



Archived Content

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**Homeland
Security**

Science and Technology

Maritime Security Center (MSC)

A DHS Center of Excellence

MSC enhances maritime domain awareness and develops strategies to support marine transportation system resilience and educational programs for current and aspiring homeland security practitioners.

LAUNCH ▶ 2014

PARTNERS ▶ More than 18 university, private industry, and government partners

EXPERTISE ▶ Maritime domain technology development, engineering and science, resilience strategy, cybersecurity

DHS ALIGNMENT ▶ U.S. Coast Guard, U.S. Customs and Border Protection (CBP), U.S. Immigration and Customs Enforcement

Research and Education Capabilities

- Underwater and surface threat detection and tracking
- Sensor integration and optimization
- Port resilience planning and assessment
- Education and training for the current and future homeland security workforce



**MARITIME
SECURITY CENTER**
A DEPARTMENT OF HOMELAND SECURITY CENTER OF EXCELLENCE

A nationwide consortium led by:

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Feedback from Our Partners

*"In addition to leveraging MSC subject matter experts to address some of the Nation's most challenging homeland security issues, **the partnership between MSC and the National Urban Security Technology Laboratory (NUSTL) has provided the Lab with a continuous stream of skilled students for internship projects that have led to careers in public service.** Working together, we are an incubator for the next generation of the DHS STEM workforce."*

Alice Hong, Director
National Urban Security Technology Laboratory, 2019

*"CBP's opportunities to engage with MSC **regularly lead to innovative perspectives and outcomes in support of the homeland security mission.** Interactions with the MSC in field-based activities and technology demonstrations have facilitated a dynamic exchange of information and ideas on present and future operational needs. Through awareness of MSC research capabilities and expertise, problem sets can be identified and approached in a supportive, value-added method resulting in thought-out concepts across the CBP enterprise."*

Bradford N. Slutsky, Acting Director
Information and Incident Coordination Center, CBP, 2019



University Partners

Elizabeth City State University, NC*
Florida Atlantic University, FL
Louisiana State University, LA
Massachusetts Institute of
Technology, MA
Purdue University, IN
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University of Puerto Rico-Mayaguez,
PR*
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**Minority Serving Institution (MSI)*

Enterprise Partners

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MIT Lincoln Laboratory
MITRE Inc.
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Planning Laboratory
Pacific Basin Development Council
Plum Island Animal Disease Center
Port Authority of New York/
New Jersey
The Aerospace Corporation
U.S. Coast Guard Research and
Development Center
U.S. Customs and Border Protection
Air and Marine Operations Center



For a complete list of partners
and more information, please visit
www.stevens.edu/msc

For more information on DHS
Centers of Excellence, please visit
www.dhs.gov/science-and-technology/centers-excellence



Impacts



Engineering sensor systems for multi-use in homeland security applications

MSC has been developing and applying sensor technologies for the U.S. Coast Guard and U.S. Navy to detect underwater threats to new land-based applications in remote border areas. MSC has also developed a patented aircraft detection system to fill gaps in surveillance capabilities in rugged border environments, which helps CBP to detect, track and classify low-flying aircraft smuggling contraband into the United States.



Aiding decision-makers in making U.S. ports more resilient to disruptions

Extreme weather events and man-made disasters threaten to disrupt the crucial flow of cargo at U.S. ports. MSC is developing a predictive modeling and simulation tool to assess the regional impacts of hurricanes to maritime port networks, including multi-modal transportation systems and cargo distribution. Using data collected from Hurricane Matthew, the tool will be used to analyze current response and damage mitigation strategies and will allow planners to develop better methods to enhance port network resilience.



Harnessing real-time social media feeds for actionable intelligence

MSC research investigators are assisting law enforcement and emergency response agencies, including U.S. Coast Guard sectors, to monitor social media channels for situational awareness during local events. The Social Media Analytics and Reporting Toolkit (SMART) enables end-users to aggregate social media data for analysis and visualization and can trigger email alerts based on user-defined topics. SMART has been deployed to over two dozen new user agencies since 2017.