

Serving Professionals in Engineering, Environmental,
and Ground Water Geology

OREGON SECTION

NEWSLETTER

The Official Newsletter of the Oregon Section Association of Engineering Geologists

Jan. 1999

VOLUME 99, NUMBER 01

JANUARY MEETING:

Feb. 18 - Joint mtg
Ken Stockey

Speaker: *Mavis Kent, DEQ Senior Hydrogeologist,
Northwest Regional Office Portland*

Title: *"Environmental Cleanup:
Basic Engineering Geology is Still Important"*

Date: **Thursday, January 21, 1999**

Times: 6:00 PM Social hour
7:00 PM Dinner
8:00 PM Talk

Where: *The Old Spaghetti Factory
715 SW Bancroft
Portland, OR 97201*

Located in the Johns Landing area along the Willamette River. On the east side of I-5 access off of Macadam north bound south of Ross Island Bridge meeting room is in the large banquet room on the ground floor behind the lobby

Cost: \$10

Menu: Lasagna, salad, bread, spumoni ice cream, and one nonalcoholic beverage

Reservation: Call the receptionist at David Newton and Assoc., (503) 228-7718. by noon Tuesday, January 19th. **A reservation made is a reservation paid.**
Please call to cancel if you cannot attend. Thank You!

Background on speaker:

Mavis is a senior hydrogeologist with Oregon Department of Environmental Quality, in the Northwest Region office in Portland. She has been with DEQ in the Site Response section for nearly 7 years. Prior to coming to DEQ, she was with the San Francisco Bay Regional Water Quality Control Board Toxics Cleanup Section for about 6 years. Before that she was with the Los Angeles Regional Water Quality Control Board in the Hazardous Waste Cleanup Group for four years. Before that she was at Texas A&M University for three years working on her PhD. And before that she was with L R Squier Associates for about 6 years, and with Shannon & Wilson for about 3 ½ years. She obtained a BS and an MS from Portland State University (in 1972 and 1979, respectively).

Abstract:

" Environmental Cleanup: Basic Engineering Geology is Still Important"

Mavis has been giving this talk to Scott Burns' Engineering Geology class at PSU for the last 5 or so years. This is talk, was selected for this years' Jahns Lecturer award. The talk explores the role of geology in solving environmental pollution problems and strives to make the point that even though environmental work can be tinged with regulatory and political elements, on a technical basis, problem solving is still a function of understanding the geologic and hydrogeologic systems. She will use a few case studies to illustrate how geology plays into developing a site model and cleanup rationale. The talk is intended to encourage geology students in pursuing geology as a viable career choice in today's working world.

Jahns Lecture History

By Scott Burns

Richard Jahns Distinguished Lecturer in Engineering Geology Award: This month it is a real pleasure to have Mavis Kent be our speaker. She is the newest recipient of the prestigious Richard Jahns Lecturer Award and she is making her inaugural presentation at the Oregon section meeting. She got her start here many years ago and went on to become the national president of AEG. In the ten-year history of the award she is the second person selected from Oregon (Bob Yeats of Oregon State was selected in 1995). This is a real honor for her and our section!

The award was established in 1988 in a co-sponsorship between AEG and the Engineering Geology Division of GSA. The lecturer presents a series of lectures at academic institutions in order to increase the awareness of students about careers in engineering and environmental geology. It is named after Stanford's Richard Jahns, one of America's finest engineering geology professors who passed away in the 1980's.

The selection of Mavis Kent is a first in many ways for this award. She is the first female, the first person who deals mainly with environmental geology, and the first governmental regulator. I believe that she has an excellent story to tell about how geology still is important when dealing with environmental issues. I feel bad that I will miss the meeting on the 21st when Mavis is speaking because I have to fly to Boulder, Colorado that night for an all day meeting on Friday. I am national chair of the engineering geology division of GSA, and we have a meeting of all of the division chairs to discuss issues facing each of our divisions. I will miss all of you! Please welcome Mavis with a great turnout!

Board of Geologist Examiners

Board of Geologist Examiners
726 Hawthorne Ave. NE
Salem, OR 97301
Phone: 503 362-2666
Fax: 503 362-5454
New "Web Site Address" WWW.OSBGE.ORG

Message from the Chair:

I am sorry to have missed December's meeting, but I got a very favorable report from Diane Murbach (AEG Secretary). She said "... *We had a good turnout with the holidays and all (26 total). The talk was excellent and the Mc Menamins location worked great*" I am very glad to hear we had a good December meeting. I also want to thank Curt Petersen for his talk. The speakers are the real determining factor in our local meeting successes. Thanks Curt.

This month's meeting will be very special since we have the honor of hearing the first presentation of the 1999 Jahns lecturer. Scott Burns put together this brief history of the award and Mavis' selection as the Jahns lecturer. I have included it in the newsletter for your information. We are very fortunate to have Mavis give this talk to us and to claim Mavis as an Oregon Section, Engineering Geologist (I'm sure Texas would also like to claim her! We may need to negotiate this). It is great for our section to get to hear this talk and visit with Mavis.

Next month (Thursday, February 18, 1999) we will meet jointly with ASCE at the Red Lion at Lloyd's Center. The talk will be given by Dr. Ken Stokoe from the University of Texas. We don't have the title yet but the topic will be geophysical testing for soil and material properties. These joint meetings are always very interesting and well attended. I highly recommend any and all AEG members attend this meeting.

I have received some text from Mei Mei Wang about earthquake damage and loss. I am including this information in this month's newsletter. She will speak to us in March on this topic. Mei Mei is very important member of our Oregon Section of AEG. She is presently "chair-person" of Oregon, ASCE/Geotech and has managed to be very active in both associations over the past several years. I am sure I speak for the Oregon AEG section in saying *that I really appreciated Mei Mei's professional and personal contributions to the State*. Be sure to come hear her talk in March.

My year as chair of the Oregon Section is fast slipping away (my son would say that's because time passes faster when your old). Charlie Hammond and I will be off to points east (Vicksburg, MS) to represent Oregon at the national AEG mid-year board meeting in April. Please contact either of us with any section concern or questions that you want us to take to national with us at that time. This is your association and we are your representatives, help us do a good job.

Dave Michael, Oregon Section Chair 1999

VIEWPOINT ON EARTHQUAKE LOSSES

From Yumei Wang PE
Oregon Department of Geology
and Minerals Industries

Detailed results available in Special Paper 29 from Nature of the Northwest (503-872-2750)

A recent study has improved our level of understanding of the potential damage and loss in Oregon. Two case studies were evaluated: a M8.5 Cascadia earthquake and 500-yr return interval probabilistic ground motions, which includes quakes in the entire state. A M8.5 Cascadia earthquake will injure or kill about 7,700 persons, displace some 17,300 households, wreck (i.e., unsafe to occupy and officially "red tagged") over 30,000 buildings and cause over ten billion dollars of building damage. Most of the losses are from western Oregon, where the shaking and population are concentrated.

Damage and losses have also been estimated for the 500-yr return interval probabilistic ground motions for the entire state. The 500-yr model uses about the same earthquake design level as the building code, which is 10% in 50 years. About 80,000 "red tagged" buildings and over 30 billion dollars of building losses are estimated. The top 10 counties with the highest economic losses are Multnomah, Washington, Lane, Marion, Clackamas, Coos, Jackson, Benton, Linn and Klamath. The counties expected to have the highest impact (i.e., highest loss ratios, which are losses divided by exposure and highest losses) are Multnomah, Washington, Lane, Marion, Coos, Benton, Linn and Klamath. Damage and losses from recent worldwide earthquakes have devastated communities due to the vulnerable developments in those areas. The earthquakes of Kobe, Japan (1995, M6.9); Northridge, California (1994, M6.7); and Loma Prieta, California (1989, M7.1), caused about 100, 42, and 10 billion dollars, respectively, in direct economic losses. Indirect losses, such as from long term business interruption, propel the numbers even higher.

Oregon has numerous potential earthquake sources that can produce strong ground shaking and damage to communities. Inland faults, such as the Mount Angel fault that triggered the M5.6 Scott Mills ("Spring Break") quake in 1993 and the West Klamath Lake fault zone that, during the same year, triggered the two Klamath Falls main shocks of magnitudes 5.9 and 6.0, are examples of crustal earthquake sources. About 30 and 10 million dollars in damage were inflicted by the Scotts Mills and Klamath Falls earthquakes, respectively.

Knowing that future earthquakes are inevitable, I (as an engineer for a public agency) believe that quantifying the hazard in terms that the public can relate to is necessary to improve awareness. This will also stimulate mitigation and risk reduction action (e.g., strengthening facilities and developing effective emergency response plans), and guide policy and legislation. As with any study, however, these results have uncertainties. Case in point, this study does not incorporate unreinforced masonry structures (i.e., old brick-style buildings) or tsunami inundation, both which are significant hazards and would increase the losses. These loss projections, albeit too low, make a case that Oregon can indeed shake, rattle, and break.

Short news items:

New Metro publication now available: "Landslides in the Portland, Oregon Metropolitan area resulting from the storm of February 1996: inventory map, database, and evaluation" by Scott Burns, Bill Burns, David James and Jason Hinkle of PSU.

a) To order the map and the report/database, the cost is \$20 and you can pick it up at the Data Resource Center at Metro, order it over the phone (797-1725), or order it off of the homepage on the internet: www.metro-region.org.

b) The electronic GIS database (very accurate) of all 705 landslides is almost ready. You can order it on CD for \$20 from Metro (797-1742) or can get an FTP file downloaded from the internet by calling Steve Erickson for further details (797-1595).

Update on the Oregon AEG book: Scott just talked with the publisher from Star Publications in Belmont, California, and he has said that our book, ***Environmental, Groundwater and Engineering Geology: Applications from Oregon***, has now sold half of the supply. We originally printed 500 and there are still 250 left. You can purchase it for \$79.95 locally at the Nature of Oregon bookstore, 800 NE Oregon Street in Portland or at the Portland State Bookstore on the PSU campus in Portland on 6th Avenue across from the Cheerful Tortoise Pub. If you don't have a copy, you need to purchase one and have it in your library!

Membership Chair: Tim Blackwood is the new Membership chair. Tim works for Geo-Engineers and can be reached at (503) 603-6663 at work.

Pacific Northwest Mining and Metals Conference April 11-13, 1999 in Portland at the Doubletree at the Lloyd Center. AEG will participate in this conference. We will host two sessions in environmental geology and one in aggregate mine reclamation. Our two groups combined with the GSA group of Portland State to put on a fine meeting in the spring two years ago at the same place call Dave Michael 359-7884 or David James 252-3940 if you have interest and or questions.

AEG Homepage: check it out: [http:// www.aegweb.org](http://www.aegweb.org)

ASBOG Exam: Portland State University Geology Department is now doing a review course for the ASBOG state exam. Call the department at 725-3022 for more information. The spring exam will be March 19th, 1999 and cutoff for applications is February 1, 1999. Contact Ed Graham in Salem at 503-362-2666 for more information.

Now available at Portland State: Graduate Certificates in Engineering Geology, Environmental Geology, Hydrogeology, and Hydrology. These certificates are between a BS and an MS degree. They take only 18 hours of graduate work in the subject matter and have no thesis with them. Most of the courses are in the evenings. Call Scott Burns for more information: 725-3389.

" 1999 AEG - OFFICERS "

Position	Name	Telephone		
		Daytime	Home	FAX
Chair	Dave Michael	359-7448	357-0238	357-4548
Newsletter	"			
Chair-Elect	Charlie Hammond	452-1100	274-1437	452-1528
Secretary	Diane Murbach	538-8352	538-8352	538-8353
Treasurer	Monte Murbach	228-7718	538-8352	228-7781
Past Chair	Scott Burns	725-3389	692-9618	725-3025

CALENDAR

Feb. 18, 1999: Joint meeting with ASCE Red Lion at Lloyd Center

March 18, 1999: AEG Section mtg. Yumei Wang PE "Viewpoint on Earthquake Losses"

April 15, 1999: AEG Section Mtg. "To be announced"

April 28-30, 1999: 34th Engineering Geology and Geotechnical Engineering Symposium, Utah State University, Logan, Utah

May 20, 1999: AEG Section Mtg "To be announced"

June 6-9, 1999: Rock Mechanics for Industry Symposium, Vail, Colorado

Sept. 18-19, 1999: Friends of the Pleistocene trip in the Columbia Gorge

Sept. 26 – 29, 1999: National Meeting in Salt Lake City Make plans to attend. We have had two great meetings in a row and this one will be number three!

MEMBERSHIP

For application forms for Membership in the National AEG, call Tim Blackwood the membership chair at (503) 606-6663 (w). He will also have copies at the monthly meetings. Membership is on a calendar year basis. If you are a national member, they will collect our local dues of \$10, which just covers our newsletter costs. If you would like to subscribe to the local newsletter (comes out 9 times a year) without being a national member, fill out the form below and mail to Monte Murbach. Note: the following form is only for people and organizations that wish to subscribe to the Oregon AEG Newsletter without being members of the national AEG.

APPLICATION FOR LOCAL MEMBERSHIP IN OREGON SECTION, AEG:

NAME _____

AFFILIATION: _____

MAILING ADDRESS: _____

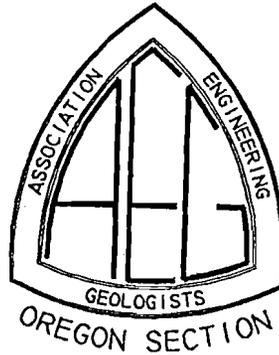
TELEPHONE: _____

Mail form and \$10 to Monte Murbach, David Newton & Associates, 1201 SW 12th. Ave. Suite 400, Portland, OR 97205.

ANNOUNCEMENT OF OUR NEXT EXCITING MEETINGS

January 21, 1999

AEG



*Dave Michael, Editor
Oregon Chapter, AEG
c/o ODF NWOA
801 Gales Creek Rd.
Forest Grove, OR 97116*



JAN 15 1999

**Charles M. Hammond
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