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Special Guest Lectures

### An Overview of GRI-SSC Research

**Pat Fitzpatrick, Mississippi State University**

Associate Research Professor, Geosystems Research Institute

Johnston Hall 338
April 01, 2011 - 01:00 pm

**Abstract:**
The MSU-Stennis group has actively participated in meteorology and oceanography research since 2001. Activities include numerical modeling, commercialization incubator support, visualization activities, climatology studies, and wetland analysis. During the seminar, we'll summarize results from the following recent projects: 1)Commercialization of storm surge and weather products with WorldWinds, Inc., and WXWORX (a subsidiary of Barons) 2)Case studies of hurricanes using 3DVAR and 4DVAR data assimilation with MM5 and Hurricane WRF 3)Summertime precipitation regimes 4)The impact of wetlands, levees, and bathymetry on storm surge using ADCIRC and SLOSH 5)Wetland resilience to hurricane storm surge near freshwater diversions 6)The influence of cyclones on the Deepwater Horizon Oil Spill Details on the Northern Gulf Institute building currently under construction will also be presented.

**Speaker's Bio:**
Dr. Pat Fitzpatrick is currently an associate research professor at the Geosystems Research Institute (GRI) at Mississippi State University. His recent work includes: hurricane intensity and structure research; numerical modeling; data assimilation; severe weather; storm surge research; Gulf Coast sea breeze climatology; and wetland studies. Past research includes interactions with private companies at Stennis Space Center through the Enterprise for Innovative Geospatial Solutions, a NASA incubator program, which resulted in the commercialization of storm surge and atmospheric modeling products at WorldWinds, Inc., such as WXWORX. He has authored or co-authored 16 peer-review journal articles and 2 books, and actively participates in conferences and workshops. Prior to Dr. Fitzpatrick's appointment at GRI, he was an assistant professor of meteorology at Jackson State University. He taught many undergraduate meteorology classes, two undergraduate general science classes on technology, and a UNIX system administration class. He upgraded the computer facilities, and hired students and research associates for research activities on hurricanes and weather modeling. Fitzpatrick earned a B.S. in meteorology at Texas A&M University in 1988, followed by a M.S. in 1992 with a thesis on modeling of hurricane genesis. His doctorate work was performed at Colorado State University under Dr. Bill Gray, with a dissertation on satellite applications to predicting hurricane intensity. While a graduate student, Fitzpatrick was employed as a graduate teaching assistant, lab assistant, VAX computer consultant, and weather forecaster for Shell Oil Company. Fitzpatrick volunteers as a forecaster for the Mississippi Emergency Management Agency during hurricane threats. More information on Fitzpatrick's activities is available online at www.drfitz.net, www.gri.msstate.edu, www.worldwindsinc.com, and www.wxworx.com .

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