MISSOURI S&T

GeoMO 2010

http://geomo.mst.edu/

GeoEnvironmental and GeoEarthquake Engineering

Register online at http://geomo.mst.edu

Who Should Attend?

Geotechnical Engineers, GeoEnvironmental Engineers and Environmental Engineers working in landfill design and management, geotechnical earthquake engineering and foundation design.

Registration Fee: $150

Fee includes course notes and a luncheon.

Professional Development Hours (PDHs)

Attendees will receive a certificate awarding six Professional Development Hours (PDHs).

Cancellation Policy

Missouri S&T reserves the right to cancel its programs in the event of insufficient registrations, instructor illness, severe weather, or natural disaster. In the event of cancellation, registrants will be notified immediately and all fees will be returned in full. Persons wishing to cancel their registrations must do so by close of business on April 30, 2010. Refunds will not be made after this date. Substitutions may be made at anytime.

Registration Contact

Distance and Continuing Education
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May 7, 2010 | Havener Center | St. Pat's Ballroom A
Missouri University of Science and Technology

Join us May 7, 2010, for GeoMO 2010, as we discuss recent advances in GeoEnvironmental and GeoEarthquake Engineering with guest presenter, Dr. Edward Kavazanjian. This year's conference is an exceptional opportunity for you to network with fellow practicing engineers as well as geotechnical graduate students and faculty from several universities.

In addition, the conference provides:

- A Missouri forum for nationally recognized geotechnical experts
- Practical information designed to enhance the capabilities of practicing engineers,
- Valuable Professional Development Hours (PDHs) at a reasonable cost, and
- A convenient venue maximizing interaction between practicing engineers.

Guest Presenter

Dr. Edward Kavazanjian, Jr. is an associate professor in the Department of Civil, Environmental, and Sustainable Engineering at Arizona State University in Tempe, Arizona, USA. He joined the faculty at Arizona State University in August 2004 after 20 years as a practicing geotechnical engineer. Dr. Kavazanjian has bachelor and master of science degrees in civil engineering from M.I.T. and a Ph.D. in geotechnical engineering from the University of California at Berkeley. Dr. Kavazanjian currently serves as President of the Board of Governors of the American Society of Civil Engineers (ASCE) Geo-Institute. He also currently chairs the Committee on Geotechnical and Geological Engineering of the National Research Council (NRC) of the National Academies of Science and Engineering. Dr. Kavazanjian is recognized internationally for his work on design and construction of landfills and waste containment systems and on geotechnical earthquake engineering. He is the recipient of the 2009 Ralph B. Peck Award from ASCE for his published case history contributions to landfill engineering. He has delivered several keynote addresses and state of the art papers on waste containment systems and landfill engineering at international conferences. He is co-author of the Federal Highway Administration (FHWA) guidance document on *Geotechnical Earthquake Engineering for Highways* and the Environmental Protection Agency guidance document of *RCRA Subtitle D (40CFR258) Seismic Design Guidance for Municipal Solid Waste Landfill Facilities*. Dr. Kavazanjian is a registered Professional Engineer in Arizona, California and Washington.

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GeoEnvironmental and GeoEarthquake Engineering

Conference Schedule

Havener Center

8:30 – 9:00 a.m.
Arrival and Check-In

9:00 – 9:15 a.m.
Introduction

9:15 – 10:15 a.m.
Predesign Geotechnical Evaluation of the OII Superfund Site Landfill

10:15 – 10:30 a.m.
Break

10:30 – 11:15 a.m.
Waste Mechanics: Recent Findings and Unanswered Questions

11:15 a.m. - 12:00 (Noon)
Post-Closure Development of Waste Landfills

12:00 (Noon) - 1 p.m.
Luncheon

1:00 – 2:30 p.m.
Recent Developments in Geotechnical Seismic Design for Transportation Facilities

2:30 – 3:15 p.m.
Seismic Response of Shallow Bedrock and Deep Soil Basin Sites

3:15 –3:30 p.m.
Break

3:30 – 4:30 p.m.
Geo-Alchemy - Turning Sand into Sandstone: Microbiological Improvement of the Properties of Soil

Register online at http://geomo.mst.edu

This year's GeoMO 2010 lecturer, Dr. Edward Kavazanjian, Jr. will be discussing two topics that are relevant to geotechnical engineering in the Midwest.

Recent Advances in Landfill Engineering:

- Predesign Geotechnical Evaluation of the OII Superfund Site Landfill
- Waste Mechanics: Recent Findings and Unanswered Questions
- Post-Closure Development of Waste Landfills

The pre-design geotechnical investigation for the Operating Industries, Inc. (OII) Superfund Site Landfill formed the basis for the properties used today by most engineers in landfill design. This investigation included shear wave velocity profiling, bucket auger borings with in situ density tests, large diameter consolidation, direct shear, cyclic simple shear tests in an on-site laboratory, and back analysis of slope stability, slope deformations, and strong ground motions recorded at the landfill. Continuing studies have developed new insights into waste properties and have highlighted several important unanswered questions that still need resolution. These waste property studies also provide the basis for post-closure development of waste landfills, a sustainable engineering practice which makes beneficial use of degraded property.

Recent Advances in Geotechnical Earthquake Engineering:

- Recent Developments in Geotechnical Seismic Design for Transportation Facilities
- Seismic Response of Shallow Bedrock and Deep Soil Basin Sites
- Geo-Alchemy - Turning Sand into Sandstone: Microbiological Improvement of the Properties of Soil

Significant advances in geotechnical earthquake engineering over the past decade include the use of site factors based upon (Vs)30 (the shear wave velocity in the top 30 meters) to account for local site response effects, refined methods for evaluating seismic slope stability and retaining wall performance, and methods that consider the consequences of liquefaction. However, it is becoming evident that site factors based upon (Vs)30 do not properly account for shallow bedrock or deep soil basin ground conditions. Analysis suggests that these two ground conditions may need to be classified as "special study sites" at which site specific analysis is mandated by the codes. Microbiologically-induced carbonate precipitation (MICP) offers the promise of non-intrusive remediation of potentially liquefiable ground by turning loose sand into sandstone. The engineering challenge associated with MICP is to take a process that is known to create adverse effects and learn to apply it in a context that is beneficial.

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