MSC Ends Year 7 with the Development of New Low-Cost RF Surveillance System and Sensor Suite for Remote Locations. The MSC completed a robust research year, having developed prototypes for a new Low-cost RF Surveillance System to detect and localize RF signals from illicit maritime vessels and a Low-cost Sensor Suite that can be deployed in remote on-shore and off-shore locations to detect illegal vessel traffic. The Boat Detection System (BDS) consists of COTS marine radar, an underwater acoustic system prototype, optical/IR cameras, and AIS receivers. The RF Surveillance System and BDS were deployed and tested in the Corpus Christi AOR and in the Hudson River adjacent to the Stevens campus in Hoboken, NJ. Year 7 also included the completion of a VTS Radar for Small Vessel Detection project that included the development of an RFI sent to radar suppliers and an analysis of the responses. Another Year 7 project assessed the security and resilience of the Nation’s movable bridge infrastructure. The research project reports are available and may be obtained by contacting MSC@stevens.edu. The Center's annual report is in process and will be made available on the MSC website. The Center’s Year 8 projects will focus on the development and delivery of Maritime Cybersecurity education programs for the USCG and maritime stakeholders.

Basic Ordering Agreement Award. DHS S&T awarded Stevens Institute of Technology a 5-year Basic Ordering Agreement that allows DHS component agencies to award Stevens and MSC Task Orders to conduct research and education projects related to maritime security.

Visualization Dashboard Developed by MSC Students Allows USCG Sector NY to Display MISLE Data for Efficient Data Analysis. North Carolina Central University (NCCU) graduate student Isabelle Gutierrez and her faculty mentors Dr. Rakesh Malhotra, NCCU and Dr. Hugh Roarty, Rutgers University developed a data visualization tool using ArcGIS and ESRI software to display USCG MISLE data for the USCG Sector NY AOR. The visualization dashboard allows Sector NY personnel to analyze maritime incident data over weekly, monthly, and yearly time scales, providing enhanced incident trend analysis and asset planning and allocation. The tool was built upon prior research conducted in the MSC 2019 and 2020 Summer Research Institute programs. Sector NY personnel have been provided access to the dashboard and will begin piloting it early this fall.
The summer research project was funded through the DHS MSI Summer Research Team program. The team is applying for follow-on funding to continue to build out the dashboard for other USCG Sector Units. To learn more about the Risk Management and Data Analysis Dashboard, visit the 2021 Summer Research Institute webpage at https://www.stevens.edu/research-entrepreneurship/research-centers-labs/maritime-security-center/education-training/summer-research-institute/sri-2021

Interactive Offshore Wind Farm Learning Tool Provides Insight into Wind Farm Cybersecurity Risks and Vulnerabilities. A faculty and student summer research team from Norfolk State University collaborated with the MSC to develop a web-based Offshore Wind Farm (OWF) Learning Tool to provide important information on offshore wind farms and their cybersecurity risks and vulnerabilities. Visit the following link to review the OWF Learning Tool: https://cyberwaze.org/OWFLearning/

MSC Director Contributes to Bloomberg Government Article on Cyber-Attacks in the MTS. Dr. Hady Salloum, MSC Director was recently interviewed by Bloomberg Government regarding increased ransomware and cyber-attacks against the maritime shipping industry. The article discusses national policy efforts aimed at requiring the U.S. Coast Guard, Department of Homeland Security, and the U.S. Maritime Administration to provide cyberattack mitigation and recovery resources to the maritime industry. A link to the article can be found here: https://about.bgov.com/news/shipping-companies-confront-cyber-crooks-as-economies-reopen/

SRI 2021 Students Present Research on Hazardous Cargo Inspections, Cyber Risks in Offshore Windfarms, and Underwater ROV Robot Arms among other Topics. Students in the MSC's 12th annual Summer Research Institute presented their research project outcomes to an audience of USCG and DHS stakeholders in a virtual presentation session held on July 8. The student research projects resulted in the development of maritime and critical infrastructure cybersecurity knowledge products and in new technology-based approaches to analyzing maritime incident data and hazardous cargo inspections, as well as new use cases and enhancements for a custom-built ROV. Copies of the student team's research posters, presentation slides and recordings of their presentations can be found on the MSC SRI webpage at https://www.stevens.edu/research-entrepreneurship/research-centers-labs/maritime-security-center/education-training/summer-research-institute/sri-2021