Dear Colleagues and Stakeholders,

The following newsletter marks the inaugural edition of a jointly published newsletter between the Center for Secure and Resilient Maritime Commerce (CSR), led by Stevens Institute of Technology and its sister research center the Center for Island, Maritime and Extreme Environment Security (CIMES), led by the University of Hawaii. Going forward the newsletter will include news items and important developments as they pertain to the center’s contributions and on-going collaborative efforts to enhance our nation’s maritime domain awareness and surveillance capabilities from the Atlantic Ocean to the Pacific Ocean, the Arctic to the Caribbean, and the inland waterways in between.

Regards,

Dr. Julie Pullen, Director CSR and Dr. Margo Edwards, Director CIMES

CIMES hosts DHS S&T Deputy Under Secretary for a discussion of the center's research and a demonstration of it’s Unmanned Port Security Vessel. On March 13, Dr. Daniel Gerstein, Deputy Under Secretary, DHS Science & Technology Directorate, met with Dr. Margo Edwards, CIMES director and CIMES researchers and distinguished guests, M.R.C. Greenwood, University of Hawaii President, Major General Darryll Wong, State of Hawaii Adjutant General, USCG RADM Charles Ray, Dr. Tim Cottrell, Headmaster of 'Iolani School, and Mr. Bruce Murley, CBP Area Port Director, for an overview and discussion of the center’s research, tools and technologies. CIMES researchers and students showcased their recent developments and efforts to enhance the safety and resilience of the Hawaiian Islands and the nation's coastal communities.

Dr. Gerstein’s visit also included a hands-on demonstration of the center's Unmanned Port Security Vessel (UPSV) developed by Dr. Brian Bingham. The UPSV provides a rapid inspection capability in port environments, which includes multiple integrated sensors, as well as remote command and control for real-time operation and surveillance. The UPSV is designed to support multiple missions including inspection of infrastructure above and below the water line, response and recovery of port operations in the event of natural and man-made threats, and underwater change detection and threat assessment for piers, pilings and harbor seafloor. For more information about Dr. Gerstein’s visit to CIMES and the center’s cutting edge UPSV, please visit the CIMES website at www.cimes.hawaii.edu.

CSR research partner CSTARS awarded $16.5 million contract by ONR. On March 18, 2013, The University of Miami’s Center for Southeastern Tropical Advanced Remote Sensing (CSTARS), under the leadership of Dr. Hans Graber, Executive Director, announced that it had been awarded a contract by the Office of Naval Research (ONR) to continue collecting, processing and disseminating data from global Synthetic Aperture Radar (SAR) satellite systems. The goal of the project is to provide SAR imagery collected in near-real time to aid in U.S. Navy operations around the world. “Through this collaboration we will be able to fuse radar and optical data to derive advanced products that will allow us to understand better oceanographic, sea ice and terrestrial processes”, said Dr. Graber. “With this solidifying support of our infrastructure from the Navy, CSTARS can continue its track record for excellence in research and the education of students using satellite remote sensing data.”
The first phase of the grant will allow CSTARS scientists to obtain processing terminals that will assist in the development of hardware and software for the next generation of commercial imagery. CSTARS will continue to develop and refine its numerous algorithms of image analysis using new imaging modes and insights derived from research and testing of data with the availability of the new satellite sensors. For additional information and the complete CSTARS/Univ. of Miami press release please visit: CSTARS press release.

CIMES work in the Arctic featured in a FirstResponder.gov article entitled CIMES: Helping the Coast Guard Meet the Challenges of Arctic Ice. CIMES tools and technologies and collaborations with the U.S. Coast Guard proved crucial in January 2012, when a Russian oil tanker carrying a million and a half gallons of desperately-needed heating fuel to Nome, Alaska, became trapped by layers of sea ice in the harbor of Nome. With the Coast Guard Cutter Healy unable to navigate the too shallow waters of the harbor, the Coast Guard reached out to CIMES researchers from the University of Alaska - Fairbanks (UAF) for assistance. Leveraging photographs taken from an unmanned aircraft, Greg Walker and his colleagues from UAF were able to map the intricate topography of the ice and advise the Coast Guard where to safely run hoses from the tanker to the shore. Awarded a DHS Impact Award for their contributions, CIMES is a key resource to the Coast Guard in the extreme and remote environments of the Arctic.

Since 2011, CIMES researchers have been meeting with representatives from the Coast Guard Research and Development Center to discuss the organizations' capability gaps and on-going technology needs to address the increasing volume of vessel traffic, commerce and oil drilling in the Arctic. Of major concern and challenge to the Coast Guard are the threats and hazards of free floating ice chunks to commercial vessels and coastal communities. Needing improved methods to detect and track floating ice, the Coast Guard is working closely with CIMES to develop a layered approach to assess changes to ice masses through underwater passive acoustics, unmanned aircraft, satellite imagery and land-based radar systems. To review a copy of the FirstResponder.gov article, please click here: CIMES: Helping the USCG in the Arctic.

Additional Center News:

Dr. Miguel Canals Silander, CSR researcher named Director of the newly founded Center for Ocean Engineering at UPRM. Dr. Canals Silander, director of the Laboratory of Fluid Mechanics and Oceanic Engineering and assistant professor of the Department of Engineering at the University of Puerto Rico-Mayagüez (UPRM), has been selected to lead the university's Ocean Engineering program, as part of the new Center for Ocean Engineering. “CSR will serve as an integral part of the new center’s efforts”, said Dr. Canals Silander. “CSR’s testbed in the Mona Island Passage and the Caribbean, will allow UPRM Ocean Engineering students to access cutting edge research in HF Radar technology and to continue the research that several of them have already started in the CSR’s Summer Research Institute.” CSR and CIMES congratulate Dr. Canals Silander on his recognition and designation as the founding director of the Center for Ocean Engineering.

Dr. Magdy Attia, Johnson C. Smith University visits CSR to discuss university collaborations and opportunities for students. Dr. Magdy Attia, founding Dean of the College of Science, Technology, Engineering and Mathematics at Johnson C. Smith University, a designated Historically Black College and University, met with Dr. Hady Salloum, Stevens Director of Advanced Research Programs and CSR administrators on March 15, 2013, to discuss areas for collaboration between JCSU and Stevens Institute of Technology. Starting this summer JCSU will begin plans to send students to attend CSR’s Summer Research Institute. For more information about the JCSU College of STEM, please visit the school's website at http://www.jcsu.edu/about/stem.

Stevens faculty, students and staff attend USCG Auxiliary training to receive NJ Boating Safety Certificate. On March 9, 2013, Stevens USCG Auxiliary student group in conjunction with CSR, hosted an About Boating Safely course, led by members of the USCG Auxiliary Flotilla 21. Twelve members from the Stevens community of faculty, staff and students attended the eight-hour intensive training course. Each of the participants successfully passed the required in-class final exam to receive their New Jersey Boating Safety Certificate. The Boating Safety Certificate allows holders to legally operate motorized boats in the state of New Jersey.