

IHRC NEWS UPDATE

International Hurricane Research Center



Florida International University

Winter 2006/Spring 2007

ANNOUNCING THE RENAISSANCERe WALL OF WIND



The International Hurricane Research Center announced that it is constructing the first-of-its-kind Wall of Wind research facility at the February 22 unveiling ceremony. The RenaissanceRe Wall of Wind (WoW) will be an array of six industrial fans, capable of replicating Category 4 hurricane conditions with 130-140 mph winds and simulated rain in a laboratory environment. This will allow scientists to precisely study the impact of severe storms on physical structures and building materials and methods.

“Our initial research with the two-fan array, funded by the Florida Division of Emergency Management, demonstrated proof-of-concept,” said Dr. Stephen P. Leatherman, Director of the International Hurricane Research Center. “We are delighted that RenaissanceRe and its US affiliate, WeatherPredict, are continuing to support us, the residents of Florida and all hurricane-vulnerable communities by sponsoring the new six-fan array.”

Craig Tillman, President of WeatherPredict Consulting, Inc., stated at the press conference “A critical component of minimizing both loss of life and property damage in a hurricane is to strengthen buildings.” He continued that “While

substantial resources have been devoted to analyzing hurricanes and improving weather predictions, little scientific research has been done on the ways in which hurricanes affect the building materials that protect us.” National Hurricane Center Director Bill Proenza noted that this new *hurricane simulator* would greatly increase our ability to mitigate the damage from hurricanes, which has averaged \$17 billion a year for the last decade.

The building to house the RenaissanceRe Wall of Wind (WoW) is presently under construction on the FIU Engineering campus. The testing facility is slated to be completed Fall 2007 during the midst of hurricane season.

IHRC's focus on the mitigation of hurricane damage and loss of life is made ever more resolute following the disastrous hurricane seasons of 2004 and 2005. We address storm impacts and recovery from multiple perspectives and disciplines through our four laboratories:

- Coastal Research
- Insurance, Financial and Economic Research
- Social Science Research
- Wind Engineering Research

For more information, visit us at: www.ihrc.fiu.edu

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AIR WORLDWIDE MAKES CONTRIBUTION TO WoW

With the commitment of reducing hurricane vulnerability through mitigation research, VP Jay Guin of AIR Worldwide made a contribution of \$50,000 to the IHRC, which will be matched dollar for dollar by the State of Florida. This contribution will allow us to install a turntable in the Wall of Wind facility so that test specimens can be subjected to hurricane-force wind and rain from different orientations. To date, more than \$3 million has been committed to the Wall of Wind initiative including design, construction, and other expenses, with RenaissanceRe and Florida Division of Emergency Management being the principal donors. We are looking for other private sector leaders to step forward and help us realize the full potential of this exciting new technology.

WELCOME, BILL PROENZA



The new Director of the National Hurricane Center is Bill Proenza, who previously headed the Southern Region of the National Weather Service in Ft. Worth, Texas. Director Proenza, who was born and raised in Miami, has over 30 years of experience as a meteorologist and administrator with the federal government. We are pleased that Bill will be joining the IHRC Board of Trustees. He has already witnessed the Wall of Wind in action during testing for Florida Power & Light and is fully supportive of our research agenda.

DISASTER RESISTANT UNIVERSITY (DRU) PROGRAM

Universities are not immune to disasters. In the past decade, disasters have affected university and college campuses with increasing frequency. Nearly all instances have brought monetary losses and disruptions of the institutions' teaching, research and public service functions. Most recently Tulane University experienced over \$100 million in damages from Hurricane Katrina. In fiscal year 2004, the Disaster Resistant University (DRU) program funds were competitively awarded. At that time Florida International University (FIU) received a planning grant to implement a sustained pre-disaster hazard mitigation program to reduce overall risk to students, faculty and research assets.

The IHRC, in accordance with Federal Emergency Management Agency (FEMA) and Florida Division of Emergency Management (DEM), is pleased to announce the formal approval of the FIU Disaster Resistant University All-Hazards Mitigation Plan. This Plan culminates nearly twelve months of hard work by the 18-member FIU DRU Advisory Board, comprised of faculty, staff, students and Miami-Dade Emergency Management coordinators. This project has greatly increased our understanding of the vulnerability of the diverse university community to multiple hazards. The developed plan will help ensure FIU's continued viability in the event of the most common natural and man-made disasters that confront this institution such as tropical storms and hurricanes, tornados, thunderstorms and floods.

WORLD-FAMOUS WIND ENGINEER JOINS IHRC



Dr. Emil Simiu, Fellow at the National Institute for Science & Technology (NIST) in Washington, DC, is now a Distinguished Research Professor at the IHRC. Dr. Simiu literally wrote the book on wind engineering, and he joins our wind engineering team, headed by Dr. Arindam Gan Chowdhury.

Dr. Simiu brings a wealth of knowledge and experience that has direct application to our full-scale wind testing. In fact, Dr. Simiu has already aided Dr. Chowdhury in the design of the fan assembly for the RenaissanceRe Wall of Wind, greatly increasing the generated wind speed. While maintaining his prestigious position at NIST, Dr. Simiu will help spearhead many of our technical advancements in this exciting new area of research. We are presently recruiting for our third faculty member in wind engineering.

FLORIDA WINDSTORM MITIGATION COMMITTEE

IHRC Director Stephen Leatherman gave a Powerpoint presentation on February 15 for the Florida Legislature's Windstorm Mitigation Study Committee. In the wake of the 2004 and 2005 hurricanes, insurance rates have skyrocketed in Florida and other hurricane-prone states. While Florida has embarked on various means of reducing rates, such as taking on reinsurance liability, these solutions are short term in nature. For insurance to be affordable and available in Florida, we must build our houses and commercial buildings stronger. As Dr. Leatherman clearly illustrated, the Wall of Wind research will lead to new technologies, products and materials to substantially improve our storm resiliency.