RESEARCH SEMINAR

DEPARTMENT OF GEOGRAPHY & RESOURCE MANAGEMENT
THE CHINESE UNIVERSITY OF HONG KONG

Coastal Restoration on connecting the Mississippi River with Coastal Wetlands: Implications for Salinity and Water Quality

06th May 2026 (Wed)
04:30 – 06:00 pm (UTC+8)
Rm 221, Chen Kou Bun Building, CUHK

Coastal land loss has been a major issue in the delta, as it has been for other systems around the globe, due to both Holocene sea level rise coupled with human management activities. The lower Mississippi River has been constrained by levees and no longer interacts with the riparian wetlands. This isolation has prevented fresh water and sediments from reaching the coastal marshes. Reconnection with the river will provide needed sediment to prevent the marshes from drowning, however this reconnection will also impact the salinity of the receiving marshes and will carry significant nitrate from the river to the coastal basins. For over 15 years, the Wetland & Aquatic Biogeochemistry lab at LSU has sought to reduce uncertainty on the environmental impacts of river reconnection on coastal water quality and marsh resilience. Research findings have centred on both the impact of nitrogen and phosphorus cycling changes with implication for algal blooms as well as climate changes to vegetation impacts on resulting water quality. The mineral sediment subsidy provided to the coastal basins could significantly slow marsh edge erosion and preserve more soil C. These results will be discussed within the context of coastal management for fisheries and coastal resilience.

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Prof. John R. White is the John and Catherine Day Professor in the Oceanography and Coastal Sciences Department and Associate Dean of Research in the College of the Coast & Environment at Louisiana State University. He holds a PhD from the University of Florida in Soil and Water Science. An internationally recognized expert in wetland biogeochemistry, Prof. White's research addresses nutrient cycling, water quality, and ecosystem restoration in wetlands and aquatic systems. He has published over 145 refereed journal articles and 13 book chapters, with a Google Scholar h-index of 55. Throughout his career, he has secured more than $5.6 million in research funding and has mentored 42 graduate students. Prof. White is a Fellow of the Soil Science Society of America and has received multiple awards, including the Environmental Law Institute's National Wetlands Award for Research (2022) and the LSU.

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