Upcoming Meetings:
February 15 - Yumei Wang, Leon Kempner, Allison Pyrch
March 2 - Bill Haneberg
March 15 - Rob Witter
April 20 - Bruce Hilton
May 10 - Student Night

January Meeting Details

Date: Tues. January 18th
Location: McMenamins Kennedy School
5736 NE 33rd Ave, Portland
6:00 pm Social
6:45 pm Dinner
7:30 pm Presentation
Dinner: Lasagna/Ravioli
$35 Dinner ($15 Students)

Reservations:
mwegner@cornforthconsultants.com
with “AEG Reservation” in the subject line or 971-222-2047 by 4pm Thurs. Jan. 13

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

January Meeting Details

The January Meeting is the Joint AEG/ASCE and the Guest Speakers are Charlie Hammond and George Machan from Landslide Technology, a division of Cornforth Consultants, Inc. —Topic: West Africa Landslides

Landslides were encountered during expansion of a natural gas plant off the West Coast of Africa. Construction of the primary gas delivery system, between the offshore gas field and the fractionation plant on an island, was temporarily delayed when ancient landslides reactivated and impacted the foundations for the delivery pipe-racks as well as the adjacent slopes. Due to the progressing construction, fast-track geotechnical services were needed to mitigate slope stability problems.

Landslide Technology came on board and assisted by directing specific needs in the subsurface investigation and performing mitigation design and construction services. Investigation at the remote jungle site included land and aerial reconnaissance, evaluation of existing and new geotechnical data, ring-shear strength testing, planning supplemental explorations, instrumentation monitoring, landslide modeling and stability analyses.

The plant is situated on a marine terrace of a volcanic island, and with dense jungle that had masked the ancient landslides, which formed the bluff above the island’s shoreline. We were able to quickly recognize the geologic origin and mechanics of the landslides, which allowed mitigation design to be conceptualized quickly and confidently. Multi-discipline group sessions were held at company headquarters and onsite to address mitigation options and select those that helped keep overall plant construction on schedule. The alignment of the primary pipelines was modified to fit the landslide mitigation measures and to reduce the length of pipeline on the active landslide. While modified pipeline components were being manufactured and shipped from the U.S., the onsite earthwork team faced significant challenges to reshape the slope and stop movements within the two months available. Most of the mitigation utilized materials and equipment that were available onsite, on the island and from nearby West African countries. Retaining wall construction was accelerated using prefabricated wire mats shipped from the U.S. An international dewatering firm (Jensen Drilling of Eugene) installed horizontal drains and vertical pumped wells. We provided construction management of mitigation measures and prepared a manual for monitoring and maintenance. The construction of the gas delivery/reinjection pipeline was successfully completed and placed into service. Long-term geotechnical monitoring continues at present, and periodic visits to the island are performed to address maintenance needs and landslide slope stability issues for phased plant expansions.
“Keen observation is at least as necessary as penetrating analysis”

Karl Terzaghi

Bio: Charlie Hammond, CEG

Charlie is a senior associate at Cornforth Consultants, Inc., with 23 years of engineering geology experience, which includes landslide and rockfall hazards, seismic hazards, soil and rock material sources, carbon sequestration options, groundwater dewatering, soil and rock tunneling, dam safety issues, and expert opinions and testimony. Mr. Hammond has a BA degree in Geology from Whitman College and a MS Degree in Geology from New Mexico Institute of Mining and Technology. He is a past chair of the Oregon Section of the Association of Environmental and Engineering Geologist.

Bio: George Machan, PE

George is a senior associate at Cornforth Consultants, Inc., with 35 years of geotechnical engineering experience, which includes landslide repairs, drainage systems, cut slopes, highway embankments in compressible floodplains and over mountainous terrain, retaining structures, foundations, tunnels, rock slopes and rockfall protection methods. He has also provided peer reviews, construction troubleshooting, forensic studies and expert opinions/testimony. Mr. Machan has a BS degree in Civil Engineering from University of Connecticut and a MS degree in Civil Engineering (Geotechnical) from Purdue University. He is a past chair of ASCE Geotechnical Engineering Group Portland, and is a member of national committees overseeing geotechnical research and conferences (National Academy of Sciences and Transportation Research Board).

Message from the Chair

Happy New Year!

I hope 2010 was a prosperous year for everyone and if not the most prosperous then here is to a prosperous 2011.

This month's meeting is the joint meeting between AEG and ASCE and it is our turn to host. Please join us at the McMenamins Kennedy School while a couple familiar faces present to both groups: Charlie Hammond and George Machan. We look forward to hearing all about landslides - in AFRICA!

Just a reminder that we have a busy second half of this year's AEG season. We will be having two meetings in March in order to accommodate the Jahn's Lecturer schedule. Please see the newsletter for dates.

I look forward to seeing you at the Kennedy School.

Lisa Glonek
Oregon Section Chair
Job Opportunity: Oregon Department of Forestry

There is an employment opportunity for a Natural Resource Specialist 4 position located in Forest Grove. Natural Resource Specialist 4 (Geotechnical Specialist) $4,286.00 - $6,277.00 Monthly

All current employment opportunities can be found at www.oregonjobs.org. Please pay special attention to the Application Instructions in the announcement to ensure your application materials are submitted correctly.

Portland State University Winter Classes

Below is a list of courses AEG members might be interested in taking. If anyone has questions, please call Scott Burns (503-725-3389) or email burnss@pdx.edu. Most of these courses are offered at the grad level (500) and undergrad level (400 numbers and cheaper)

<table>
<thead>
<tr>
<th>Number</th>
<th>Course</th>
<th>Credits</th>
<th>Instructor</th>
<th>When</th>
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<tr>
<td>G510</td>
<td>Landslide Analysis</td>
<td>4</td>
<td>Burns</td>
<td>MW 16:40-18:30</td>
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<td>G510</td>
<td>GIS programming</td>
<td>4</td>
<td>Percy</td>
<td>TuTh 16:00-17:50</td>
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<tr>
<td>G543</td>
<td>Groundwater Geology</td>
<td>4</td>
<td>Perkins</td>
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<td>Geog 507</td>
<td>Fluvial Geomorphology</td>
<td>4</td>
<td>Lafrenz</td>
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<td>Bosworth</td>
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<td>Geog 592</td>
<td>GIS Advanced</td>
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<td>Duh</td>
<td>M 15:30-21:30</td>
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<td>CE 510</td>
<td>Aquatic Chemistry</td>
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<td>Pankow</td>
<td>TuTh 14:00-15:50</td>
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<td>CE 542</td>
<td>In Situ Soil Testing</td>
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<td>Adv. Shallow Found.</td>
<td>4</td>
<td>Smith</td>
<td>MW 16:00-17:50</td>
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<td>CE 568</td>
<td>Soil &amp; Groundwater Res</td>
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<td>Johnson</td>
<td>MW 14:00-15:50</td>
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<td>CE 581</td>
<td>Columbia River System</td>
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<td>Jay</td>
<td>Tu 16:40-18:30</td>
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“Keen observation is at least as necessary as penetrating analysis”

Karl Terzaghi
Western States Soil Conservation, Inc.

There is no limit to the depths we will go

Geotechnical and Environmental Drilling Services
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<tr>
<th>Position</th>
<th>Name</th>
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<td>Chair</td>
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National AEG webpage: [http://aegweb.org](http://aegweb.org)

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# The Oregon Section Newsletter

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