



The Official

OREGON SECTION AEG NEWSLETTER

<http://www.aegoregon.org>

November Meeting

Tuesday November 15th

Location: Old Market Pub

6959 SW Multnomah

Portland, OR

6:00 pm Social

7:00 pm Dinner

7:30 pm Presentation

Dinner: Pizza & Salad

\$20 Dinner (\$5 Students)

Reservations:

mwegner@cornforthconsultants.com
with "AEG Reservation" in
the subject line or 971-222-
2047 by 4pm Thur. Nov 10

There is a \$2 surcharge for
those who do not reserve by
the deadline.

Upcoming Meetings:

Dec 13th Scott Burns
Jan 17th ASCE/AEG Meeting
Feb 21st Bill Burns
Mar 20th Tom Pierson
Apr 17th Jennifer Bauer
May 15th Student Poster Night



The November Meeting is a Joint AEG/AWG Meeting with Guest Speaker Anne MacDonald: THE INTERSECTION OF TWO LINES IS SOMETIMES A PROBLEM ... AND MORE OFTEN NOW A SOLUTION. MUSINGS ON STREAMS, PIPELINES, AND HOW TO MANAGE THEIR INTERACTIONS

NOTE:

Multnomah to I-5
ramp is closed

The Department of Energy estimates that over a quarter of the nation's natural gas pipeline infrastructure is over 50 years old. A substantial portion of the 2.3 million miles of oil and gas pipeline infrastructure in the United States was built prior to implementation of the Clean Water Act in the 1970s. Pipelines constructed then were commonly routed under streams at shallow depths where landscape dynamics make them vulnerable to exposure. While relatively few pipeline stream crossings reach the point of failure, the results can be catastrophic when pipeline rupture occurs, as was seen from oil spills this summer along the Yellowstone River and last summer on the Kalamazoo River, or when three youths were killed in the 1999 Olympic Pipeline explosion in Bellingham.

The oil and gas industry is actively expanding the network of pipelines in the US, and replacing aging infrastructure and upgrading capacity. So why can we feel more confident that new and replaced lines are less vulnerable to landscape dynamics now than they were 30, 40, or 50 years ago? The answer lies in a combination of:

- increased environmental disclosures and protections associated with permitting requirements;
- heightened awareness of the cost to pipeline operations of environmental hazards; and
- advances in trenchless technologies that provide a commonly less invasive means to mitigate for those hazards.

The presentation will center on three current project case studies (Pacific Connector, Hassayampa River, and Bear River) demonstrating how these new realities are integrated into pipeline planning, design, and construction. The Pacific Connector Gas Pipeline extends 225 miles from Coos Bay, Oregon to the California border southeast of Klamath Falls. We evaluated geohazards, including channel migration, along the initial corridor to select locations that would minimize construction and operational risks. GeoEngineers is completing a systematic evaluation of the risk and water quality impacts associated with crossing over 200 stream channels along this route by conventional trench excavations. Our evaluation is designed to provide detail needed to obtain a Section 401 Water Quality Certification from Oregon Department of Environmental Quality (DEQ). DEQ is concerned with the risk to channel stability and riparian habitat and water quality benefits. Beginning with office analyses and geographic information system-based evaluation of geology, soils, LiDAR and conventional topography, hydrology, and vegetation, GeoEngineers staff used a targeted field investigation of 65 sites to "ground truth" the office analysis and collect limited additional data for water quality analyses. These new data, coupled with prior scour analyses for selected stream crossings, support the risk analysis and the evaluation of the cumulative impact of pipeline construction and operations-phase vegetation management on water temperature, turbidity, nutrients, and hyporheic exchange.

GeoEngineers is also currently evaluating channel dynamics on the Hassayampa River in Arizona and the Bear River in Idaho to develop design parameters for horizontal directionally drilled replacements of pipeline segments that are either exposed or at the risk of exposure. The presentation will describe the usefulness and limitations of traditional channel response and hydraulic analyses for supporting pipeline stream crossing designs.



Pipeline rupture and explosion related to channel avulsion.

*"Keen observation is at
least as necessary as
penetrating analysis"*

Karl Terzaghi



Bio: Anne MacDonald, CEG

Anne MacDonald, CEG, is a senior geomorphologist at GeoEngineers, Inc. with over 30 years of experience analyzing the landscape around her. She concentrates on: enhancement or restoration of terrestrial and aquatic freshwater ecosystems; contaminant transport; erosion and sedimentation-related impact assessment of land use; and natural resource damage assessment under federal and state Superfund laws and the Clean Water Act. Over her career, Anne has been engaged in strategies to balance infrastructure development with river channel processes and associated habitats. She is currently managing the analysis of channel stability risk and potential water quality impacts for the 225-mile long Pacific Connector Gas Pipeline. She has evaluated remedial measures and their impacts with respect to exposed natural gas pipelines supplying the San Francisco Bay Area, analyzed channel process related to a natural gas pipeline failure across the Salt River in Arizona, and assisted the USFWS in developing a pipeline risk analysis tool. Anne is an experienced field scientist, having collected and interpreted site-specific data on soil, sediment, surface water, groundwater, and vegetation at sites nationwide from long-term assignments in the Pacific Northwest, the Colorado Front Range, southern Indiana, and Mississippi. She is a past president of River Restoration Northwest and a past member of the board of directors for the Oregon Association of Clean Water Agencies. She has also been the Washington section chair, Membership Committee Chair, and representative to the AGI Environmental Geosciences Committee for AEG.



November Meeting Special Treat: Cynthia L. Hovind from Terra Dolce Consultants, Inc., Has Graciously Offered to Sponsor the Bar

Cynthia L. Hovind, PE GE, is the principal Geotechnical Engineer and owner of Terra Dolce Consultants, Inc. in Portland, Oregon. In 1977, Cynthia started studying geology at Santa Barbara City College and later transferred to the University of California, Santa Barbara, where she received her Bachelor of Arts in Geology in 1984. After finishing USCB, Cynthia moved to Alaska, where she worked for Anadrill Schlumberger on several exploratory drill rigs on the North Slope of Alaska. In 1987, Cynthia moved to Pullman, Washington to study for her Master of Science Degree in Geotechnical Engineering at Washington State University. In 1990, Cynthia moved to Portland where she worked for EMCON, Newton Consultants, and AMEC, before starting Terra Dolce Consultants, Inc. in 2002. Cynthia is excited to sponsor the joint meeting of AEG and AWG to promote awareness of women in the geoscience fields.

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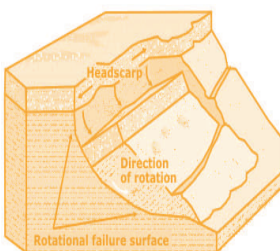
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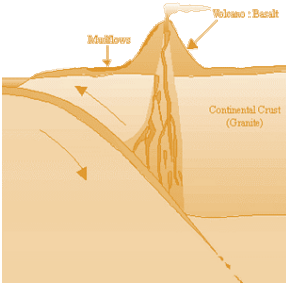
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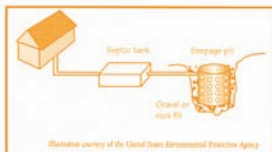


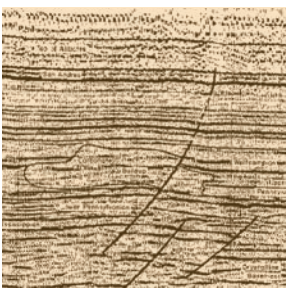
Illustration courtesy of the United States Environmental Protection Agency
Schematic of a Seepage Pit (Dry Well)

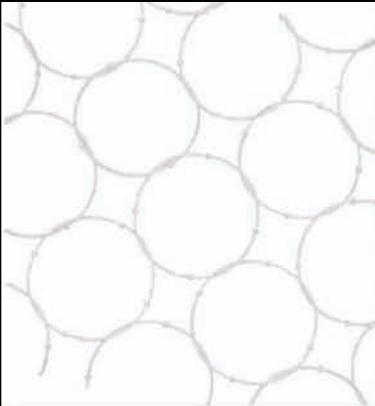
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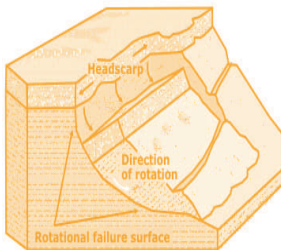
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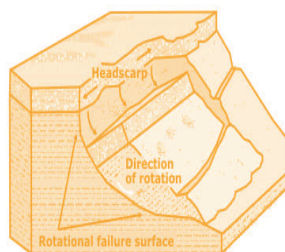
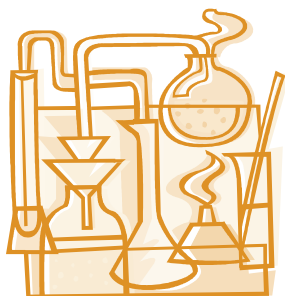
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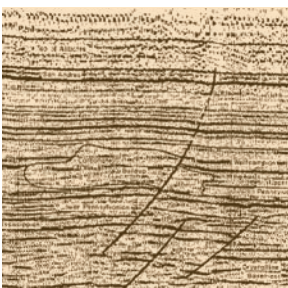
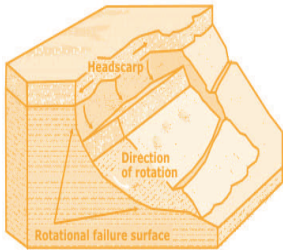
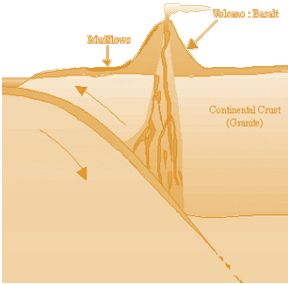
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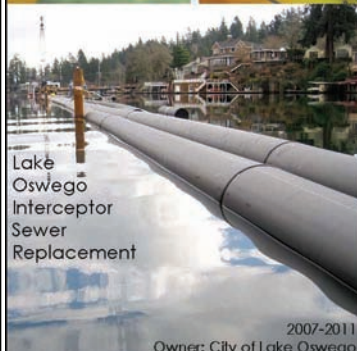
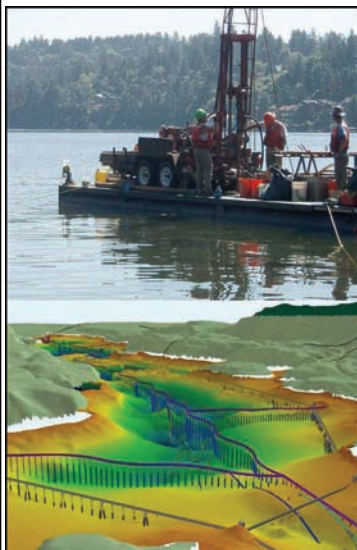
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Elwha River Restoration Project

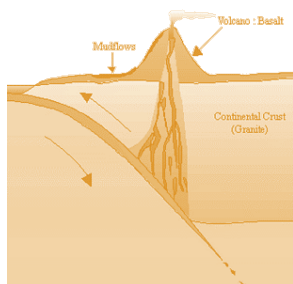
Dam removal has begun on the Elwha River, the largest dam removal project in U.S. history that will reopen more than 70 miles of pristine spawning and rearing habitat. In mid-September 2011, contractors started the three-year process of simultaneously removing the Elwha and Glines Canyon dams in order to restore a free-flowing river.

Pictures and slideshows of the project may be found at:

<http://www.video-monitoring.com/construction/olympic/js.htm>

Congratulations Scott Burns!

Oregon AEG member Scott Burns, PhD, RG, CEG, has been named the 2011-2012 Richard H. Jahns Distinguished Lecturer in Engineering Geology. Dr. Burns is a Professor of Geology at Portland State University where he specializes in engineering and environmental geology, geomorphology, soils, Quaternary geology, and terroir. Please visit <http://www.aegweb.org/i4a/pages/index.cfm?pageid=5541> for more information about the Jahns Lecturer and Dr. Burns.



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Message from the Chair

Hello AEG members. The fall season has come and seems to be passing quickly. The Oregon Section Board has been busy working on goals and objectives that we'd like to accomplish this year. Part of our objectives were to broaden our relationships with other geologically focused groups, and we will be hosting a joint meeting with the local chapter of the Association for Women Geoscientists (AWG), and Anne McDonald of GeoEngineers will be presenting on behalf of AWG, and I would like to thank Cindy Hovind of Terra Dolce Consultants for sponsoring the bar at this meeting.

Also, in large part due to support from the vendors that advertise in this newsletter, the Board has approved a \$1000 award to help send a student to the annual meeting in Salt Lake City next year. The award will be based on a several criteria, including meeting attendance (keep your receipts!), entering a poster for student night, working within the geologic community (e.g. research assistant, helping DOGAMI map faults, etc.), and presenting at the national meeting. AEG offers free registration for students who volunteer at the national meeting too. Between these two opportunities, a student could attend the national meeting for little to no cost. The Board feels that this would provide an excellent forum for a student to be exposed to a national platform and to interact with geologic professionals from around the country. Additional scholarship opportunities are available from AEG and the AEG Foundation to those students who present at the annual meeting. I encourage any interested students to inquire about this opportunity.

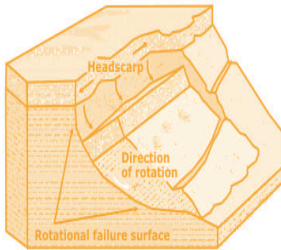
I am looking forward to next month's meeting as well. Dr. Scott Burns has been named the 2011-2012 Richard H. Jahns Distinguished Lecturer in Engineering Geology. Scott tirelessly devotes his energy towards the advancement of geology from local to international efforts and it is always a pleasure to sit in on his lectures.

I look forward to seeing you at this month's meeting.

Sincerely,

Kevin Schleh, R.G., C.E.G.

AEG Oregon Section Chair



Message from the Student and Young Life Support Committee of AEG

Help Students! Help AEG!

Are you trying to **increase student involvement** with your Section/Chapter? Have you been looking for a way to reach out to students? Are the costs or lack of ideas standing in your way? Well, SYPSC wants to help you! The Student and Young Professional Support Committee (SYPSC) can help you – why not try the **Visiting Professionals Program (VPP)**?

The objective of the VPP is to provide college students with first-hand information on what life is like for environmental and engineering geologists. Through this volunteer program, you (as individuals or a group) can visit college geology departments – make presentations on case histories, or host a career Question & Answer session, or facilitate a field methods workshop, or create your own activity! This is a fantastic way to spread the word about the profession and AEG, and have a great time doing it! A number of AEG Sections have participated in the VPP Program, including the Carolinas Section and Washington Section, reaching out to students from coast to coast.

The SYPSC **offers funding** to reimburse you for your travel and related activity expenses. We are also able to assist you with finding contact information for the college or university you wish to visit and help you with ideas for activities.

Or, you're searching for a way to **help students** but there isn't a college or university nearby? Well, SYPSC can help you with that too, we are always looking for volunteers! The SYPSC works on programs that help undergrads and graduate students learn about AEG, and younger professional members make the transition from student to professional. The time commitment is very reasonable, one-hour monthly conference calls and some contributions of your time and energy towards committee action items. That's it! And you'll help make a big difference for students and young professionals in AEG.

Please contact Serin Duplantis (serin.duplantis@gmail.com) or Nichole Wendlandt (nwendlandt@gfnet.com), SYPSC Co-Chairs, for more information or to join!



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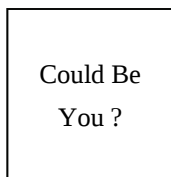
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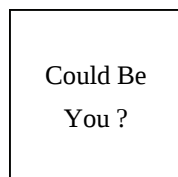
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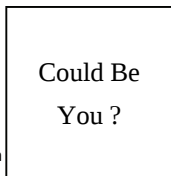
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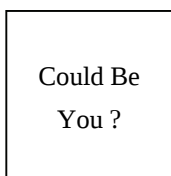
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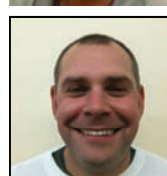
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The Oregon Section is also on the web at <http://www.aegoregon.org>
National AEG webpage: <http://aegweb.org>

The Oregon Section Newsletter

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