its Centennial this year is mandated by congress to preserve our nation's natural and cultural resources for future generations. Several special site visits to NY/NJ metro area NPS Units including Sagamore Hill, Statue of Liberty, Gateway NRA, and Governors Island are planned. National Parks around the world have modeled their national park systems after the U.S. system. Urban Parks, a relatively new addition to the traditional Parks, have been described as the “laboratories” or “templates” or how ecological restoration methods or techniques can foster a rebirth of the vibrant and dynamic ecological systems impacted by the urban landscape. This course will identify several diversity themes: diversity of pollution issues in urban environments; diversity of urban biological species/ecosystem types and the diversity of restoration techniques begin implemented over the last 30 years in a relatively newly established urban National Park Unit. Dr. Tanacredi was Chief of Natural Resources for 24 years in the NPS before coming to Molloy College in 2013.

CERCOM Summer Science

Long Island Maritime Museum, a CERCOM cooperator will be sending their Bay Day camper to CERCOM once a week during their eight week season. Go to http://www.limaritime.org/baydays.html for more information.

Molloy College BCES Summer Science Camp

Students will take part in undergraduate level experiments in Molloy College laboratories, which will look at different areas of Biology and Chemistry. A visit to CERCOM for a Marine Biology experience and other field trips are included.

The camp weeks for 2016 are Aug 10th- Aug 14th and Aug 17th-Aug 21st

Hours: 8:30 a.m. -3:00 p.m.
Ages: 13-16 year olds
$300 for one week
$550 for two weeks

Registration forms can be found at www.molloy.edu

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

Dr. Chris Massone, Biology, Chemistry, and Environmental Science, Chair
Phone: 516-323-3403 | Email: cmassone@molloy.edu
Now more than ever before, we need to pull together as a worldwide community to brainstorm and discuss solutions to the problems that are plaguing the world. You must have heard the words “Big Issues” before - but do we know what these issues are?

Today, world problems transcend geographic and political boundaries. We as global citizens need to unite to study the problems that we face today. More importantly, we must form relationships that lead to team building and ultimately a resolution.

Come this summer to Molloy College and see how you can become part of the movement to understand the “Big Issues”. The Molloy College One World Academy will take place this summer from July 5th through July 30th on our beautiful campus in Rockville Centre, New York – just a quick 35-minute train ride to the Big Apple to see all that it has to offer.

The Academy is an innovative, interactive, multidisciplinary approach that will encourage you to think globally. This four-week experience incorporates both collaborative learning and exciting excursions in the New York area while offering students the opportunity to build lasting friendships and networks.

Some of our topics:
- Conservation Biology
- Feed the World
- Immigration
- The Global Healer
- Undocumented Youth
- Racism
- Media, Culture, and Conservation
- Global Warming
- World Wide Mental Health
- Globalization and Business

Some of our cultural activities:
- Clam Bake
- Visit to the United Nations
- Tour of Harlem including lunch and Gospel Choir
- Broadway Show
- Beautiful beaches
- Baseball game
- One month rail road pass with travel to the Big Apple every day
- Almost 100 museums to visit
- One free 3 day weekend for you to travel and explore

Molloy students who participate will receive 6 elective LAS credits!

Cost $3750.00 includes conference fees, accommodations, most meals and many excursions and cultural activities within the New York Area. 6 academic credits are available at an additional $2670.00

FOR MORE INFORMATION CONTACT KATHY REBA AT 516.323.3952 OR KREBA@MOLLOY.EDU

EVENT CANCELED