

MSC NEWSLETTER – APRIL 2015

Dr. Julie Pullen, Director MSC, and Col. Joseph Booth, Executive Director, SDMI, participate in Homeland Security Planner's Course. Dr. Julie Pullen, Director MSC, and MSC research primary investigator, Col. Joseph "Joey" Booth, Executive Director, [Stephenson Disaster Management Institute \(SDMI\)](#), at Louisiana State University, recently participated in the [Joint Forces Staff College \(JFSC\) Homeland Security Planner's Course \(HLSPC\)](#), held at the U.S. Coast Guard Base New Orleans in New Orleans, LA.

Tailored to U.S. government and military personnel, the objectives of the course is to provide participants with an understanding of national level policy, strategy and plans for homeland security, insight into the Joint Operations Planning Process (JOPP), and an overview of the Department of Defense (DoD) policy, strategy, and plans for homeland security defense and civil support. The 40 hour certificate course included lectures, guided discussions, case studies and guest speakers. The course was led by Joint Forces Staff College Assistant Dean, Glenn Jones.

Participants in the April course included representatives from the Federal Bureau of Investigation (FBI), Federal Emergency Management Agency (FEMA), Customs and Border Protection (CBP), the U.S. Coast Guard (USCG), the Department of Transportation (DOT), and the Department of Health and Human Services (HSS), among others.

In addition to participating in the class, Dr. Pullen and Col. Booth each provided presentations on their respective areas of research. Following completion of the course, Col. Booth engaged in an operational tabletop exercise, coordinated by Dr. Joseph DiRenzo, Senior Advisor to the Atlantic Area Commander for Science, Research, Technology and Innovation and Coast Guard Chair, Joint Forces Staff College, and Mr. David Boyd, Operations Analysis Branch Chief Coast Guard Pacific Area, to test national response plans to a crisis event.



MSC academic partner and research member, Col. Joseph Booth (above) and Dr. Julie Pullen, MSC Director, engage in Joint Forces Staff College sponsored Homeland Security Planner's Course.



International workshop facilitates discussion and inspires academic study and research in Resilience Engineering. Dr. Michael Bruno, Dean, Charles V. Schaefer, Jr., School of Engineering and Science, recently led a three-day workshop focused on resilience engineering research and education. Sponsored by Lloyd's Register Foundation, the workshop was designed to define the emerging multi-disciplinary field of resilience engineering and its applications to global challenges in climate change, critical infrastructure protection, transportation systems, energy security, and food and water availability.

The workshop included opportunities for leading experts in industry, government and academia, to exchange points of view on the concepts of community and system resilience, to discuss and explore possibilities in which resilience engineering can provide solutions and inspire research, and make recommendations on next steps to advance the study and practice of resilience engineering.

Participants in the workshop included leaders from international organizations and universities such as: Sandia National Laboratories, the U.S. Department of Homeland Security, National University of Singapore, Delft University of Technology, KTH Royal Institute of Technology, Google, NYC Mayor's Office of Recovery and Resiliency, University of São Paulo, University of Western Australia, Cranfield University, University of Oxford, Imperial College London, University College London, and the University of Tokyo, among others.

Outcomes from the Resilience Engineering Workshop, will be made available in a follow-on report prepared by Dr. Bruno and the [Lloyd's Register Foundation](#).

MSC EDUCATION AND STUDENT NEWS

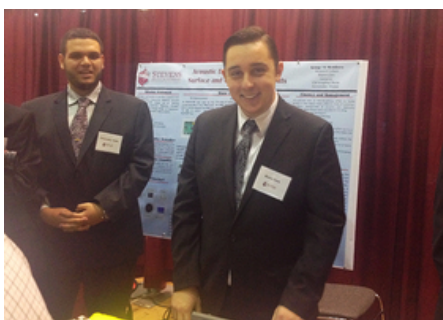
Chris Polacco, DHS CDG Fellow, defends Master's Thesis. Chris Polacco, DHS CDG Maritime Systems Master's Degree Fellow, recently defended his Master's thesis entitled *A Technology-Based Approach to Security Exercises*. Chris' thesis examined the impacts and use of maritime simulation technologies to enhance the learning and core capabilities of emergency responders. MSC stakeholder's Police Officer Timothy McMahon, NYPD Counterterrorism Division (NYPD-CTD) and Brian Onieal, New Jersey Office of Homeland Security and Preparedness (NJ OHSP), attended Polacco's thesis defense.



Brian Onieal, NJ OHSP, (l) and Police Officer Timothy McMahon, NYPD-CTD (r), attend DHS CDG Fellow Chris Polacco's (c) Master's Thesis defense at Stevens Institute of Technology, on April 22, 2015.

Sarah Walsh, SRI 2014 program alumni, offered internship at Sandia National Laboratories. Sarah Walsh, 2014 Summer Research Institute alumni, has been selected to engage in a ten-week internship at [Sandia National Laboratories](#) starting this June in Albuquerque, NM. Sarah's research in the SRI program, included work on the [Acoustic Vessel Signature Analysis team](#). Sarah is currently completing an undergraduate degree in Mechanical Engineering and Mathematics at Rutgers University.

DHS CDG Fellow Hasan Shahid, presents research at SPIE Radar Sensor Technology Conference. Hasan Shahid, Stevens Maritime Systems Fellowship student, presented research he conducted during the MSC 2014 Summer Research Institute (SRI). During the 2014 SRI program, Hasan served as the team leader for the [Technology Integration and Synergies: Radar, Optics and AIS](#) student research team. Working in collaboration with teammates Joe Nathan Abellard, New York City College of Technology (City Tech), David Gonzalez Chevere, University of Puerto Rico-Mayaguez, and Yong Qi "Felix" Chen, Stevens Institute of Technology, the team was challenged to assess the capabilities and limitations of various sensors and then to integrate them to effectively maximize the situational awareness and surveillance capabilities of end-users. Click here for details on the [SPIE Conference](#).



Blaise Linn, SRI program alumni (center), builds new hydrophone system to detect small boats with teammates on the Underwater Acoustics for Detection of Surface and Subsurface Threats senior design team.

Blaise Linn, MSC Summer Research Institute (SRI) program alumni, builds new underwater passive acoustic system as part of Stevens Senior Design project. Blaise Linn, Mechanical Engineering student and his teammates on the [Underwater Acoustics for Detection of Surface and Subsurface Threats](#) senior design team, helped to design and build a new underwater hydrophone system with frequency characteristics aimed at detecting small boats.

The system was constructed to enable automatic extension and retraction of the hydrophone legs to facilitate ease of deployment from aboard a boat. The student's senior design project was showcased at [Stevens Innovation Expo](#) held April 29, 2015, at the Stevens Institute of Technology campus in Hoboken, NJ. The design team's faculty mentors included Dr. Alexander Sutin, Dr. Marehalli Prasad, and Dr. Barry Bunin.

MSC awards fellowship to Tyler Mackanin to pursue graduate studies in Maritime Security. Competitively selected by Stevens Maritime Systems Fellowship Review Committee, Tyler Mackanin was chosen to receive a fully-funded Master's degree fellowship to conduct research and advance his studies in the field of Maritime Security. Tyler will begin the program in June, as a team leader in the Center's 2015 Summer Research Institute (SRI). Mackanin recently completed his undergraduate degree in Naval Engineering at Stevens Institute of Technology. He will pursue employment in the field of Homeland Security following completion of his Master's degree.