



The Official

# OREGON SECTION AEG NEWSLETTER

## 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

\$35Dinner (\$15 Students)

### Reservations:

[mwegner@cornforthconsultants.com](mailto:mwegner@cornforthconsultants.com)  
with "AEG Reservation" in  
the subject line or 971-222-  
2047 by 4pm Thur. Jan. 13

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

### 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



## 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, ground-water 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!

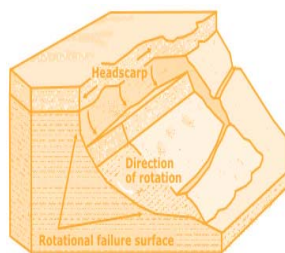
I hope 2010 was a prosperous year for everyone and if not the most prosperous then here is to a prosperous 2011.

This month's meeting is the joint meeting between AEG and ASCE and it is our turn to host. Please join us at the McMenamens 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



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*Karl Terzaghi*

## 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

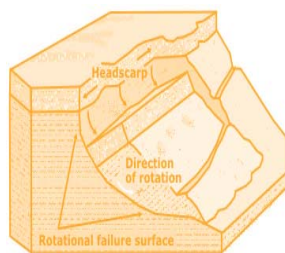
All current employment opportunities can be found at [www.oregonjobs.org](http://www.oregonjobs.org). Please pay special attention to the Application Instructions in the announcement to ensure your application materials are submitted correctly.



## 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](mailto:burnss@pdx.edu) . Most of these courses are offered at the grad level (500) and undergrad level (400 numbers and cheaper)

Number	Course	Credits	Instructor	When	Room
G510	Landslide Analysis	4	Burns	MW 16:40-18:30	CH S-17
G510	GIS programming	4	Percy	TuTh 16:00-17:50	CH 1
G543	Groundwater Geology	4	Perkins	TuTh 16:40-18:30	CH 69
Geog 507	Fluvial Geomorphology	4	Lafrenz	MW 12:00-13:50	CH 409
Geog 588	GIS Introduction	4	Bosworth	TuTh 16:40-18:30	CH 413
Geog 592	GIS Advanced	4	Duh	M 15:30-21:30	CH 413
CE 510	Aquatic Chemistry	4	Pankow	TuTh 14:00-15:50	CIN 90
CE 542	In Situ Soil Testing	4	Smith	MW 12:00-13:50	EB 310
CE 544	Adv. Shallow Found.	4	Smith	MW 16:00-17:50	EB 310
CE 568	Soil & Groundwater Res	4	Johnson	MW 14:00-15:50	CLY 202
CE 581	Columbia River System	2	Jay	Tu 16:40-18:30	EB 103





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*Karl Terzaghi*



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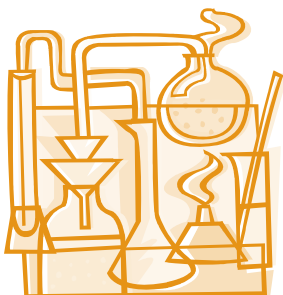
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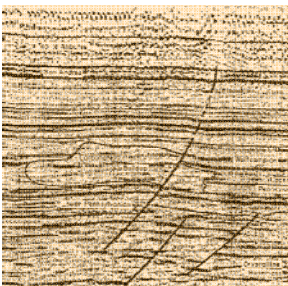
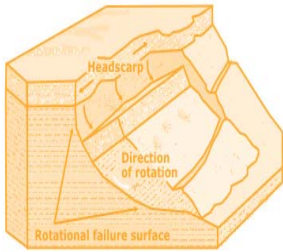
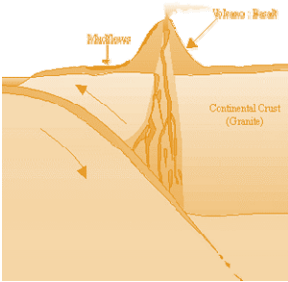
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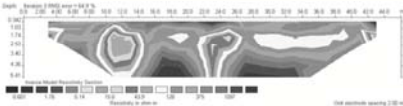
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WATER WELLS  
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Scale: 1:10000  
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## Section Officers & Committee Chairs



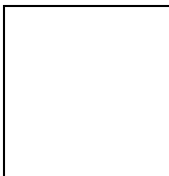
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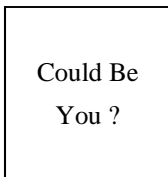
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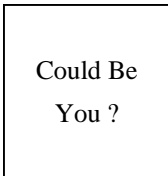
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Newsletter Editor:  
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DOGAMI  
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Cornforth Consultants  
dbeckstran-  
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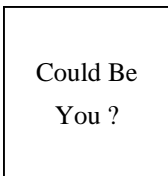
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National AEG webpage: <http://aegweb.org>

## 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.

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