Structural/Wind Engineering Distinguished Lecture
Time: 3:30-4:20PM, Wednesday, Oct 15; Place: 1109 PFT.

Presenter: Dr. Arindam Gan Chowdhury
Director, Laboratory for Wind Engineering Research (IHRC) and Associate Professor (CEE), Florida International University, Florida

Bio: Arindam Chowdhury, an expert in wind and structural engineering, has co-authored more than 40 peer-reviewed journal publications. He has received research funding from the National Science Foundation (NSF), NOAA, Florida Division of Emergency Management, Sea Grant Programs, Dept. of Energy, and the industry. He is the recipient of the NSF’s prestigious CAREER Award, Florida Sea Grant’s “Research to Application Award,” and FIU President’s Council “Worlds Ahead Faculty Award.” He was instrumental in bringing to life FIU's revolutionary 12-fan Wall of Wind research facility, which has attracted worldwide attention. The Wall of Wind is already contributing to real-world applications in mitigation devices and structurally safer homes. Recommendations made as a result of testing at the Wall of Wind facility have been published in the 2010 Florida Building Code (FBC).

Title: Wall of Wind Research to Enhance Hurricane Resilience of Civil Infrastructure

Abstract: The Wall of Wind (WOW) at Florida International University (FIU) is the largest and most powerful university research facility of its kind and is capable of simulating Category 5 hurricanes. The WOW facility has made a significant impact on the mitigation of hurricane damage to civil infrastructure through extensive research conducted by the wind engineering team at FIU’s International Hurricane Research Center (IHRC) and Department of Civil and Environmental Engineering (CEE). This presentation will focus on WOW interdisciplinary research and testing to enhance the built environment’s resilience to hurricane multi-hazards, including wind, rain, and debris. Hurricane engineering research at FIU has confirmed the effectiveness of large- and full-scale holistic testing approaches in advancing the understanding of hurricane impacts on buildings and other infrastructure elements, such as traffic and electrical infrastructure elements. Holistic testing procedures entail testing of systems consisting of integrated assemblies of components, as opposed to individual component testing. WOW research has resulted in the development and validation of innovative damage mitigation products and techniques, including Roof Suction Mitigation Devices, Rooftop Equipment Wind Screens, Non-Intrusive Roof-to-Wall Connection System, and Supertile Roofing System. Also, full-scale experimentation results were applied to improve Florida Building Code’s wind load provisions on building roof mounted equipment for the State of Florida, including its High Velocity Hurricane Zones. The new test-based data from the WOW facility is helping to create a sound scientific basis for developing risk- and performance-based design criteria embodied in code provisions, and contribute to the attainment of a national objective: achieving more sustainable, hurricane resilient, and energy efficient communities.

1Organized by the Department of Civil and Environmental Engineering, for further information, please contact Dr. Aly at aly@LSU.edu or call 225-578-6654.