

PIRE Orientation

NSF PIRE Coastal Flood Risk Reduction Program is pleased to announce the selection of the 2017 research participants that will be traveling to the Netherlands from May 31 to June 15, 2017 to study issues related to flood mitigation. The sixteen candidates selected provide diversity in background, discipline, age, and research interests. These disciplines range between Urban Planning, Oceanography, Communication, Architecture, Engineering and more.

After the successful trip last year, the contents of this trip have been improved to focus on and foster interdisciplinary and collaborative research. For the 2017 program, four case study areas have been chosen and an overarching research theme has been identified for each case study area. These students will enhance and extend their current educational and research experience by participating in group research activities and interacting with flood experts in the Netherlands.

On April 17th the PIRE Class of 2017 met in Galveston for an orientation hosted by Yoonjeong (Yoon) Lee. The orientation included round table introductions where the participants introduced themselves and their research project questions. Following this Baukje (Bee) Kothuis, one of the program coordinators from Delft Technical University, outlined the case study areas in detail and gave a Netherlands culture orientation. Later, the case study groups met and outlined their research plans. Yoon then went over the day to day plans and logistics.

We look forward to working with the NSF PIRE Coastal Flood Risk Reduction Program Class of 2017. Keep up to date with the program by monitoring the CTBS and PIRE Facebook pages as well as future newsletters.



TX GLO Partnership

The CTBS has established a new partnership with the TX General Land Office. The study will address the prospect of increased adverse economic impacts from coastal storms based on future conditions with and without a storm surge suppression system in place. In the coming months, CTBS will compare the expected losses from various coastal storms now and in 2080 based on development trends and changing environmental conditions. Statistical and graphic results will determine the cost of “doing nothing” to protect the property, lives, and economy of communities on the upper TX coast. Center findings will provide support for GLO initiatives and demonstrate the effectiveness of coastal protection measures.

CTBS Puts Hybrid Coastal Structure Design to the Test

CTBS faculty member, Dr. Figlus and Ocean Engineering Ph.D. student, Altaf Taqi completed a series of large-scale physical model tests in a 3D wave basin investigating for the first time how hard coastal structures covered with sand dunes behave under storm wave attack. This CTBS-sponsored research project investigates novel approaches to coastal storm surge protection that may present viable alternatives for a coastal spine design helping the Greater Houston-Galveston Area to withstand future Hurricane storm surge impacts. The experiment was run at the Haynes Coastal Engineering Laboratory in College Station in a large basin outfitted with a segmented 42-paddle wave maker to create real design sea states in a controlled laboratory setting. Much thought and sweat went into setting up the hybrid structure inside the basin and outfitting it with the necessary sensors. The structure consisted of large concrete blocks, a layered rubble mound, and a thick dune sand cover. The researchers measured profile changes in the sand cover and sediment overwash volume as waves overtopped the structure during the peak of the simulated storm scenario. This fun experiment provided a large amount of data to analyze and understand in hopes of creating a viable design for future storm surge protection that blends in perfectly with the natural fabric of the coast. The team would like to thank everyone involved for making this a reality. Stay tuned for analysis results and findings.

