

Tuesday, April 20 2010

Black Lab Pub, Churchill Room • 4100 Montrose Blvd.

Social 5:30 p.m., Dinner 6:30 p.m.

Cost: \$25 Preregistered members; \$30 non-members & walk-ups

The HGS prefers that you make your reservations on-line through the HGS website at www.hgs.org. If you have no Internet access, you can e-mail reservations@hgs.org, or call the office at 713-463-9476 (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

HGS Environmental & Engineering Dinner Meeting

Thomas Lee McGehee, PhD, RPG

Professor of Geology at TAMU-Kingsville

Development of Methodologies for the Characterization of Fluvial Aquifers

Software tools for groundwater modeling, such as HORIZONS in GMS, have provided modelers new tools for characterizing subsurface heterogeneity. While this approach has provided acceptable results for simple models, it falls short in the development of stacked aquifer sequences. Recently, groundwater modelers have been tasked to simulate the fate and transport of contaminants in complex fluvial systems. Scenarios such as these require a more detailed subsurface geometry than previous models. The primary research focus is to develop a set of procedures that compensate for the inherent weakness of the characterization process. Idealized fluvial landforms were used in the creation of these newly developed procedures to create a baseline against which further work can be calibrated and tested. The results of this phase of research include not only a more accurate representation of a fluvial aquifer but also produced a set of tools and guidelines that can be adapted for future hydrogeologic modeling. ■

Biographical Sketch

THOMAS LEE MCGEHEE, PhD, RPG 2314, is a Professor of Geology at TAMU-Kingsville with 22 years of educational service in the South Texas region. He is an expert groundwater scientist with specializations in low-temperature geochemistry and numerical modeling. He has worked for 14 years (1996–present) as a

groundwater research scientist for the Army Corps of Engineers at their Engineering Research and Development Center, Waterways Experiment Station, Vicksburg Mississippi. He has held senior-scientist appointments with the Hazardous Waste Research and Development Program, Department of Energy, at Oak Ridge, Tennessee, and the

Army Environmental Policy Institute and the Department of Defense in Atlanta, Georgia. Ten students completed their Master

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of Science research through his research and contract funding. Mr. McGehee won the Olan Kruse Science Faculty Award in 2004 for these research efforts. He integrated GPS/GIS data collection and documentation into the field techniques course and all field trips sponsored by the department. He developed and organized the “Junior Rockhound Program” the “TRAINS (Teachers in Rural Areas INterested in Science) Program” and teacher- and learner-centered outreach programs for South Texas funded by the South Texas community. He organized and presented workshops for teachers through the Texas Collaborative for Excellence in Teacher Preparation (TxCETP) program. He developed classes in mineralogy and physical geology with funding from TxCETP.

