10:00am  Welcome (Beth Austin-DeFares)

10:05am  Magello Emergency Response Tool: End-user Test and Evaluation

**Student Team:** Beichen Li (SIT, Computer Engineering) Luis Miranda (UPRM, Industrial Engineering) and Gina Salmisn (SIT, Engineering Management)

**Research Mentors:** Talmor Meir, Grace Python, Julie Pullen

**PROJECT:** Magello is a friendly Google Earth™ user interface platform that allows for various key environmental parameters to be presented in a layered fashion. The user interface is a customizable, web-based tool that integrates oceanic and atmospheric forecasting, plume modeling and real-time information that can assist decision-makers and emergency responders to prepare for, respond to, and recover from an event.

The Magello team will be responsible for improvement and new development of the tool, maintenance and software documentation. Initial scoping suggests that air quality/smoke sensor build-out (installing additional sensors, QC of data, visualization of data and derivative products) is a viable extension for the SRI. Additional development is expected in this hands-on and highly integrated direction.

Team members will take on the ambassador role and visit various agencies to provide knowledge transfer and work with the end users to better understand their needs. Target end-users include USCG-Sector NY (pollution response group), NYC OEM, Port Authority, NUSTL, and NYPD/FDNY.

10:35am  Maritime Incident Scenario Development and LNG Safety and Security

**Student Team:** Reed Oberlander (SIT, Naval Engineering), Thomas J. O’Neil (SIT, Civil Engineering), Nicholas Haliscak (SIT, Maritime Systems), Chris Polacco (SIT, Maritime Systems), and Monique Cerqueira Zuidema (SIT, Naval Engineering and Marine Architecture)

**Research Mentors:** Beth Austin-DeFares and Barry Bunin

**PROJECT:** This task is to define attack scenarios involving maritime structures, vessels, or sites that might be vulnerable to attack due to their strategic, symbolic, or economic importance or physical characteristics. These attacks will be planned from the attacker’s point of view; then the attacker will consider likely defenses against by security personnel, and develop contingency plans. Scenarios will be programmed using custom software to enhance DHS tabletop exercises and emergency response training. A sub-group of the team will also identify safety and security considerations for the refueling (bunkering) of Liquefied Natural Gas (LNG) vessels.
11:15am      Break

11:20am      **Acoustic Vessel Signature Analysis for Automated Vessel Classification**  
**Student team:** Blaise Linn (SIT, Mechanical Engineering), Robert Garvin (SIT, Electrical Engineering), Carrick Porter (SIT, Computer Science), Juan Carlos Santos Ferrer (UPRM, Electrical Engineering), Dmitriy Savinsky (SIT, Electrical and Computer Engineering), and Sarah Walsh (Rutgers Univ., Mechanical Engineering/Mathematics)  
**Research Mentors:** Barry Bunin, Alex Pollara, Sasha Sutin

**PROJECT:** This task is to classify vessels by their acoustic signature. Collect vessel signatures by deploying Stevens acoustic signal recorders near Stevens; use signal processing techniques (Spectrogram, Demon, other) to display key spectral components, manually classify signals into classes (bins); run an automated classifier and see how it performs compared to manual inspection. Focus will be placed on Jet ski and Panga boat signatures.

11:50am      **Technology Integration and Synergies: Radar, Optics and AIS**  
**Student Team:** Joe Nathan Abellard (CITY Tech, Computer Engineering), Yong Qi “Felix” Chen (SIT, Electrical Engineering and Mathematics), David Gonzales-Chevere (UPRM, Electrical Engineering), and Hasan Shahid (SIT, Maritime Systems)  
**Research Mentors:** Barry Bunin, Mikhail Tsionskiy, Alex Yakubovskiy

**PROJECT:** One limitation of electro-optics, whether it is visible light, infrared light, or other, is its limited field-of-view. On the other hand, the images provided by cameras yields valuable information as to the nature of the target. Stevens has built a system that takes inputs from other sensors that have a broad FOV, and uses them to slew cameras in the appropriate direction. Acoustic signals have been used to do this. Recently, Stevens has acquired a broadband radar system. This task will be to understand the operation of broadband radar and use it to slew the camera, and then test the operation of the resulting system on vessels in the river.

12:20/12:30pm       Adjourn