Rock Slope Stability Analysis & Design

Two Day Short Course

WHEN: April 20-21, 2007 (Friday and Saturday)
8:00 am - 5:00 PM (Registration begins at 7:30 AM)

WHERE: Wildland Fire Training & Conference Center
McClellan, California
Short Course Fee: $350 AEG Members, $375/Non-Members ($400 at the door)

WHO:
Engineering Geologists and Geotechnical Engineers seeking intermediate level instruction on methods and new technologies applicable to rock slope stability investigation, analyses and design. This two-day short course will focus on rock slope engineering presented from the standpoint of practitioners responsible for the design and construction aspects of excavations in rock. Although a basic knowledge of rock slope stability investigation, data analysis, and design are assumed, the first half-day of the course will provide refresher on techniques. CEU (Continuing Education Units) credit will be earned upon completion.

WHAT:
This short course is not the same as the rock slope stability short course recently offered through AEG at national meetings or by the Southern California Section in 2006. This short course will cover more advanced topics as well as new technologies for characterization of rock faces. Laser Imaging Detection and Ranging (LIDAR) surveys combined with advanced processing software can now automatically perform rock mass fracture characterization on exposed rock faces. This eliminates some of the safety hazards, access problems, and human biases associated with current data collection techniques. It also allows for the rapid analysis of data and significantly larger data sets.

INSTRUCTORS:
Chester (Skip) F. Watts, Ph.D., PG, Director, Institute for Engineering Geosciences, Dalton Distinguished Professor of Geology, Radford University, Virginia and author of ROCKPACK III.
Martin Woodard, Ph.D., PG, Project Manager, Kleinfelder Inc., Pittsburgh, Pennsylvania.
John Kemeny, Ph.D., Director of Research, Split Engineering and Associate Professor, Department of Mining and Geological Engineering, University of Arizona and author of Split-FX Software.
PROGRAM

Day One

Rock Slope Stability Refresher (Morning Session)
- Rock slope field data collection methods and drilling and sampling techniques
- Rock mass rating systems
- Estimation of discontinuity and rock mass shear strength
- Kinematic slope stability analysis via stereonet projection
- Two and three-dimensional limit equilibrium block stability analysis
- Slope remediation strategies including:
  - Slope reconfiguration
  - Drainage
  - Block reinforcement
  - Mesh
  - Buttresses
  - Blasting techniques
- Case histories; if time allows:

Intermediate Topics in Rock Slope Stability (Afternoon Session)
- Rock slope stabilization
  - Rock bolt type, length, spacing, orientation, bond length, etc.

Day Two

Rock Slope Case Histories and Worked Examples (Morning Session)

Laser Methods for Rock Face Characterization (Afternoon Session) – Dr. John Kemeny
- Using ground-based LIDAR for Rock Mass Characterization of Existing Rock Slopes and Tunnels
- Automated Rock Mass Fracture Characterization Software (Split-FX)
- Validation and case study results
- What to expect with this technology in the next several years
- Hands-on activity with the Split-FX software

COURSE MATERIALS

Each participant will receive class notes, which will consist of the PowerPoint slides that are presented in class. Participants will also receive a fully functional copy of ROCKPACK III (written by Professor Skip Watts) for use during the course and for a six-month evaluation period. In addition, a three-month trial version of Split-FX software will be made available to participants for installation on laptop computers prior to the short course.

Attendees are encouraged to bring laptop computers.
REGISTRATION and ENROLLMENT  This course is limited to a maximum of 60 attendees and a minimum of 22 attendees. This course is subject to course cancellation if insufficient paid enrollment by March 19, 2007

Make check payable to: AEG Sacramento Section. Submit enrollment information with payment ASAP to:

3251 Beacon Boulevard, Ste. 200
West Sacramento, CA 95691
Attn: Lisa Breckenridge

Course Fee: $350.00 AEG Members, Non-Member Fee: $375.00
$400.00 at the door, (if seats are available)
(Course fees include continental breakfast, lunch, and course materials).

Return the following information ASAP, and no later than Monday, March 19, 2007, with payment by check as described above:

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<tr>
<th>Name</th>
<th>E-Mail Address</th>
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<tbody>
<tr>
<td>Affiliation (company name, employer, etc.)</td>
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<td>Mailing Address (city, state &amp; zip)</td>
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<tr>
<td>Amount Paid Please indicate by checking appropriate box.</td>
<td>$350.00 AEG Member</td>
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<td>AEG Member Number if applicable</td>
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<td>Two telephone numbers (work &amp; cellular)</td>
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Please send e-Mail message that you have sent registration information and payment to Lisa Breckenridge at lbreckenridge@wallace-kuhl.com. E-Mail confirmation of enrollment will be by return e-Mail, and will constitute receipt of payment.

LOCATIONS and DIRECTIONS

Wildland Fire Training and Conference Center (WFTCC)
3237 Peacekeeper Way
McClellan, CA 95652
(916) 640-1112

For driving directions, hotel accommodations, and additional information on the WFTCC go to:


Note: If you are not an AEG Member, it is easy to become one.
Contact Becky Roland aeg@aegweb.org Ph. No. (303) 757-2926 FAX 303.757.2969
http://www.aegweb.org/i4a/pages/index.cfm?pageid=3327