



The Official

Newsletter

of the Oregon Section Association of Engineering Geologists

Serving Professionals in Engineering, Environmental, and Groundwater Geology

OCTOBER 2003 SECTION MEETING

DANIEL DZURISIN, U.S. GEOLOGICAL SURVEY'S CASCADES VOLCANO OBSERVATORY

WHAT'S GOING ON AT CASCADE VOLCANOES? A STATUS REPORT ON PACIFIC NORTHWEST VOLCANOES

The Cascade Range of Washington, Oregon, and northern California includes thirteen major volcanic centers from Mount Baker in the north to Lassen in the south, plus numerous smaller vents that have produced eruptions in the recent geologic past. Each of the major volcanic centers is likely to erupt again, but the repose periods between eruptions in the Cascades are typically long compared to the active volcanoes of Hawaii or Alaska, for example. With the arrival of new monitoring technologies such as the Global Positioning System (GPS) and interferometric synthetic aperture radar (InSAR), we are starting to learn about processes that occur in the Cascades during extended periods of repose. At present, at least three of the Cascade volcanoes are known to be deforming. Mount St. Helens is the most frequently active and explosive volcano in the Cascade Range, and it continues to produce an elevated level of seismicity relative to pre-1980 levels. The lava dome that formed in the crater is subsiding at rates of several centimeters per year, presumably as a result of cooling and compaction, while deformation of the rest of the volcano is minor to nonexistent. Medicine Lake volcano in northern Cali-



fornia has been sinking at a steady rate of 8 mm per year for several decades, probably as a result of gravitational loading and tectonic extension. Undoubtedly the most intriguing activity in the Cascades right now is occurring at the Three Sisters volcanic center in central Oregon. A large area centered about 5 km west of South Sister volcano has been rising steadily at

an average rate of 30-40 mm/yr since 1997. The USGS, in cooperation with the U.S. Forest Service and the Pacific Northwest Seismograph Network, is monitoring seismic activity in the area and tracking the uplift using GPS, InSAR, and geodetic leveling. The USGS and PNSN are working with the USFS to improve monitoring, increase public

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This Month's Meeting is on Tuesday October 21

**Luck Labrador Brew Pub
915 SE Hawthorne Blvd
Portland, Oregon**

6:00 pm Social
7:00 pm Dinner
8:00 pm Presentation

\$12.00 dinner (\$6.00 for students).
Options: Chicken or Veggie Bento
Call URS at 503-222-7200 by 4 pm
Thurs. Oct. 16 with your
reservation. There is a \$2.00
surcharge for those who do not
reserve by the deadline. Call now!
A reservation made is paid.

MESSAGE FROM THE IN-COMING CHAIR

I'd like to welcome everyone back to the start of the 2003-2004 regular AEG Oregon Section meeting schedule. As I take my turn as section chair, I'd like to express gratitude for the assistance and mentoring that those before me have offered. I'd like to give particular thanks to our past chair of the Oregon Section, Ruth Wilmoth, who agreed to attend the Annual Meeting of the Board of Directors following the 2003 AEG annual meeting in Vail, Colorado, as I was unable to do so. In completing the transition of Oregon Section Chairperson duties, Ruth debriefed me on the agenda items that were discussed at the BOD meeting. Among the more notable was the complete transfer of Association headquarters to our own digs in Denver, Colorado, under the watchful eye of our administrator Becky Roland. Other noteworthy news includes ending the fiscal year with a positive balance of more than \$121,000, while ending the previous fiscal year with minus \$49,000. This great turn around can be attributed in large part to the success of our

annual meeting in Reno and your membership dues. However, as of a couple of weeks ago Oregon Section still had 90 members out of 139 that had yet to renew! Other sections also showed somewhat lackluster membership renewal. We encourage renewal of our annual memberships as soon as possible to maintain the association's positive cash flow.

I'm pleased to report that we have a number of dedicated committee chairs planning activities and improvements to our organization. The activities include a fall seminar "**Slope Stability for Transportation Systems**", cosponsored by AEG Oregon Section ASCE Oregon Geotechnical Group on October 18, 2003, monthly dinner speaker programs including a joint meeting with ASCE, a PSU Student Section sponsored dinner meeting, planning and launching an Oregon Section web site, a student scholarship, legislative reports, field trips, and other activities detailed in our newsletter and discussed in the monthly meetings.

One of our goals this year is to raise our profile a bit by promoting awareness and appreciation for engineering geology through our group activities, education outreach to the community, sponsoring field trips and seminars, increasing contact with our section members in Idaho and southern Oregon, and through our newsletter, web sites, and publications. If you have ideas, time, energy, or would simply like to learn more about what AEG is all about, feel free to contact me or any other officer or committee chair, and we'll put you to work. If you haven't yet become involved with AEG, this is your year to participate and enjoy the true benefits of AEG.

As we begin the year I'd like to invite the Oregon Section officers and committee chairs to a board meeting at 5:00 PM prior to the Regular Meeting on October 21, 2003 to go over our past board agenda items and move a few things ahead.

Regards,
Warren Krager
AEG Oregon Section Vice Chair

AEG OR CALENDAR

Oct. 18, 2003: Joint Seminar, AEG Oregon Section-ASCE Oregon Geotechnical Group, *Slope Stability for Transportation Systems*, Portland, Oregon

Nov. 18: Jack Meyer, NWNatural, Geohazards on pipelines

Dec. 16: Jon Allen, Newport DOGAMI Office, Coastal Geomorphology Research

Jan. 20, 2004: TBA

Feb. 17: Joint ASCE/AEG, speaker to be confirmed

Mar. 16: Rick Lahusen, USGS CVO, Real-time monitoring of debris flows

Apr. 20: Student Night

May. 18: George Priest/Charlie Hammond, Johnson Creek Landslide

OREGON SECTION AEG NEWSLETTER is published monthly from September through May. Subscriptions are for members of AEG affiliated with the Oregon Section or other Sections, and other interested people who have requested and paid a local subscription fee of \$10.00. Email subscriptions are free.

News items are invited and should be sent to: Charlie Hammond, OR Section AEG Newsletter Editor, Cornforth Consultants, 10250 SW Greenburg Road, Portland, OR 97223, email: or.aeg.news@cornforthconsultants.com, phone (503) 452-1100. Electronic media is preferred. Deadline for submittal is Friday three weeks before each meeting.

Please notify Charlie if you have a change to your email or mailing address.

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awareness, and develop an emergency-response plan for use if the activity should intensify.

Dan's BIO

Dan is a geologist since 1976 with the U.S. Geological Survey in Hawaii (1976-1981) and Vancouver

(1981-present). His specialty is volcano deformation, which aims to understand various processes occurring beneath volcanoes by studying changes in shape of the volcano edifice (for example, uplift or subsidence, extension or contraction). He has applied various

ground-deformation techniques at volcanoes in Hawaii, the Cascade Range, Yellowstone, Long Valley, Alaska, Indonesia, Papua New Guinea, Italy, and Mexico. Fields of interest include volcanology, volcano-hazard assessment, and volcanic-risk mitigation.

OLD NEWS ITEMS

Membership Information: If your membership information has changed, please take the time to update through the AEG Website or by contacting our Chief Staff Executive Becky Roland at (303) 757-2926 x307

"Seeking Old AEG Annual Directories": If anybody has any pre-1997 AEG annual directories, please email George Freitag, History Chair at gfreitag@gri.com. George is compiling our sections history. His mailing address is: GRI Inc., 9725 SW Beaverton-Hillsdale Hwy, Beaverton, OR 97005

Receive Your Newsletter by E-Mail: PLEASE TAKE THE TIME TO SWITCH TO THE E-MAIL NEWSLETTER. This saves the Section money and simplifies the editor's job. Please send your e-mail address to or.aeg.news@cornforthconsultants.com

OREGON SECTION OFFICERS & COMMITTEE CHAIRS



Chair: Warren Krager, PSI, Inc., (503)978-4727, wkrager@aol.com

Chair-Elect: Rowland French, Northwest Geophysical Associates, Inc., (541)757-7231, rowland@nga.com



Secretary: Brent Black, Cornforth Consultants, Inc., (503)452-1100, bblack@cornforthconsultants.com

Treasurer: Mike Zimmerman, GRI, Inc., (503) 641-3478, mzimmerman@gri.com



Pat-Chair: Ruth Wilmoth, Columbia Geotechnical, (360)944-7397, cgivanc@aol.com

PSU Student Chapter

President: Eve James, evejames1@yahoo.com

Program Chairs: Julie Griswold, griswold@pdx.edu



Tim Richter, URS Corporation, Inc., (503) 948-7213, tim_richter@urscorp.com



Membership Chair: Matt Brunengo, GeoEngineers, Inc., (503) 624-9274, mbrunengo@geoengineers.com

Field Trip Chair: Dave Scofield, Portland District COE, (503) 808-4867, scofield@onemain.com

History Chair: George Freitag, GRI, Inc., (503)

641-3478, gfreitag@gri.com



Newsletter Editor: Charlie Hammond, Cornforth Consultants, Inc., (503) 452-1100, or.aeg.news@cornforthconsultants.com



Assistant Newsletter Editor: Darren Beckstrand, Cornforth Consultants, Inc., (503) 452-1100, dbecstrand@cornforthconsultants.com

Legislature Chair: position available

Continuing Education Liaison: position available

THANKS FOR SUPPORTING OREGON AEG!

Columbia Geotechnical, Inc.
Cornforth Consultants, Inc.
GeoEngineers, Inc.
Geo-Tech Explorations, Inc.

GRI, Inc.
Northwest Geophysical Assoc, Inc.
PBS Environmental

PSI, Inc.
Portland State University
Portland District COE
URS Corporation, Inc.

AEG Oregon & ASCE Geotechnical Group

-- Presents --

***Slope Stability for Transportation Systems
Fall Seminar***

Saturday, October 18, 2003

Portland, Oregon



Sculptured shotcrete facing covering rock cut along Highway US-189

Lower Provo Canyon, Utah

(Construction by DBM Contractors, Inc.)

AEG/ASCE Fall Seminar
October 18, 2003

Slope Stability for Transportation Systems

• SCHEDULE OF EVENTS •

Registration and Check-in (8:00 – 8:30 am)

Session 1: Mapping and Characterization (8:30 am – 10:00 am)

Mike Long (ODOT) – *Characterizing and Managing Statewide Landslide Risk for Public Road System*

Skip Watts (Radford University) – *Characterization of Rock Slopes*

--- Coffee Break ---

Session 2: Analysis (10:30 am – 12:00 pm)

Derek Cornforth (Landslide Technology) – *Soil Slope Stability Analysis*

Norm Norrish (Wylie Norrish) – *Overview of Rock Slope Analysis with Recent Case Histories*

Lunch Break (12:00 pm – 1:00 pm) – *Lunch provided on site*

Session 3: Mitigation (1:00 pm – 2:30 pm)

Mark Koelling (Hayward Baker) – *Use of Reticulated Micro-Piles for Soil Slope Stabilization*

Larry Pierson (Landslide Technology) – *Overview of Rockfall Mitigation Techniques*

--- Coffee Break ---

Session 4: Case Histories (3:00 pm – 4:00 pm)

James Struthers (WSDOT) – *Abernathy Creek Emergency Rockfall Mitigation (Washington State Route 4)*

Tim Pfeiffer (Foundation Engineering, Inc.) – *Evaluation and Remediation of Existing Rock Slopes in the Pacific Northwest*

Sue Bednarz (Parsons Brinckerhoff Quade & Douglas) – *Optical Televiewer Borehole Imaging as an Exploration Tool for Rock Slope Design in Provo Canyon, Utah*

Slope Stability for Transportation Systems

**Fall Seminar Sponsored by
Oregon AEG Chapter & Oregon ASCE Geotechnical Group**

This one-day seminar will focus on the characterization, analysis, and mitigation of soil and rock slopes for transportation-related projects located predominantly in the Pacific Northwest. A variety of regional experts, including representatives from transportation agencies, consultants, academia, and contractors will present topics related to current and developing practice for soil and rock slopes. The seminar will conclude with three case histories. Learn about the state-of-the-art methods to evaluate, prioritize, and mitigate both soil and rock slopes from the experts!

When: Saturday, October 18th – 8:00 AM to 4:30 PM

Where: The Oregon State Office Building
First Floor Conference Room 120
800 NE Oregon Street
Portland, Oregon
(Corner of NE 7th Avenue and NE Oregon Street)
Free parking lot in front of the building on Saturdays!

Registration Fee: \$75 pre-registration by October 10th (\$100 on site)
Students: \$35 pre-registration by October 10th (\$50 on site)
Make check out to: ASCE Geotechnical Group

Mail registration to: Mel McCracken
Treasurer ASCE Geotechnical Group
Foundation Engineering, Inc.
820 NW Cornell Avenue
Corvallis, Oregon 97330

Seminar registration fee includes presentations, lunch and break treats, and a binder including abstract and handout materials for each of the presentations.

For Additional Information Contact:

- Sue Bednarz, Parsons Brinckerhoff Quade & Douglas (503-417-9366)
- Mel McCracken, Foundation Engineering, Inc. (541-757-7645)
- Ruth Wilmoth, Columbia Geotechnical, Inc. (360-513-2691)

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REGISTRATION FORM

1. Registrant:

Name: _____

Firm/Agency: _____

Mailing Address: _____

City/State/Zip: _____

E-Mail Address: _____

Daytime Phone (Please indicate area code): _____

Affiliation:

- AEG
- ASCE
- Other

2. Seminar Fee - Send checks ONLY please, payable to ASCE GEOTECHNICAL GROUP

Enclosed is a check for (check one box):

- \$75.00 for Advanced Registration (postmarked prior to October 10, 2003).
- \$100.00 for Regular Registration
- \$35.00 for Student (full-time) Advanced Registration (postmarked prior to October 10, 2003).
- \$50.00 for Student (full-time) Regular Registration.

3. Mail Your Check and This Form To:

Mel McCracken
ASCE Geotechnical Group Treasurer
Foundation Engineering, Inc.
820 NW Cornell Avenue
Corvallis, Oregon 97330