

MSC NEWSLETTER – JUNE/JULY 2017

Summer research students learn about homeland security operations in field-visits to USCG Sector Long Island Sound and CBP Field Operations at Port NY/Newark. Since early June, students in the Center's 8th annual Summer Research Institute (SRI) have been hard at work learning about and conducting research on areas of interest and concern to the homeland security domain. As part of the Center's summer research program, students are provided the opportunity to engage with and observe homeland security professionals operational environments, as they perform the work necessary to keep the Nation's homeland and Maritime Transportation System (MTS) safe from natural and man-made threats.



This summer's program included field-visits to USCG Sector Long Island Sound in New Haven, CT, (pictured above), hosted by Sector Commander CAPT. Andrew Tucci and LTJG Shanda Harper and to Customs and Border Protection (CBP) Field Operations at the Port of New York/Newark (pictured below), hosted by Supervisor Eric Demarest.



Field-visits and interactions with homeland security professionals are key features of the Center's summer research program. Visits to operational environments provide students with a context in which they can better understand their research and the needs of the maritime and port security community. Feedback received from post-program student surveys has shown that field-based experiences and interactions with homeland security professional have had a long-term impact on student interest to pursue advanced academic study and careers in the homeland security domain. This summer's program included 22 undergraduate and graduate-level STEM students, representing seven U.S. universities.

Maritime Portal – Exercise Tools

Core Capability Alignment

Disgruntled Employee	Domestic Incident	Lone Wolf	Coordinated Attack
<ul style="list-style-type: none">• On Scene Security, Protection and Law Enforcement• Risk Management for Protection Programs and Program Activities• Physical Protection Measures• Operational Coordination• Operational Communications• Situational Awareness	<ul style="list-style-type: none">• On Scene Security, Protection and Law Enforcement• Risk Management for Protection Programs and Program Activities• Physical Protection Measures• Operational Coordination• Operational Communications• Situational Awareness	<ul style="list-style-type: none">• Intelligence and Information Sharing• On Scene Security, Protection and Law Enforcement• Risk Management for Protection Programs and Program Activities• Physical Protection Measures• Operational Communications• Operational Coordination• Situational Awareness• Fatality Management• Economic Recovery	<ul style="list-style-type: none">• Intelligence and Information Sharing• On Scene Security, Protection and Law Enforcement• Risk Management for Protection Programs and Program Activities• Physical Protection Measures• Operational Communications• Operational Coordination• Situational Awareness• Fatality Management• Economic Recovery

MSC makes available Tabletop Exercise Development Kits for the Maritime and Port Community. In its efforts to enhance the preparedness and response capabilities of the maritime and port domain, MSC in conjunction with the [Stephenson Disaster Management Institute \(SDMI\)](#) at Louisiana State University have developed tabletop exercise resource materials that can be used to test and exercise the core capabilities of maritime organizations in response to hypothetical Active Shooter and Cyber Security scenario events.

The Exercise Development Kits provide a framework for end-users to follow and an array of modules that can be used to increase the complexity of the exercise scenario. Organizations can also tailor the core capabilities being exercised and can select to use material that focuses on intelligence and

information sharing, operational coordination, and/or post-incident risk management and recovery for example.

The tabletop exercises were prepared with input from the USCG Sector's New York and New Orleans and from other law enforcement and emergency response groups throughout the United States. Leading up to the development of the exercise kits, MSC and SDMI facilitated and delivered an Active Shooter exercise for the Port of New Orleans and assisted in three Cyber Security exercises organized by the Sector New York Area Maritime Security Committee.

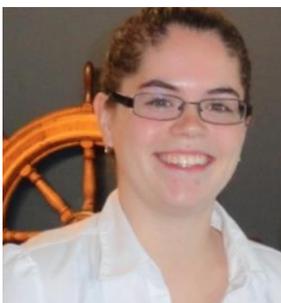
To review and download the Center's exercise resource materials, please visit the following link: [Exercise Development Kits](#).

UTRGV research team explores the use of VR to assist in underwater inspections of piers and ships. Dr. Alley Butler, Professor Manufacturing and Industrial Engineering, together with graduate students, Juan Elizondo (Manufacturing and Industrial Engineering) and Victor Carreon (Mechanical Engineering) (pictured left to right) from the [University of Texas Rio Grande Valley \(UTRGV\)](#) have spent the summer collaborating with MSC researchers and Stevens faculty to conduct research into the use of Virtual Reality (VR) to enhance Maritime Domain Awareness and the response capabilities of homeland security practitioners.



The team completed a comprehensive literature review and worked with students in the Center's Summer Research Institute to create VR environments leveraging previously collected imaging sonar data collected from a Remotely Operated Vehicle (ROV).

The team's research is being funded by the DHS Office of University Program's [Minority Serving Institution Summer Research Team Program \(MSI SRTP\)](#). At the culmination of the summer research program, the team plans to apply for follow-on funding to develop machine automated feature recognition capabilities in VR environments in conjunction with the MSC and Stevens Institute.



Former Maritime Security Fellowship student assumes Operations Research Analyst position at USCG RDC. Grace Python, former MSC Maritime Security Career Development Grant (CDG) fellowship student and graduate of Stevens Institute of Technology's Maritime Systems master's degree program, has recently been hired by the U.S. Coast Guard Research and Development Center (USCG RDC) as an Operations Research Analyst.

Prior to joining the USCG RDC as an employee, Ms. Python participated in a field-based internship with the Operations Analysis Division at USCG LANTAREA in Portsmouth, VA in 2013, and in 2014 she provided research support on a USCG RDC sponsored research project to develop a Port Resilience Decision Framework. Ms. Python's engagement in the Port Resilience project, included site-visits to the command centers at Sector's New York, San Francisco and Houston, and resulted in the

preparation of two white papers.

Ms. Python is one of nine students to have completed the MSC Maritime Security CDG fellowship program. Other program alumni have assumed similar homeland security focused positions directly with or in support of the Federal government (DHS, DOE, DOD).