OREGON SECTION OF THE ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

September 2009

Volume 10, Number 1

The Official

OREGON SECTION AEG NEWSLETTER

The September Meetings Guest Speaker is Aimee Lavarnway, David Higgins, and Gary Peterson —Meet LOIS, Lake Oswego's Unique Interceptor Sewer Project

September Meeting Details

Date: Wed. September 16th

Location: Lucky Lab

7675 SW Capitol Hwy

Portland, OR

6:00 pm Social

7:00 pm Dinner

8:00 pm Presentation

Dinner: Pizza & Salad

$15 Dinner ($5 Students)

NOTE: Wednesday Meeting

NOTE: New Lab in Multnomah Village

Reservations: mwegner@cornforthconsultants.com **with "AEG Reservation" in the subject line or 971-222-2047 by 4pm Sept. 10th.**

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

Upcoming Meetings:

10/20 Jeff Conaway, USGS

The City of Lake Oswego has begun construction of an in-lake replacement for the aged and deficient Lake Oswego Interceptor Sewer (LOIS). Brown & Caldwell, design team leader, is responsible for design of the new system. Shannon & Wilson, Inc. is the geotechnical consultant and has supported the design team through predesign, final design, and, currently, construction.

The LOIS project involves replacement of some 20,000 feet of main line sewer through Oswego Lake that is under capacity and seismically deficient. The pipeline invert lies at depths of 14 to 22 feet below normal lake levels. The new LOIS runs generally down the lake center on a sinusoidal wave pattern. Laterals from both shores join the interceptor at manholes in the lake. The new LOIS system includes about 6,300 feet of pile-supported pipeline in shallower portions of the lake, 9,300 feet of buoyant pipeline in the deep lake areas, 6,100 feet of at-grade or buried pipeline, and 6 buoyant manholes. The buoyant sections will be tethered to drilled rock anchors currently under construction. Challenges include design and construction to meet a 100-year design life, a very flat grade with only 7 feet of drop in 10,000 linear feet, and limited access and difficult logistics for a major project on a privately owned lake.

During the Missoula Floods, the Oswego Gap through the Tualatin West Hills was one of two channels that passed floodwaters to the Willamette Valley. Now cut off from any substantial source of flow, the geology of the Oswego Lake tells a fascinating story of the Missoula Flood history through its intensely sculpted bedrock basin, massive flood-deposited delta and fine-grained flood backwash deposits. Since the last great flood scoured the basin, the relatively stagnant lake has accumulated thick organic deposits.

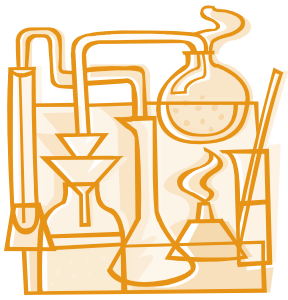
The LOIS discussion will include explorations, interpretations, and design and will end with photographs of current construction, including deep ground anchors and pipe piles.

CREW: Tsunami Evacuation Building Workshop

On behalf of the Cascadia Region Earthquake Workgroup (CREW), we would like to invite you to tsunami evacuation building workshop. This workshop will bring together the many diverse groups interested in increasing tsunami safety on the Oregon coast. It will be held in **Cannon Beach and Portland, Oregon on September 28 & 29**. Additional information can be obtained at www.crew.org. A 10 minute video discussing tsunami evacuation buildings is at: http://real4.state.or.us:8080/ramgen/das/7-30-09_Tsunami-Risk-Manage.rmvb.

Preliminary design concepts for a new Cannon Beach City Hall building that would serve as a public tsunami evacuation building will be presented by: Jay Raskin, Ecola Architects, Co-leader and architect; Yumei Wang, DOGAMI, Co-leader and risk engineer; Harry Yeh, Coastal and Ocean Engineering, OSU; Tsunami expert; Kent Yu, Degenkolb, Structural Engineer, structural design; Javier Moncada, Berger Abam, engineer, wave deflection structures; Marcy Boyer, Chinook Geoservices, geotechnical engineer; Tim Fiez, Gartrell Group, software architect, tsunami evacuation modeling.

Space is limited so please register early at **www.crew.org**



Bios: Gary Peterson, David Higgins, and Aimee Lavarnway

Gary Peterson, CEG, has more than 31 years of experience in applied engineering geology and project management, primarily in the Pacific Northwest. Testimony to his success in major project implementation includes his lead roles for two projects that won the "Engineering Excellence - Oregon Project of the Year" award bestowed by the American Council of Engineering Companies, Oregon (ACEC). Gary takes pride in these accomplishments, and believes they represent the excellence that can be achieved when engineering and geology are advanced together to solve a complex problem. For the LOIS project, Gary has been Principal-in-Charge, responsible for investigations, design, and construction services. Gary is a long term Oregon section AEG member, and currently manages Shannon & Wilson's Lake Oswego office.

David Higgins, CEG, has over ten years of engineering geology experience in Oregon. He has completed well over 100 geotechnical investigations and geologic hazard reconnaissance. David specializes in geologic site characterization, including planning and executing large exploration programs and instrumentation projects. He also manages rock slope design and landslide mitigation projects, and quarry development services. Dave has developed an exceptional knowledge of local geologic conditions and their application to large civil engineering projects. Dave planned, executed and managed much of the overwater explorations, as well as current construction activities on the LOIS project. He is a graduate of Kutztown University of Pennsylvania.

Aimee Lavarnway, GIT / EIT, is a member of the engineering staff with more than four years of geotechnical experience. Engineering analyses, as well as the associated field investigations and construction support, are supported by Aimee for a variety of clients and market sectors. She is experienced in major water/wastewater systems, educational facilities, and transportation projects. Aimee has been actively involved with the field investigation, geologic, and design aspects of the LOIS project since joining Shannon & Wilson in October 2007. She is a graduate of the University of Notre Dame and Lafayette College.

OMSI

SCIENCE PUB

OMSI Science Pub: —Serial Crimes of Subduction: Giant Earthquakes and Tsunamis in Oregon's Past and Future

On a calm night in the year 1700, a tsunami ran ashore in Japan without advance warning from an earthquake felt there. Samurai, merchants, and peasants wrote of the mystery, which would remain unsolved for nearly three centuries. Today there is little doubt that the tsunami came from our front yard. It originated during a giant earthquake at the Cascadia subduction zone, an active fault that slants beneath southern British Columbia, Washington, Oregon, and northern California. Today, this region awaits the next great Cascadia earthquake and the tsunami it will spawn. The next great Cascadia earthquake will shake large parts of the Pacific Northwest. Its tsunami will likely take more lives than the shaking, which in Oregon alone may damage over 1,000 schools and emergency facilities. Afterwards, here in Portland, rebuilding and economic recovery will depend largely on the seismic resilience of electrical, oil, and gas facilities along the lower Willamette River. Come to this Science Pub to find out more about our earthquakes and tsunamis, just how much risk we're at, and what is being done to prepare.

Mission Theater & Pub

Brian Atwater is a U.S. Geological Survey geologist based at the University of Washington. He is lead author of The Orphan Tsunami of 1700 which lays out North American and Japanese clues to the 1700 Cascadia earthquake. His current research on earthquakes and tsunamis focuses on Indonesia and the Caribbean.

Yumei Wang is a geotechnical engineer at the Oregon Department of Geology and Mineral Industries (DOGAMI) and seeks to reduce future losses from earthquakes, landslides, and tsunamis. She made the nation's first statewide estimates of future earthquake damage , and her influence on public policies includes improvements to the seismic safety of schools and the reliability of energy facilities.

Tuesday October 20, 2009, Mission Theater & Pub, 16204 NW Glisan, Portland, OR

7:00 p.m. to 9:00 p.m. Doors open at 5:00 p.m.
Come early for food, drink, and to get a seat!

http://www.omsi.edu/sciencepubmission

2009 Geological Society of America Annual Meeting

October 18-21, 2009 at the Oregon Convention Center. Registration is now open at http://www.geosociety.org/meetings/2009/reg.htm

160 topical sessions are proposed and abstracts have been submitted at a record breaking number. It presents an excellent opportunity for the AEG community. Below is a list of the sessions in the engineering geology discipline that maybe of interest. http://www.geosociety.org/meetings/2009/techprog.htm

T1. Geological Mapping: Key to Successful Management of Water and Land Resources

T9. Climate Signals in Rivers and Streams

T13. Hydrogeomorphic and Ecohydrologic Consequences of Extraordinary Sediment Loading

T28. Investigating and Characterizing Groundwater Contaminant Fate and Transport in Deep Unconsolidated River Valley Deposits

T29. Recent Advances in the Conceptualization, Characterization, and Interpretation of Fluid Movement and Transport Dynamics in Fractured and Karst Aquifers

T105. Interactions and Interdependencies of Academic and Applied Geosciences: Advantages, Challenges, and Ways Forward

T142. Applications of Landslide Inventories: Creating Hazard Maps and Guiding Policy

T143. Debris Flows

T144. Landslides in the Pacific Northwest: Advances in Research and Practice

T145. Use of High-Resolution Lidar DEMs for Geologic, Geomorphic and Geohazards Mapping

There is also roughly 40 field trips, many of which have environmental and engineering topics. http://www.geosociety.org/meetings/2009/fieldTrips.htm

There are roughly 25 short courses, many of which offer CEUs. http://www.geosociety.org/meetings/2009/courses.htm

There are also many opportunities for student volunteers, several of which can help with registration fees, etc. http://www.geosociety.org/meetings/2009/stuVolunteers.htm

Message From The Chair

Welcome back from summer break. It has been a busy summer. I just got back from a summer of travel across the country for dam safety screening and haven't time to find out what is happening locally. I am hoping to share some of my observations this year. From what I experienced, I believe the future for engineering geology in the dam safety/levee arena is bright and there will be new tools coming to help in the assessing geo-risks.

Election results are in! Welcome to Robin Johnson, our new Section Treasurer and the latest addition to our Section Board. And thanks to all the Section Officers and Committee Chairs who will continue to serve our Section. Our Section would not be what it is without these volunteers! See the back page for a list of these folks. Note that we have some current vacancies and that we will also start looking for our next Treasurer in the spring. If you have an interest in serving as a Section Officer or Committee Chair, please let me know.

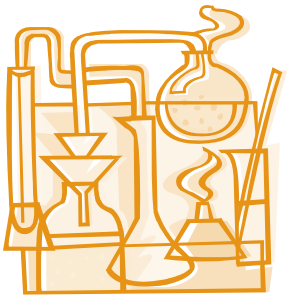
This month AEG is having the annual meeting at Lake Tahoe and next month Geological Society of America is having the annual meeting in Portland. Hope that some of you will participate by presenting papers and moderating sessions and represent Oregon Section at these meetings.

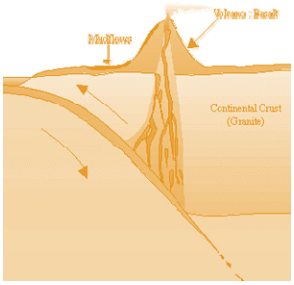
AEG Oregon Section Chair

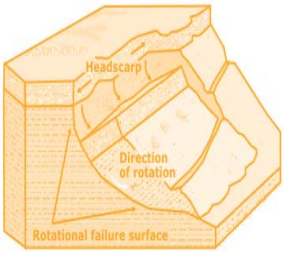
Dave Scofield

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

Karl Terzaghi







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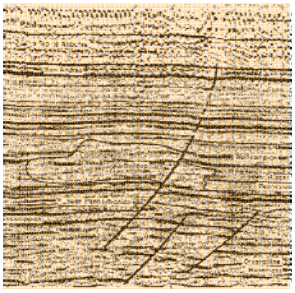

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The Oregon Section is also on the web at http://www.aegoregon.org
National AEG webpage: http://aegweb.org

The Oregon Section Newsletter

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: Bill Burns, OR Section AEG Newsletter Editor, Oregon Department of Geology, 800 NE Oregon Street, Portland, OR 97232, e-mail: <bill.burns@dogami.state.or.us>, phone (971) 673-1555. Electronic media is preferred. Deadline for submittal is Friday three weeks before each meeting. Advertising: business card $100/yr; ¼ page $200/yr; ½ page $350/yr. Please notify Bill if you have a change to your email or mailing address.

The Association of Engineering Geologists (AEG) contributes to its members' professional success and the public welfare by providing leadership, advocacy, and applied research in environmental and engineering geology. AEG's values are based on the belief that its members have a responsibility to assume stewardship over their fields of expertise. AEG is the acknowledged international leader in environmental and engineering geology, and is greatly respected for its stewardship of the profession.