

**HIGH PERFORMANCE SCALABLE  
COMPUTATIONS OF HURRICANE DRIVEN  
WIND WAVES, STORM SURGE, AND FLOW  
IN INTEGRATED OCEAN BASIN TO SHELF  
TO INLAND FLOODPLAIN SYSTEMS**

**Prof. Joannes J. Westernik**

Notre Dame Chair in Computational Hydraulics  
Henry J. Massman Department Chair,  
Department of Civil Engineering and Geological Sciences  
Concurrent Professor, Department of Applied and  
Computational Mathematics and Statistics  
Concurrent Professor, Department of Computer Science and Engineering

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**4:00 P.M. NSH 118**

(Refreshments at 3:30 P.M. NSH 202)

Hurricane wind wave, storm surge, and current environments in the coastal ocean and adjacent coastal floodplain are characterized by their high energy and by their spatial variability. These processes impact offshore energy assets, navigation, ports and harbors, deltas, wetlands, and coastal communities. The potential for an enormous catastrophic impact in terms of loss of life and economic losses is substantial. Computational models for wind waves and storm driven currents and surge must provide a high level of grid resolution, fully couple the various processes, and perform quickly for risk assessment, flood mitigation system design, and forecasting. In order to accomplish this, high performance scalable codes are essential. This colloquium will introduce the physical and computational aspects of storm prediction, and it will describe the computational models we have developed for the hurricane risk reduction system in Southern Louisiana, as well as for the FEMA Digital Flood Insurance Rate Maps (DFIRMS) for Gulf and Atlantic coast states.

Colloquium

All interested  
persons are  
cordially  
invited to  
attend.