Potential Research Projects

- use of helical anchors for anchoring small wind turbines in high plasticity clay subject to a fluctuating water table
- constitutive and numerical modeling of unsaturated soils under static and dynamic loading
- prediction of strength properties of unsaturated soils using cone penetration test data
- geosynthetic applications for static and dynamic problems in geotechnical engineering
- coupled flow and deformation in fractured rock formations
- use of raw chat (a lead mining waste product) in Hot Mix Asphalt for pavement applications

Additional Information

Additional information about the University of Oklahoma’s Geotechnical engineering graduate program is available at [www.geotech.ou.edu](http://www.geotech.ou.edu) or by contacting Gerald Miller at (405) 325-4253 or e-mail at gamiller@ou.edu.

The University of Oklahoma is an equal opportunity institution.
About the Geotechnical Engineering Program

The Geotechnical Engineering Group at the University of Oklahoma is internationally recognized for excellence in teaching and research. The objectives of the Master’s degree program are to educate qualified students in the discipline of geotechnical engineering and prepare individuals for careers as practicing geotechnical engineers in the area of soil mechanics, foundation engineering and geoenvironmental technology. The objectives of the doctoral program are to expand the student’s professional knowledge in the fundamental concepts of geotechnical or geoenvironmental engineering and to encourage original research that results in a significant contribution to the engineering community. The program has outstanding facilities for laboratory experimental, research, field experimental research and computational simulations.

Faculty

Younane N. Abousleiman
Ph.D., P.E.
University of Delaware
Adjunct Professor
[Website Link]
Research: Mechanics of porous media; rock and soil mechanics; poroelasticity with applications in civil and petroleum engineering
Teaching: Rigid Body Mechanics, Introduction to Applied Poromechanics in Engineering

Amy B. Cerato, Ph.D.
University of Massachusetts, Amherst
Assistant Professor
[Website Link]
Research: specific surface area influence on geotechnical engineering behavior; shallow foundation behavior; shrinkage characteristics of fine grained soils
Teaching: Foundation Engineering, Soil Mechanics, C.E. Measurements

Kianoosh Hatami, Ph.D., P.Eng.
McMaster University
Assistant Professor
[Website Link]
Research: Modeling material behavior, static and seismic analysis and design of reinforced-soil retaining walls and foundations, applications of modern materials (e.g., geosynthetics)
Teaching: Introduction to Earthquake Engineering, Introduction to Geosynthetics, Statics and Dynamics

Gerald A. Miller, Ph.D., P.E.
University of Massachusetts, Amherst
Associate Professor & Group Coordinator
[Website Link]
Research: Laboratory and in-situ soil testing; unsaturated soil mechanics; soil behavior in compacted fills
Teaching: In-Situ and Laboratory Testing, Strength of Materials, Advanced Soil Mechanics

K.K. (Muralee) Muraleetharan, Ph.D., P.E., G.E.
University of California, Davis
Presidential Professor
[Website Link]
Research: Geotechnical earthquake engineering, finite element modeling of saturated and unsaturated soils, constitutive modeling, centrifuge testing
Teaching: Introduction to Continuum Mechanics, Environmental Geotechnology, Introduction to Finite Element Method, Soil Dynamics

Musharraf Zaman, Ph.D., P.E.
University of Arizona
David Ross Boyd Professor
Associate Dean for Research, COE
[Website Link]
Research: Soil structure interaction, constitutive modeling, pavement materials and systems including asphalt materials, geomechanics, application of numerical techniques to geotechnical, structural and geomechanics problems

Graduate Student Financial Support

Competitive research and teaching assistantships are available to qualified graduate students. These assistantships include a tuition waiver plus all-inclusive health benefits. Applications for financial assistance should be directed to the School of Civil Engineering and Environmental Science.