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CCT Colloquium Series

Multi-scale modeling of storm surges and water waves**Q. Jim Chen, Louisiana State University**

Associate Professor of Civil and Environmental Engineering

Johnston Hall 338
May 04, 2007 - 03:00 pm**Abstract:**

More than 50% of the U.S. population lives within 50 miles of the shoreline and the coastal population continues to grow. The continuing popularity of coastal areas puts more people and property at risk from coastal hazards, such as hurricanes and tsunamis. On the other hand, global warming and sea level rise increase the vulnerability of coastal communities. Mitigating the impacts of coastal disasters requires an accurate prediction of water surges and ocean waves generated by storms and hurricanes. This talk will present numerical simulations of storm surges and wind waves at different spatial and temporal scales relevant to coastal protection and flood mitigation. It will highlight the technical issues in solving hyperbolic-type partial differential equations with third-order derivatives commonly used in the modeling of nonlinear coastal water waves.

Speaker's Bio:

Dr. Q. Jim Chen is an Associate Professor of Civil and Environmental Engineering (CEE) at Louisiana State University (LSU). He received the NSF CAREER Award to develop a five-year research and educational program focused on coastal wave and surge modeling in 2006. Before joining LSU, Dr. Chen had been on the civil engineering and marine science faculty at a university in south Alabama for 5 years. He conducted postdoctoral research at the University of Delaware's Center for Applied Coastal Research, and doctoral research at Old Dominion University and Danish Hydraulic Institute. Dr. Chen specializes in the development and application of numerical models for coastal hydrodynamics and nearshore processes, including surface waves, wave-induced nearshore circulation, storm surges, estuarine circulation, and sediment transport. He is the recipient of the American Society for Engineering Education Southeast 2006 Young Faculty Research Award (2nd place). Dr. Chen is the first hire for the Coastal Engineering Program in the CEE department at LSU.

Refreshments will be served.