Dear Readers,
If you would like to submit a short 200-300-word article introducing your organization’s Maritime Security and Defense-related mission and activities, or wish to add an event to our calendar, please contact Ms. Rita Painter at rpainte@nps.edu.

Research and Education for Port Security at Stevens Institute of Technology

The DHS National Center for Secure and Resilient Maritime Commerce and Coastal Environments (CSR), located at the Stevens Institute of Technology in Hoboken, NJ is providing education and research for examining the use of a system of nested sensors and technologies that can provide continuous, high resolution, all-weather surveillance from the inshore and coastal areas to the maritime approaches of the entire Exclusive Economic Zone and ultimately extending to the high seas.

CSR members are working to improve Maritime Domain Awareness by nesting multi-sensor technologies including (i) underwater acoustic instruments and video and IR cameras operating at different wavelengths for harbor intruder detection, e.g., small vessels and divers, (ii) High-Frequency radar for over-the-horizon ship detection and tracking, and (iii) high-resolution satellite-based maritime surveillance.

Port and supply chain resiliency is another facet of ongoing CSR research. CSR is examining the human and organizational factors that enhance and constrain the effectiveness of existing and future security systems and policies related to preparedness, response and recovery of the Marine Transportation System and its functions. The Center is developing the essential tools and processes necessary to create a capability to "design for resilience".

In addition to Stevens Institute, the CSR team includes the following academic institutions: Rutgers University, University of Miami, University of Puerto Rico, Massachusetts Institute of Technology, Monmouth University, and the U.S. Merchant Marine Academy’s Global Maritime and Transportation School. The non-university partners include the Port Authority of New York and New Jersey, the Mattingley Group, Lockheed Martin Maritime Systems, the Pacific Basin Development Council, and the Nansen Environmental Remote Sensing Center.

Contributed by Hady R. Salloum, PhD, email: csr@stevens.edu
Insight gained from terrorist attacks, training exercises, and intelligence intercepts over the past few years has shown a renewed interest in the use of mining as an effective means of disrupting commerce and damaging critical infrastructure. The Systems Engineering Analysis Cohort 14 (SEA 14) at the Naval Postgraduate School’s Meyer Institute was tasked with developing a system of systems that would combat and defeat mines and underwater IEDs (UWIED) placed in US ports.

In that pursuit, SEA 14 utilized the Systems Engineering Design Process (SEDP) as a means of bounding the problem, integrating stakeholder input, developing alternatives, and conducting detailed analysis. SEA 14 developed several system alternatives, or Adaptive Force Packages, that incorporate both existing systems and emerging technologies. Some existing systems considered include REMUS unmanned underwater vehicles, EOD dive platoons, and LCS mission module components such as the AN/WLD-1, RAMICS, and ALMDS. Emerging technologies considered include SeaWeb acoustic underwater networks, chemical and other non-explosive forms of neutralization, and advanced computer aided detection/computer aided classification software packages.

Overall performance of each Adaptive Force Package was assessed using a US Joint Forces Command sponsored wargame simulating an MIED attack on ports based on the geography of Seattle and Tacoma. A critical analysis of the alternatives based on performance, suitability, cost, and risk was conducted.

Although outside the scope of the SEDP, SEA14 also addressed non-technical issues that must be worked through in order to develop a national counter-UWIED capability.

The study results showed that increases in performance are attainable with mixed results in cost and risk, and highlighted necessary actions and considerations that must be taken by military and civilian leaders in order to adequately prepare for and counter UWIEDs in U.S. Ports.

Contributed by LT Bobby Rowden, USN
email: bjrowden@nps.edu

Capstone final report.pdf
The LIBRARIAN’S CORNER— Greta Marlatt, gmarlatt@nps.edu

Recent NPS Theses and Reports

Dooris, Matthew, D. Enhancing Recruitment and Retention of Volunteers in the U.S. Coast Guard Auxiliary.
Thomas, Brandon K. Improving Maritime Prepositioning Force (MPF) Offloads Using Modeling and Simulation.
Schacher, Gordon. NPS-IS-08-001 MDA Program Test Structure and FIRE Implementation.
Freeman, Jared. NPS-IS-08-002 Maritime Domain Awareness (MDA) Workflow Model Status Report.
Schacher, Gordon. NPS-IS-08-003 Maritime Domain Awareness Risk Reduction Limited Objective Experiment.
MacKinnon, Douglas J. NPS-IS-08-004 Maritime Domain Awareness FY08 Assessment Report.

Other Recent Items of Interest

Combating Maritime Piracy
An Evaluation of Maritime Policy in Meeting the Commercial and Security Needs of the United States
Intelligence Community Directive (ICD) 902 - Global Maritime and Air Intelligence Integration
Maritime Security Partnerships [free to download but registration required]
MaritimeTerrorism.com
SecNav Instruction 3052.1 Maritime Domain Awareness in the Department of the Navy [January 30, 2009]
Shipping: Piracy

Homeland Security Affairs

The Center for Homeland Defense and Security is pleased to announce the publication of Homeland Security Affairs Volume V No 1. To view the new issue, please visit www.hsaj.org. There you will find the following just-published articles:

- "Beyond the HSC/NSC Merger: Integrating States and Localities into Homeland Security Policymaking," Paul N. Stockton
- "Merging the HSC and NSC: Stronger Together," Christine E. Wormuth and Jeremy White
- "Competing with Intelligence: New Directions in China’s Quest for Intangible Property and Implications for Homeland Security," Robert C. Slate

For an overview of these articles, please see the Notes from the Editor. We hope you enjoy these latest offerings from Homeland Security Affairs. We look forward to receiving your comments at www.hsaj.org.
Future Events:

- **March**
  18-19  "Tackling Piracy at Sea" conference in London U.K
  19  NAVY/NRO Conference at Jimmie D. Hill Conference Room, NRO, Chantilly VA
  22-25  Coastal Surveillance Middle East-Bahrain
  26-27  Maritime Security & Domain Awareness, Alexandria Va

- **April**
  27-30  7th Annual Maritime Homeland Security Summit in Jacksonville, FL

- **May**

- **June**

- **July**
  15-17  NPS-TDSI Summer 2009 meeting in Singapore
  27-31  Classified Advanced Technology Update Short Course [www.nps.edu/catu](http://www.nps.edu/catu)

SEAWEB MARITIME NETWORK SCHEDULE


2. Feb 4-5. Joe Rice is participating in the NATO NGAS'09 experiment planning meeting hosted by the Command of the Italian Submarine Forces (COMFORSUB), Taranto, Italy. The experiment will involve autonomous ASW sensors from the US, Norway, and Canada networked together with NPS Seaweb technology and operating against a cooperative diesel-electric submarine. POC is Cdr. Caramia, COMFORSUB.

3. April 20 - May 1. NPS will lead the San Francisco Bayweb experiment. This is a collaboration with SPAWAR Systems Center Pacific, USCG, MBARI, UC Berkeley, UC Davis, and SFSU. POC: Joe Rice.

4. May. NATO NGAS'09 Trial. Golfo di Taranto, Italy.

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