



Civil and Environmental Engineering

Newsle e

Academic/Research Group on Geotechnical and Geophysical Systems

Dr. Mehmet Tumay

The Geotechnical and Geophysical Systems group represents perhaps the oldest and one of the most established subdisciplines with trans-disciplinary specialties in Geotechnical, Geomechanical, Geoenvironmental and Geophysical Systems (G4S). During the period 1973-2000, the graduate program in G4S conferred 31 MS and 24 Ph.D. degrees to students from Brazil, Chile, China, Greece, France, Hong Kong, India, Iran, Jordan, Korea, Malaysia, Nigeria, Palestine, Taiwan, Turkey and U.S., and played host to 10 post-doctoral fellow. The G4S alumni currently serve in well-respected professorial, research and key administrator positions at prominent universities, government agencies and industry in the US and abroad. The G4S faculty have enjoyed consistent research funding exceeding \$7 Million from 1980 to the present from the National Science Foundation, Federal Highway Administration, U. S. Corps of Engineers, Environmental Protection Agency, French Ministry of Research & Industry, Office of Naval Research, LA DOTD, and others. Minimally invasive in situ characterization of the geomedia, mechanics of granular and clay soils, geo-tomography, electrokinetic soil remediation, novel soil stabilization, engineering properties of soft soils represent recent research emphasis/funding of the G4S group.

Through continuous grants (Tumay) from National Science Foundation and Federal Highway Administration unique testing methodologies/technologies have been developed for minimally invasive in situ characterization of geomedia. The Research Vehicle for In Situ Testing and Support (REVEGITS), Continuous Intrusion Miniature Cone Penetration Test System (CIMCPT) and the LSU Calibration Chamber (LSU-CALCHAS) are nationally/internationally acclaimed. The current NSF funded research is on “Inclined Piezocone Penetration Aspects: Theoretical Interpretation and Experimental Verification.”

<http://www.coe.lsu.edu/facilities/revegits-cimcpt.html> (video)

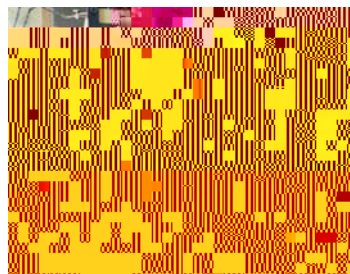
<http://www.coe.lsu.edu/facilities/lsu-calchas.html>



a. REVEGITS and CIMCPT



b. CIMCPT inside view



c. LSU-CALCHAS



d. Electronic cone penetrometers

The research on “Mechanics of Granular Materials (MGM)” (Alshibli) investigates the constitutive behavior of Ottawa sand under very low effective stresses in Microgravity Environment. MGM was flown twice aboard the STS-79 and STS-89 NASA Space Shuttle missions. The project is sponsored by NASA/ Marshall Space Flight Center.

The objective of another project,” Support Study for the Assessment of In-Situ Test Technology for Construction Control of Base Courses and Embankments” (Alshibli) is to assess the use of non-destructive in-situ tests [Dynamic

Undergraduate Student Advisory Committee Formed

As part of its ongoing efforts to maintain an active dialog with undergraduate students and involve them in the continual improvement process needed to comply with accreditation requirements, the Department has established a Student Advisory Committee. The Committee has representatives at the sophomore, junior and senior classes from both the Civil Engineering and Environmental Engineering programs. The current mias5m

Dr. Brian Wolshon, *Development of a State-of-the-Practice Guide on Hurricane Evacuation*, Federal Highway Administration, \$26,000.

Tomography Research Experience for Undergraduates

Dr. Roger K. Seals

Last summer, the Department conducted a Research006 Tm272pM2e05J80.602 11rnt conducted a Research006 Tm272pM2e05J80.602 11rnt conducted a Research006 Tm272pM2e1480 Tm(Last summ)Tj12 0 0 12 100.85031 480 Tm(e)Tj12