



The Official

Newsletter

of the Oregon Section Association of Engineering Geologists

Serving Professionals in Engineering, Environmental, and Groundwater Geology

MAY 2005 SECTION MEETING

GUEST: JEFF KEATON, P.E., C.E.G., V.P. ANAHEIM AMEC EARTH & ENVIRONMENTAL, INC.

PRESENTATION: ENGINEERING GEOLOGY MAPPING IN THE INFORMATION TECHNOLOGY AGE

Observation remains the foundation of engineering geology mapping, but many aspects of observation are being supplemented and even revolutionized by information technology (IT). Data acquisition is being accomplished with the aid of pen-based computers, digital cameras, and global positioning system (GPS) receivers. Quantitative geophysical and geochemical field methods are being used to produce quantitative measures that can be contoured and/or combined with other forms of observations to construct useful derivative maps. Aerial and space-based spatial data provide base maps or targets for subsequent field observations. Geographic information system (GIS) and computer-aided drafting and design (CADD) software are being used to manipulate and display geospatial data, sometimes during field data collection. Numerical analysis of observational data, including calculated grids derived from vector data, is being used to produce useful derivative products. Challenges for engineering geology practitioners pertain to accuracy of field data; structure of database fields; uniformity of symbols, lines, patterns, and colors; and consistency of derived geospatial map products. Engineer-

ing geology maps produced with GIS tools have the potential to mislead even sophisticated users for two reasons: 1) the strikingly professional appearance of GIS maps implies precision even when uncertainties are specifically noted, and 2) field data can be collected as a series of seemingly independent observations and converted by a GIS technician into a professional-looking map without the benefit of geologic principles or the repeated application of the multiple working hypothesis. Consequently, professional discipline is needed to effectively apply modern IT to engineering geology mapping. The true power IT has is its analytical capabilities which requires engineering geologic data to be in digital format. A promising new technology is 3D Laser Scanning. Initially,

this technology was applied to preparation of as-built plans of structures, such as refineries. Opportunities also exist for engineering geology and geotechnical field applications, such as orientation and spacing of joints in rock slopes and grain-size distribution of deposits that include particles too large to analyze in the laboratory. Specialized laser equipment and high-performance computers are required to manipulate huge data sets.

BIO: Jeffrey R. Keaton is a Principal Engineering Geologist and Vice President in the Anaheim office of AMEC Earth & Environmental, Inc. His education consists of a BS degree in Geological Engineering from the University of Arizona (1971), a MS degree in Engineering

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This Month's Meeting is on Tuesday May 17

**Old Market Pub 6959 SW
Multnomah Blvd
Portland (Garden Home), OR**

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

\$13.00 dinner (\$6.60 for students)

Pizza and Salad

Call 503-639-3400, or email
<glenda.christman@amec.com>
with "AEG Reservations" in the
subject line, by 4 pm Thurs May 12.
There is a \$2.00 surcharge for those
who do not reserve by the deadline.

MESSAGE FROM THE CHAIR

I returned from the AEG mid-year board meeting (April 23-24) with a number of items to report. The organization is healthy and starting a number of initiatives including electronic submittal of articles for Environmental and Engineering Geology, stronger support for the sections, a revamped website, and an active membership drive.

The association name issue will be put to a vote of the membership, as required by the bylaws. Members (if you've paid your dues) will be asked if you want to change the name to the "Association of Environmental and Engineering Geologists" while keeping the acronym AEG. Most of our members are involved in environmental work and the dividing line is often blurred. It was the consensus that if the organization wants to continue to grow, and remain relevant to the profession, we must recognize and reach out to more of the "environmental" geologists. There was some vocal dissent, mostly from Southern

California where the AEG was conceived 42 years ago, and where more "classical engineering geology" is being practiced today.

You will also vote on the new slate of officers. With the normal progression, *David Bieber* of the Sacramento Section will move on to Past President, *Darrel Schmitz* of the Lower Mississippi Valley Section will move up to President, *Terry West* of Purdue University will move up to President Elect, and Oregon Section's own *Dorian Kuper* of Kuper Consulting will move up to Treasurer. *Mark Molinari*, presently Washington Section Chair and a geologist with URS Corp, was nominated to be the next Secretary. I think he is an excellent choice. The "geographical diversity" criteria for the selection of candidates means that in two years Oregon will be sharing the leadership with Washington. Ballots should be in the mail this month.

The Sacramento Section has petitioned to host the 2009 annual meeting in Monterey. They put

together a very attractive proposal including a plethora of fieldtrips to see the local geology. It sounds like a great site for the meeting. The Carolinas section has petitioned to host the 2010 meeting, either in Charleston, SC or Asheville, NC. The present schedule is Los Vegas 2005, Boston 2006, Universal City, CA 2007 and New Orleans 2008.

New student sections have been formed at UNLV and Mississippi State University. Several new Chapters within existing Sections have started up: the Phoenix Chapter under the Southwestern Section, the Central California Coast Chapter and the Inland Empire Chapter under the Southern California Section, and the Richmond Chapter under the Baltimore-Washington-Harrisburg Section.

Generally, it was a very up beat meeting. See you all May 17 for Jeff Keaton's presentation at the Old Market Pub.

Rowland French
AEG Oregon Section Chair

NEWS ITEMS

2005 AEG Annual Meeting, Sept. 17-25, 2005: Plan to attend the 2005 AEG Annual Meeting - "Under the Neon" in Las Vegas, Nevada, September 17 - 25! For more information log on to www.aegweb.org. Abstract deadline is May 1, 2005.

AEG OREGON CALENDAR

Sept. 17-25: 2005 AEG Annual Meeting - "Under the Neon" in Las Vegas,

THANKS FOR SUPPORTING OREGON AEG!

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

GRI, Inc.
Kuper Consulting
Northwest Geophysical Assoc, Inc.

PBS Environmental
PSI, Inc.
Portland State University
Portland District COE

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(Geotechnical) from the University of California, Los Angeles (1972), and a PhD degree in Geology from Texas A&M University (1988). He is registered as a Professional Engineer in California, Utah, Alaska, and Arizona. He is also registered as a Professional Geologist in California, Arizona, and Utah, and certified as an Engineering Geologist in California and Washington.

Keaton was employed by Dames & Moore in Los Angeles (1970-1979) and Salt Lake City (1979-1988). He was employed by Sergent, Hauskins & Beckwith (which became AGRA Earth & Environmental, and then AMEC Earth & Environmental) in Salt Lake City (1988-1996), Phoenix (1996-2001), and currently in Anaheim.

Keaton served as Chairman of the Utah Section of the Association of Engineering Geologists in 1980-1982

and was the President of AEG in 1992-1993. He was Chairman of the Engineering Geology Division of the Geological Society of America in 1989-1990. He served as Chairman of the Transportation Research Board Committee on Engineering Geology from 1991 to 1997, as Chairman of TRB Committee on Exploration and Classification of Earth Materials from 1997 to 2002, and as Chairman of TRB Subcommittee on Scour Research from 1996 to 2002. In 2002, he became the Chairman of the TRB Section housing the seven committees that deal with Geology and Properties of Earth Materials. Keaton was one of the 11 members of the TRB Task Force which produced TRB Special Report 247 Landslides: Investigation and Mitigation in 1996; Keaton was principal author of Chapter 9, Surface Observation and Geologic Mapping, and Chapter 16, Important Considerations

in Slope Design.

Keaton also is a member of American Geophysical Union, the GeoInstitute of the American Society of Civil Engineers, American Society of Mechanical Engineers, Earthquake Engineering Research Institute, Seismological Society of America, and the Society for Mining, Metallurgy, and Exploration (SME). He participates in the Accreditation Board for Engineering and Technology (ABET) through SME, making accreditation visits to undergraduate programs in geological engineering.

Keaton specializes in quantifying hazardous natural processes for use in design and risk analysis. He has written numerous articles regarding engineering geology mapping, debris flows, landslides, collapsible soils, subsidence, fault rupture, earthquake-induced liquefaction, earthquake ground motion, and case histories.

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. E-mail 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, e-mail: <or.aeg.news@cornforthconsultants.com>, phone (503) 452-1100. Electronic media is preferred. Deadline for submittal is Friday three weeks before each meeting.

Advertising: business card \$10/mo, \$100/yr; ¼ page \$30/mo, \$200/yr; ½ page \$35/mo, \$350/yr.

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

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LEGISLATIVE UPDATE

House Bill 2515 (HB 2515) has been submitted to add the words “registered geologist, registered certified specialty geologist” to Oregon Revised Statute 87.010(5). This revision would allow registered geologists to place liens under the same lien law that contractors, architects, land surveyors, and engineers use. Currently, geologists must go through small claims court or circuit court to place a lien. Small claims court can be used if the amount you are owed is less than \$5,000. Small claims court takes a lot of time, and there is no guarantee that you will get paid if you win in court. A judgment in small claims court is not an automatic lien. If you win in small claims court and the person does not pay according to the court order, then you have to file for a lien through the Court Clerk’s office. In addition, small claims court may not be able to help if the client files for bankruptcy before a judgment has been issued. Under the existing ORS 87.010(5), it only takes an

engineer or land surveyor a day or two to file a lien after the letter has been sent notifying the client that a lien will be filed if payment is not received in a timely manner.

According to attorneys we have consulted, the minimum cost to initiate a civil suit in circuit court would be \$10,000. That is just the cost to begin the legal action. The cost to complete the civil suit and obtain a lien would, in most cases, be much greater than \$10,000. Small, two-person, consulting firms cannot afford to hire an attorney to take a client to circuit court. In many cases the cost to initiate a civil suit would be greater than the amount owed. If a client owes between \$5,000 and \$10,000, there is no financially viable option for obtaining a lien to receive some level of compensation if the client files for bankruptcy.

When it comes right down to it, this is a fairness issue, plain and simple. Engineers and land surveyors have the right to place liens

while geologists do not have that right even when performing similar work. Now is the time for geologists to speak up and have our voice heard. Please contact your local representative and senator and urge them to talk to the members of the Environmental Committee to have another hearing and vote yes for this bill. The members of the Environmental Committee are Gordon Anderson (Chair), Mary Nolan (Vice chair), Bob Jenson, Diane Rosenbaum, John Lim (cosponsor), and Bill Garrad.

The link to the bill is: <http://www.leg.state.or.us/05reg/measpdf/hb2500.dir/hb2515.intro.pdf>.

The website for the Oregon Legislature where you can find the name and contact information for your representative and senator: <http://www.leg.state.or.us/>

The above has been submitted by Malia Kapilas, Pacific Hydro-Geology Inc., 18477 S. Valley Vista Rd., Mulino, OR 97042, (503) 632-5016

EMPLOYMENT OPPORTUNITIES

Environmental Engineer

Progressive, employee-owned, earth consulting firm in Portland, OR seeks hazmat environmental person with hydrogeology expertise. Position requires MS in related field and 2 to 5 years of relevant experi-

ence. Familiarity with geotechnical engineering a plus. A BA/BS will be considered with significant relevant experience. GRI (www.gri.com <<http://www.gri.com/>>) offers a great work setting and exceptional compensation package. Send letter

of interest and resume to GRI, 9725 SW Beaverton-Hillsdale Hwy, Suite 140, Portland, OR, 97005 or email to pnorgaard@gri.com <<mailto:pnorgaard@gri.com>>. An Equal Opportunity Employer.

PSU AEG STUDENT CHAPTER

2005 Officers

- Hiram Henry, President
- Nathan Smith, Vice-President
- Shaun Marcott, Secretary
- Soren Clark, Brown Bag Coordinator
- Dr. Scott Burns, Advisor

4th Annual Student Night, April 19, 2005

Many thanks go to all the presenters at the PSU Student Night. Special congratulations to the Award Winners:

1st Place (\$300), Niki Parenteau, *Biosignature formation by Cyanobacteria and Chloroflexus in the shallow deposits of a high iron thermal spring*

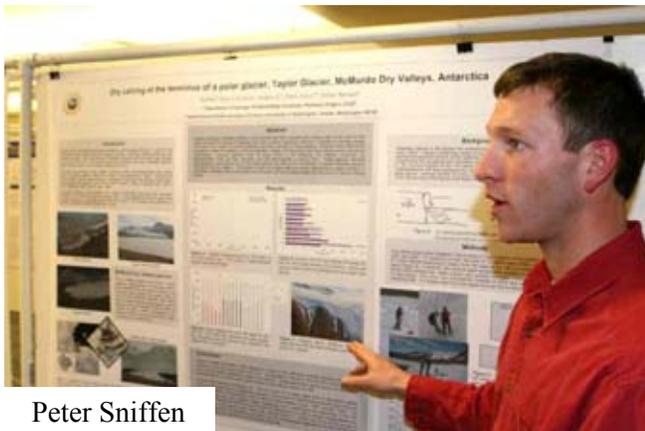
2nd Place (\$200), Peter Sniffen, *Dry calving at the terminus of a polar glacier, Taylor Glacier, McMurdo Dry Valleys, Antarctica.*

Best Undergrad (\$100), Summer Praetorius, *A Sediment Record of Bottom Currents in the North Atlantic*

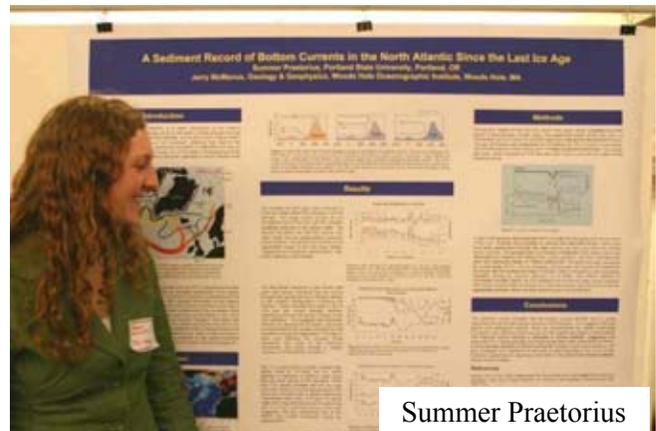
Thanks also to the judges, Christina Hulbe, Evelyn Cummings, Warren Krager, Dave Michael, Drew Harvey, and Brent Black.



Niki Parenteau



Peter Sniffen



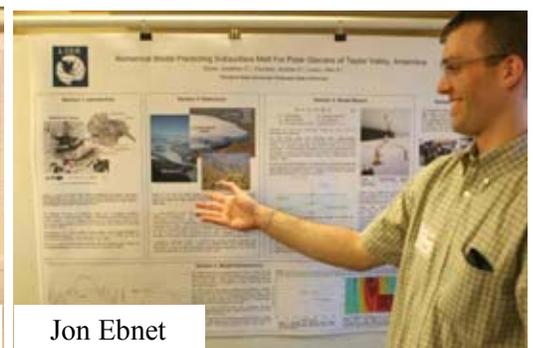
Summer Praetorius

since the Last Ice Age.

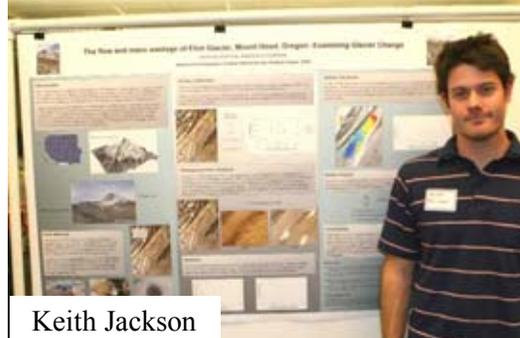
In addition 4 AEG memberships were awarded by the student chapter to: Jon Ebnet, *Numerical model predicting melt-water production for polar glaciers in Taylor Valley, McMurdo Dry Valleys, Antarctica*; Matt Hoffman, *Development of a 3-D Rendered Panoramic View of the Cascades of N'n OR*, Keith Jackson, *The flow and mass wastage of Eliot Glacier, Mount Hood, Oregon: Examining Glacier Change*; and Josh Mathisen, *Low Cost Land-slide Profiling*.



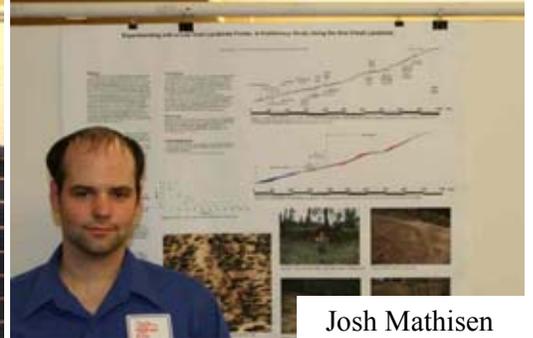
Matt Hoffman



Jon Ebnet



Keith Jackson



Josh Mathisen

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



Treasurer: Matt Brunengo, (503) 534-0414, mbrunengo@aol.com



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

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