

Geotechnical Aspects of Earthquake Engineering: Practical Applications

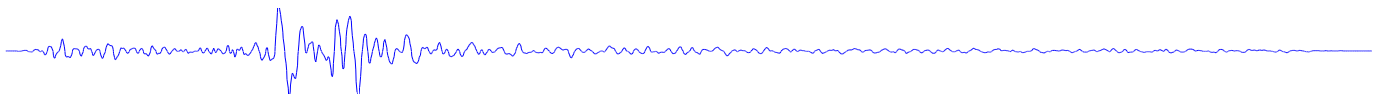
August 21-22, 2008

St. Louis, Missouri

Introduction to Nonlinear and Effective-Stress Site Response Analyses

August 23, 2008

St. Louis, Missouri



The new evidence about the 1811 New Madrid earthquake (M 7.8), and the more recent Loma Prieta (M 6.9), Petrolia (M 7.2) and Northridge (M 6.7) earthquakes heightened public awareness of the seismicity of the U.S. Over the past 25 years the geotechnical engineering profession has made significant advances to develop methods to predict the likelihood of liquefaction and site-specific response spectra under earthquake loading conditions. In recognition of the need for the Civil Engineering community to become familiar with the well-documented procedures that presently exist, GeoMotions is pleased to present a two-day short course entitled *Geotechnical Aspects of Earthquake Engineering: Practical Applications* and a one-day short course entitled *Introduction to Nonlinear and Effective-Stress Site Response Analyses*.

Who needs to attend?

Our rapidly evolving understanding of the U.S. seismic environment is of particular concern to project managers and engineers, particularly civil engineers, geotechnical engineers,

geologists and geological engineers, who will be required to estimate ground motions for design earthquake events and address potential soil instability problems.

What you'll learn in class

In the two-day short course on *Geotechnical Aspects of Earthquake Engineering: Practical Applications* you will learn about:

- Earthquakes: Causes, Magnitude and intensity, characterization of seismic environment, design earthquake, sources-zones, estimating rock motions for design purposes.
- Regional Seismicity: Principal sources, acceleration time histories associated with various source zones, and attenuation relations.
- Ground Motions During Earthquakes: Ground motion, response spectra, and influence of soil conditions.
- Dynamic Properties of Soils: Dynamic soil behavior, dynamic strength, determination of soil properties for ground response analysis.

- Modeling Philosophy: 1D→2D, SHAKE.
- Liquefaction: Laboratory investigation and analysis of soil liquefaction.
- Design Spectrum based on Codes.
- Fundamentals of and use of the SHAKE2000 computer program.

In the one-day short course on *Introduction to Nonlinear and Effective-Stress Site Response Analyses* you will learn about:

- When and how to use nonlinear and effective stress analyses.
- How to conduct nonlinear and effective stress analyses using generic material parameters.
- How to evaluate nonlinear material parameters from published information.
- How to interpret and document the results of nonlinear and effective stress analyses.
- How to obtain regulatory approval for advanced analyses.
- Fundamentals of and use of the D-MOD2000 computer program.

Location: Hilton St. Louis Airport - 10330 Natural Bridge Road - St. Louis, MO 63134 – (314) 426-2924
Discount hotel rate of \$119.00 plus 15.075% tax per night. All reservations must be received on or before July 30, 2008. A limited number of rooms are available at this rate. Please ask for the "GeoMotions" group rate when making your reservations.

Geotechnical Aspects of Earthquake Engineering: Practical Applications

Thursday-Friday, August 21-22, 2008

Introduction to Nonlinear and Effective-Stress Site Response Analyses

Saturday, August 23, 2008

Hilton St. Louis Airport – St. Louis, Missouri

Computer Software & Training

The short courses include hands-on training on the use of the SHAKE2000 and D-MOD2000, Windows® based user-friendly versions of the computer programs SHAKE and D-MOD_2, respectively. These computer programs assist engineers, geologists and researchers with the analysis of site-specific response and the evaluation of earthquake effects on soil deposits. Registered participants in the two-day course will receive one license of SHAKE2000; and, registered participants in the one-day course will receive one license of D-MOD2000.

Please bring your own laptop for the hands-on software training sessions.

Instructors

Neven Matasovic, Ph.D., P.E., G.E., is an Associate with Geosyntec Consultants, holds a Ph.D. degree in Geotechnical Engineering from the University of California, Los Angeles. He is a recipient of the 2001 Prakash Foundation Award for Excellence in Practice of Geotechnical Earthquake Engineering, co-author of the Federal Highway Administration (FHWA) guidance document on geotechnical earthquake engineering for highway facilities, and co-author of the Environmental Protection Agency (EPA) guidance document for seismic design of landfills.

Ronaldo Luna, Ph.D., P.E., is an Associate Professor at the Department of Civil, Architectural and Environmental Engineering at the Missouri University of Science & Technology. He was Assistant Professor from 1995 to 1999 in the Department of Civil and Environmental Engineering at Tulane University, New Orleans. Dr. Luna obtained his B.S.C.E. in 1983 from the University of Maryland, College Park, MD, M.S.C.E. in 1985 from Purdue University, West Lafayette, IN, and his Ph.D. in 1995 from the Georgia Institute of Technology, Atlanta, GA. Between his graduate degrees he practiced as a geotechnical engineer in the states of California and Washington and internationally. In 2005 he received an award from the J. William Fulbright Foundation to study rainfall and earthquake-induced landslides in Guatemala. He is the recipient of several teaching awards and has published over 50 technical publications.

Gustavo A. Ordonez, P.E., received his B.S. in Civil Engineering from the University of San Carlos of Guatemala and his M.S. degree in Geotechnical Engineering from Oregon State University. He has 19 years of professional experience with emphasis on the field inspection of existing dams

and on the evaluation of their static and seismic adequacy under current engineering standards. He is also experienced in the use and development of geotechnical earthquake engineering software.

Registration Information:

- The registration fee includes continental breakfast, break refreshments, lunch, and a binder with course materials.
- Advance registration is required. Registration will be on a first-come/first-served basis. Space is limited to 20 participants per short course.
- To enroll in the two-day and/or one-day course send us an e-mail to training@geomotions.com. This will reserve you a place for two weeks, during which time we must receive your payment or your place will be opened up for someone else.
- A \$100.00 handling fee will be deducted from refunds. If you are unable to attend, you may send another person in your place.
- PDH's will be given for successful completion of the short course.
- A 10% processing fee will be added to the cost if you wish to pay with a credit card. Please contact us for credit card payment.

Registration

- | | |
|---|----------|
| <input type="checkbox"/> Geotechnical Aspects of Earthquake Engineering: Practical Applications
August 21-22, 2008 | \$600.00 |
| <input type="checkbox"/> Introduction to Nonlinear and Effective-Stress Site Response Analyses
August 23, 2008 | \$600.00 |

Total: _____

Please make check payable to:
GeoMotions, LLC

_____	Name
_____	Title
_____	Company
_____	Address
_____	Address
_____	City
_____	State
_____	Zip
_____	Phone
_____	E-mail

Please send registration and payment to:

GeoMotions, LLC
Attn.: St. Louis SC 8/08
3640 Arbor Dr. SE
Lacey, WA 98503

Questions/Information:

(360) 259-6140
training@geomotions.com
<http://www.geomotions.com>