Greg Walker, CIMES researcher and Theo Gemelas, DHS S&T OUP Program Manager, board the USCGC Healy to test and evaluate the use of small tactical unmanned aircraft systems for maritime domain awareness in the Arctic.

USCG R&D Center provides funding support for Magello, a student created web interface designed to provide ultra-high resolution, high-fidelity environmental and oceanic information for real-time decision support.
Stevens students, faculty and staff become official members of the USCG Auxiliary in a moving September 11 swearing in ceremony.

Over the past year, the Stevens USCG Auxiliary student group, coordinated by Beth Austin DeFares, CSR Director of Education, and Flotilla 21, First District, Southern Region, held regularly scheduled monthly meetings and engaged in Auxiliary related activities, including online and face-to-face maritime safety and security trainings, civic service outreach projects and on-board activities with local USCG Auxiliary personnel. Established in the Fall of 2012, the Stevens USCG Auxiliary program is one of only a few university-based programs in the nation and is the only Auxiliary university program to be partnered with a DHS Center of Excellence.

Dr. Michael Bruno elected as co-chair of the Ocean Research Advisory Panel (ORAP). CSR founding director, Dr. Michael Bruno, Dean, Charles V. Schaefer Jr., School of Engineering and Science, was recently selected to co-chair the National Ocean Research Leadership Council's Ocean Research Advisory Panel (ORAP). Membership of ORAP is comprised of individuals from the National Academies, state government, academia, and ocean industries, representing marine science, marine policy, and other related fields. ORAP is chartered under the Federal Advisory Committee Act to advise all the "ocean agencies". Visit the ORAP website at http://www.nopp.org/committees/orap/ for more information about the role of the Advisory Panel.

Students conduct research on Detection Technology Synergies, HF Radar Data Integration and CBP Trade Facilitation in the 2013 SRI. This past summer, CSR admitted thirteen students into its maritime security-centric Summer Research Institute (SRI). The program included students from Stevens Institute of Technology, Elizabeth City State University, Essex County College and the University of Puerto Rico-Mayaguez. The students were organized into the following research teams under the mentorship of CSR researchers:

- **Detection Technology Synergies Team:** The students in the Detection Technology Synergies team assessed the tipping and cuing of sensor technologies, utilizing Stevens Passive Acoustic Detection System and Rutgers University’s HF radar detection systems.

- **HF Radar Data Integration Team:** Students in the HF radar team assisted in developing advanced algorithms for improved vessel detection and assessed methods for integrating CSR’s HF Radar data feeds into Coast Guard operational systems.

- **CBP Trade Facilitation Team:** Students in the CBP Trade Facilitation team conducted a case study on the effectiveness of CBP’s new Centers of Excellence and Expertise (CEEs) for enhanced safety, security...
Chris Francis, DHS CDG Maritime Systems Fellow, conducts research on countering small boat and diver threats in collaboration with researchers from NATO's CMRE in La Spezia, Italy.

DHS CDG Maritime Systems Fellow, Chris Francis, joins CMRE as a Visiting Research Fellow. Chris Francis, DHS CDG Fellow and recent Stevens Institute of Technology Maritime Systems Master's Degree graduate, was selected to join the NATO Centre for Maritime Research and Experimentation (CMRE), Visiting Researcher Programme. Working out of the CMRE's laboratory in La Spezia, Italy, Chris will engage in projects designed to counter small boat and diver threats by enforcing an exclusion zone by using a range of sensors and non-lethal applications. (e.g. acoustics) CMRE is a scientific research and experimentation facility that organizes and conducts scientific research and technology development, focused on the maritime domain, delivering innovative and field tested Science & Technology (S&T) solutions to address defense and security needs of the NATO alliance.

Tyler Hee Wai, CIMES sponsored Master's Degree student and SRI 2011 alumnus, presents DHS funded research at Oceans '13. Working under the mentorship of Dr. John Allen, CIMES researcher, Tyler Hee Wai presented a paper entitled Spectral Changes in Snapping Shrimp Sounds Between Dusk and Dawn, at the September 24-26, Oceans '13 MTS/IEEE Conference in San Diego, CA. Hee Wai's research has demonstrated that snapping shrimp spectra vary on time scales related to boats entering and leaving a harbor and diver movements. The ambient noise background created by snapping shrimp was previously considered to vary over timescales on the order of days to weeks, but Tyler's research demonstrates that events that take only minutes and affect harbor security are also modifying sounds produced by snapping shrimp. This finding is encouraging other novel approaches to detect ship movement in noisy, cluttered areas, and has the potential to enhance the ability to monitor harbor security in near-real time.

CSR academic partners Drs. Scott Glenn and Hugh Roarty, and their colleagues from Rutger's University also presented a series of papers at the Ocean's '13 MTS/IEEE Conference, including: Bistatic Vessel Detection from the CODAR SeaSonde, Monostatic Vessel Detection Statistics from the CODAR SeaSonde, Methods of Associating CODAR SeaSonde Vessel Detection Data Into Unique Tracks, and The Challenger Glider Missions: A Global Ocean Predictive Skill Assesment.

CSR Director selected as National Center for Atmospheric Research Visiting Scientist. Dr. Julie Pullen, CSR Director was selected as a visiting scientist with the National Center for Atmospheric Research (NCAR) Research Applications Laboratory, located in Boulder, CO. While visiting the center, Dr. Pullen presented a seminar entitled Coupled Air-Sea Modeling in Coastal Regions. NCAR supports the Defense Threat Reduction Agency (DTRA) in dispersion model development, including the Hazard Prediction and Assessment Capability (HPAC), and detection work. To learn more about the NCAR Research Applications Laboratory, please visit the organization's website at http://www.ral.ucar.edu/.

To review copies of the student's final presentation slides, please click on the links above. To learn more about the Summer Research Institute and to review past student research projects, please visit www.stevens.edu/csr/SummerInstitute.

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The Center for Secure and Resilient Maritime Commerce (www.stevens.edu/CSR) is led by Stevens Institute of Technology and The Center for Island, Maritime and Extreme Environment Security (www.cimes.hawaii.edu) is led by the University of Hawaii.

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