

MORE Science at UTSA

Environment Science and Engineering

Fall 2006 Seminar Series

Where: Loeffler room (3.03.02) in the BioScience Building
When: 4:00 PM – 5:00 PM on September 29, 2006

Snack and drinks will be served

Speaker: Dr. Jennifer Ren



Dr. Ren is an Assistant Professor of Environmental Engineering at Texas A&M University Kingsville (TAMUK), where she joined the program in September, 2003. Dr. Ren received an NSF CAREER award in March 2005 on studying particle dynamics and contaminant transport in river systems. Dr. Ren's research interests include particle dynamics, contaminant transport, and biological interactions in water systems including the groundwater/surface water interface (focusing on both experimental work and modeling); Watershed studies on ecological and eco-hydrologic research by combing fundamental research, modeling, and the application of geophysical and remote sensing technique; and Subsurface contaminant transport. Dr. Ren's research has been supported by NSF, EPA, and DOE

**Topic: Particle Dynamics and Contaminant Transport in River Systems:
Fundamentals and Implications**

Assessment of contaminated rivers and effective remediation of streams affected by acid mine drainage require a thorough understanding of the dominant mechanisms controlling particle and contaminant dynamics. Studies of the fate and transport of these reactive substances are generally complicated due to the complex coupling of hydrologic and geochemical processes, which vary spatially and temporally. The importance of hyporheic exchange has become increasingly recognized because of its important role in regulating the transport of particles, contaminants, and ecologically relevant substances. In this presentation, fundamental mechanisms controlling hyporheic exchange processes, overall study approaches including modeling and experimental methodology, and accomplishments of understanding these transport processes will be reviewed. Implications of these results on determination of ecological risk along with the current and future research will be discussed.