The University of Oklahoma  
Department of Civil Engineering and Environmental Science (CEES)  

GEOTECHNICAL ENGINEERING GRADUATE RESEARCH POSITIONS  

Several graduate research assistant positions are available for qualified candidates to carry out research in various avenues of Geotechnical Engineering (www.geotech.ou.edu) at the University of Oklahoma, under the direction of Dr. Amy B. Cerato. Some specific projects are listed below.

1.) *Scale Effects of Triaxial Compression Tests on Granular Material* – This position involves laboratory testing of sands in triaxial compression using four different size specimens to determine if there is a scale effect concerning friction angle as has been found testing sands in direct shear. The student will perform tests with different sands at different densities to determine the friction angle of the soil and discuss the results in terms of foundation design parameters used in practice.

2.) *Uplift Capacity of Helical Anchors under Vibratory Loading* – This position will involve working closely with the Wind Power industry, specifically Bergey Windpower, to determine loads and vibrations produced by the turbines, transmitted through the tower and felt at the foundation level (1kW, 5kW, 10 kW and 50kW turbines). The student will install several screw anchors and test the anchors under varying conditions. The student will then correlate capacity with soil parameters and create a design installation chart for distributors.

3.) *Characterizing and Mitigating Oklahoma Landslides* – This topic involves collecting soil samples with the Oklahoma Department of Transportation at pre-determined landslide sites and performing several in situ and laboratory tests to determine index parameters and strength of the soil. Once the site is characterized, the student will be involved in designing best practices for mitigating the slide and preventing future sliding.

Research will be conducted in the School of Civil Engineering and Environmental Science laboratories under the guidance of Dr. Amy B. Cerato (http://faculty-staff.ou.edu/C/Amy.B.Cerato-1/index.html). Students interested in applying must be in good academic standing and have a willingness to be mentored as a research participant. Please go to http://www.cees.ou.edu/grad/application.htm or contact Susan R. Williams at srwilliams@ou.edu to find out about applying to OU.
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Post-graduate research positions (at both PhD and MSc levels) are available for qualified candidates to carry out research in the area of Reinforced Soil Structures. The accepted candidates would help refine the computational models that are developed to simulate the response of reinforced soil walls and foundations using advanced material models for soils and geosynthetics. The research makes use of a unique database of experimental results and is aimed at developing modern design guidelines for reinforced soil walls, slopes, embankments and foundations under static and dynamic (i.e. seismic and traffic) loading conditions. The outcome of this research is of interest to AASHTO, FHWA, National Concrete Masonry Association (NCMA) and other related authorities.

The graduate students will join an internationally renowned research team (CEES at OU, Norman, OK, USA and GeoEngineering Centre at Queen’s-RMC, Ontario, Canada) in the area of reinforced soil structures with the possibility of as-needed site visits and/or use of test facilities at the Royal Military College of Canada (RMC) in Kingston, Ontario.

Students interested in applying must be in good academic standing and have an interest and background in soil mechanics, material behavior and numerical simulation techniques. For further information please contact Dr. Kianoosh Hatami (contact information below). Information about how to apply to OU and related forms can be found at: [http://www.cees.ou.edu/grad/application.htm](http://www.cees.ou.edu/grad/application.htm) or by contacting Ms. Susan R. Williams at srwilliams@ou.edu.

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