

MARITIME SECURITY CENTER NEWSLETTER

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Secretary of DHS Appoints MSC Director to National Maritime Security Advisory Committee.

DHS Secretary Kirstjen Nielsen has appointed Dr. Hady Salloum, Director of the Maritime Security Center (MSC) to the National Maritime Security Advisory Committee (NMSAC). Through this appointment, Dr. Salloum will represent the expertise and viewpoint of the academic community on matters related to maritime transportation security. The NMSAC provides advice to the DHS Secretary via the Commandant of the U.S. Coast Guard regarding national security strategy and policy, actions required to meet current and future security threats, international cooperation on security issues, and security concerns of the maritime transportation industry.

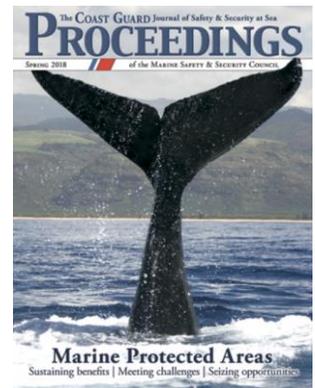
Dr. Salloum has been actively engaged in maritime security research and project administration since the founding of the original DHS national center of excellence in maritime security (formerly the Center for Secure and Resilient Maritime Commerce) in 2008. He assumed leadership of the Maritime Security Center in 2015. His appointment to the NMSAC will extend over a three year term.

Detecting Illegal Fishing - MSC Article Featured in Spring Issue of the USCG

Proceedings. MSC researchers, Drs. Hady Salloum, Alexander Sutin, and former DHS Career Development Grant doctoral fellow Alex Pollara, have recently published an article in the Spring 2018 issue of the Coast Guard Proceedings. The article focuses on the use of underwater passive acoustic methods to combat illegal fishing.

Not only a threat to the global fishing industry, illegal, unreported and unregulated fishing can cause adverse impacts to local and regional communities, the environment, and to the biological depletion of fish stocks. For the U.S., the areas most often subject to illegal fishing activities include the Bering Sea at the U.S./Russia maritime boundary, the western Pacific around U.S. territories, and the maritime border along the U.S. and Mexico.

The article discusses the utility of MSC's Stevens Passive Acoustic Detection System (SPADES) and its Portable Acoustic Recorder System (PARS), as effective, low-cost and easy to deploy methods that can be used by the Coast Guard in their efforts to protect marine resources and enforce U.S. laws and regulations. To review a copy of the article, please visit: [Coast Guard Proceedings Spring 2018](#).



The Acoustical Society of America recognizes research conducted by summer research students Khiana Rogers, Trevor Hinds, Stephen Opet, Chenhui Zhao, James Lyons, Matthew Alrichs and James Matthews.

Student Research Focused on Aiding Vessel Navigation in the Arctic Presented at ASA Conference.

Student research conducted during the MSC's 2017 Summer Research Institute (SRI) was selected for presentation at the 174th Meeting of the [Acoustical Society of America \(ASA\)](#), held this past December in New Orleans, LA. The student research team included engineering students from Stevens Institute of Technology, Northeastern University and the University of Alaska-Anchorage.

The team's research assessed the use of underwater acoustic sensors to detect and localize changes in ice cover in the Arctic. The objective of their research was to see if acoustic sensors could be utilized to identify potential hazards to vessels from ice floes and breaking ice. The students designed and performed experiments in the Anechoic Chamber located in the Noise

and Vibration Control Laboratory at Stevens Institute of Technology, and in the Center's Maritime Security Laboratory. By performing their experiments in the sound proof chamber, the students were able to isolate, record and analyze sounds generated by ice fractures.

The team's research outcomes were presented by Chenhui Zhao, PhD candidate from Stevens Institute of Technology. The research and faculty mentors for the summer research team included Dr. Marehalli Prasad, Professor and ASA Fellow, and Dr. Barry Bunin, Research Professor and Chief Architect, Maritime Security Laboratory.

New Cohort of Aspiring Engineers and Computer Scientists Selected to Participate in the SRI.

The Maritime Security Center recently concluded its student recruitment for the Center's 9th annual [Summer Research Institute \(SRI\)](#), to be held June 4 - July 27, 2018 at the Stevens Institute of Technology campus in Hoboken, NJ. After receiving an unprecedented number of applications, the MSC has conveyed its admissions decisions to twenty students representing the following universities: *Cooper Union, Marist College, New Jersey Institute of Technology, Stevens Institute of Technology, Tiffin University, University of Alaska - Fairbanks and the University of Hawaii - Manoa.*



The 2018 student cohort, comprised of aspiring Computer Engineers and Scientists, Cybersecurity specialists, Electrical Engineers, Environmental Engineers, Mathematicians, Mechanical Engineers, and Software Engineers, will conduct research in the areas of security and autonomous systems, unmanned aerial vehicles for maritime security applications, and remotely operated vehicles and unmanned surface vessels in maritime and port environments.

MSC to Hold Environmental Data Collection Workshop for Local MSIs. The Maritime Security Center will deliver a one-day multidisciplinary workshop focused on the impacts of extreme weather events on urban coastal communities and homeland security through the viewpoint of the U.S. Coast Guard and will provide methods in which participants can track and report the daily environmental conditions of their communities.

This “by invitation only” workshop will be a teach-the-teacher engagement tailored to faculty members from Minority Serving Institutions (MSIs) and community colleges in the local New York City metropolitan area, to assist in the development of their STEM-based curriculum efforts.

The workshop will leverage the expertise and research assets of the MSC available from Stevens Institute of Technology and will provide instructions on how to construct and program intelligent sensor boards that can be used by the participants to engage their own students in environmental data collection. Takeaways from the workshop will include curriculum materials, intelligent sensors boards, and facilitated opportunities to engage in research projects in the areas of Smart Cities and Urban and Coastal Community Resilience. The event will take place in early June 2018.

Maritime Security Center

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