OREGON SECTION OF THE ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

January 2015

Volume 15, Number 5

The Official

OREGON SECTION AEG NEWSLETTER

http://www.aegoregon.org

January Meeting Details

Tuesday, January 20th

Location: Ernesto's
8544 SW Apple Way
Portland, Oregon

6:00 pm Social

7:00 pm Dinner

8:00 pm Presentation

Dinner: Pasta & Salad

$30 Dinner
Students FREE with RSVP
($5 if no RSVP)

Reservations:
mwegner@cornforthconsultants.com with "AEG Reservation" in the subject line or 971-222-2047 by 4pm Thur. Jan. 15

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

Upcoming Meetings:

Feb	TBD	TBD
Mar	17th	Scott Wallace
Apr	21st	Brian McNamara
May	20th	Student Poster Night

Joint AEG/ASCE Meeting

The Panama Canal: Where American Geotechnical Engineering and Engineering Geology Began 100 Years Ago

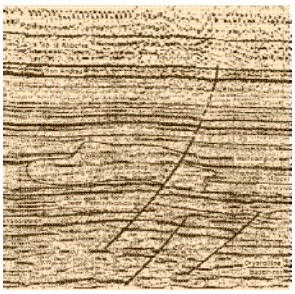
Guest Speaker: Dr. J. David Rogers

PLEASE NOTE MEETING LOCATION

When the United States took over title of the French canal franchise in Panama in 1903 they approached the project with vigor and confidence, treating it as an enormous railroad engineering project. From the outset the Americans employed third party oversight and a knack for innovate solutions on a broad number of challenges which, like the French, they did not foresee. In 1906-07 the project was redesigned to employ a series of locks to lift ships 85 feet and transit across man-made Gatun Lake, with a projected excavation volume of 54 million cubic yards and a cost of just under $140 million.

In 1909 slope failures began plaguing the project with increasing frequency, hastening the dispatch of a geologist by the U.S. Geological Survey, who remained on the project for the next four years. As the cut slopes approached a depth of 500 feet landslides began plaguing the project, bringing it to a complete standstill in 1913. The canal project ended up costing just over $375 million, as well as the lives of about 6,000 workers, including 300 Americans. The Americans were obliged to excavate 239 million cubic yards of material, about 444% more than estimated in early 1906.

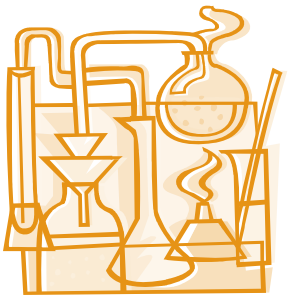
The Panama Canal opened just as the First World War erupted in August 1914. The canal was underutilized and plagued with closures by landslides throughout its first quarter century of operation. In 1916 President Woodrow Wilson asked the National Academy of Sciences to undertake a scientific study of the landslides and report on how they might be mitigated. Ongoing problems with landslides continued for decades afterwards, which challenged the ability of geotechnical engineers and engineering geologists to understand the strain-softening behavior of overconsolidated shales and volcanic agglomerates containing weathered volcanic ash. Despite all the setbacks and cost-overruns, the project was the jewel of an emerging American empire, and its contributions to world health, sea-born commerce, and engineering geology were without precedent.



Bio: J. David Rogers

J. David Rogers, PhD, PE, CEG, CHG holds the Karl F. Hasselmann Chair in Geological Engineering at the Missouri University of Science & Technology in Rolla. He received his B.S. degree in geology from Cal Poly Pomona (1976), an M.S. in civil engineering (1979) from the University of California, Berkeley, and his doctorate (1982) in geological and geotechnical engineering from Berkeley. For 25 years he owned consulting engineering and construction management firms with offices in San Francisco, Los Angeles, and Honolulu. He served on the Berkeley faculty in civil engineering for seven years prior to accepting his current academic position in 2001.

He recently completed a book on the Engineers Who Built the Panama Canal and delivered one of the heritage presentations at the ASCE world engineering congress in Panama to commemorate the canal's 100th anniversary. Rogers has published over 100 papers in referred journals and conference proceedings, including award winning articles on geoforensic evaluations of dam and levee failures, as well as various aspects of civil engineering history, such as Hoover Dam, the Miami Conservancy District, Tennessee Valley Authority, the Mississippi River & Tributaries Project, flood protection of New Orleans, environmental security in the Middle East, and the Panama Canal. His passion is the evolution of geotechnical engineering and engineering geology practice, which is covered on his website at www.mst.edu/~rogersda.



Message from the Chair

Greetings! I hope you had a wonderful holiday and are having a happy, healthy New Year. Thank you to everyone who joined us for our December meeting. I would like to say a big thank you to our speaker, **Dr. Jim O'Connor**, of the U.S. Geological Survey in Portland, who gave a wonderful talk on geologic and physiographic controls on gravel bed rivers in western Oregon, with an emphasis on the Umpqua and Rogue Rivers. Jim provided some fascinating insights into how the geology of different river basins affects river morphology and sediment yield. Thank you Jim for a great presentation!

If you haven't renewed your membership to AEG, please make it a New Year's resolution to renew this week! Not only does AEG provide you with great monthly meetings, we also provide publications, career resources, professional development opportunities, conferences, and field trips. Your AEG membership supports all of these member benefits and provides you with valuable registration discounts. So, if you've let your membership lapse or haven't yet become a member, please consider renewing or becoming a member this week.

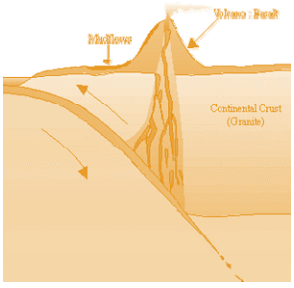
The Oregon Section Board is interested in submitting a proposal to AEG National to host the 2019 AEG Annual Meeting in Portland. We will be having a proposal planning meeting at 5:00 pm on January 20th at Ernesto's Italian Restaurant, immediately prior to our joint AEG/ASCE meeting in January. Please email me if you're interested in joining this effort to bring the AEG Annual Meeting to Portland so that I can email you additional information prior to the proposal planning meeting, and please plan on attending this meeting.

I look forward to seeing you on Tuesday, January 20th at Ernesto's Italian Restaurant when we welcome **J. David Rogers, PhD, PE, PG, CEG, CHG**, University of Missouri Science & Technology, who will be presenting his talk entitled *The Panama Canal: Where American Geotechnical Engineering and Engineering Geology Began 100 Years Ago* for our annual joint AEG/ASCE meeting.

Please note the different meeting location this month - see the sidebar on the first page for details. I hope to see you there!

Cheers,

Linda Mark, RG, CPG
Chair, Oregon Section of AEG



Winter Term Courses at Portland State University

- G510: Hillslope Processes, Adam Booth, TuTh 16:00-17:05 (room CH - S17) and lab is F 14:00-16:00 (room CH 221)
- G510: Modeling of Earth Systems, Max Rudolph, TuTh, 10:00-12:00 (roomCH 69)
- G524: GIS for Natural Sciences, David Percy, TuTh 14:00-15:05 (room CH1) and lab TuTh 12:00-14:00 (CH1) or TuTh 10-12 (NH 439)
- G543: Groundwater Geology, Ben Perkins, MW 16:40-18:30, room CH-S17)

Note: Engineering Geology will be offered Winter 2016.

2015 AEG Professional Landslide Forum

Registration is now available for the 2015 AEG Professional Landslide Forum being held February 26-28, 2015 at the University of Washington in Seattle, WA. This year's topic is: Time to Face the Landslide Hazard Dilemma: Bridging Science, Policy, Public Safety, and Potential Loss. This conference is being co-sponsored by the University of Washington Department of Earth & Space Sciences.

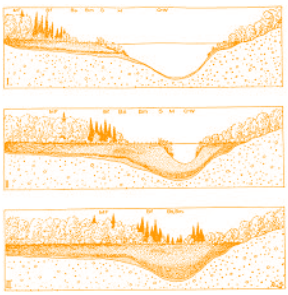


Photo of the month Courtesy of Stephen Hay

Rockfall that occurred on Highway 99E south of Oregon City on Sunday December 21st. Approximately 10 cubic yards of rockfall debris was scattered across the roadway with blocks up to 8 feet in diameter.

Thanks For Supporting AEG

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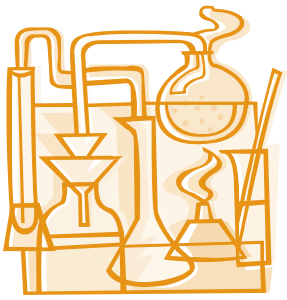
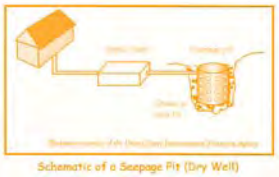
GRI, Oregon Department of Transportation, PBS Engineering and Environmental
Portland State University, PRISM Climate Group, NACSE, OSU

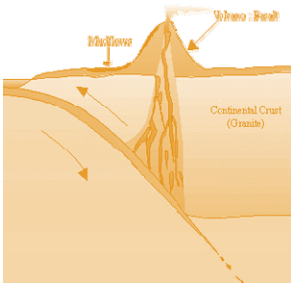


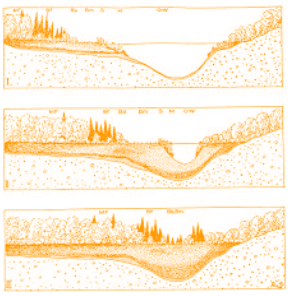


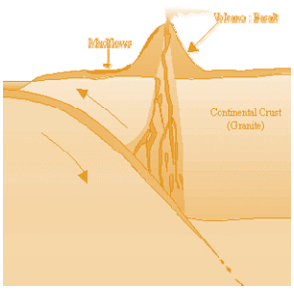
Schematic of a Seepage Pit (Dry Well)

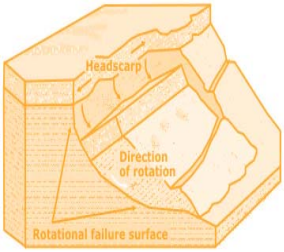
"Keen observation is at least as necessary as penetrating analysis"

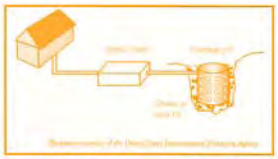
Karl Terzaghi







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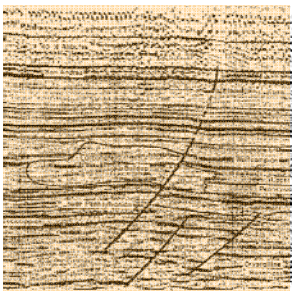
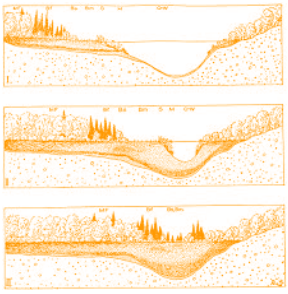
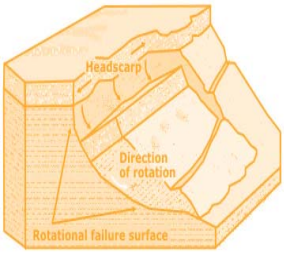
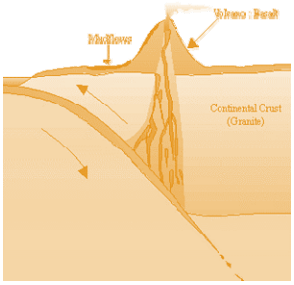


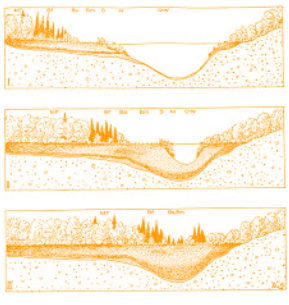


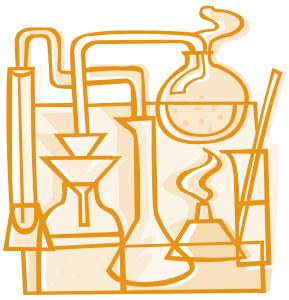


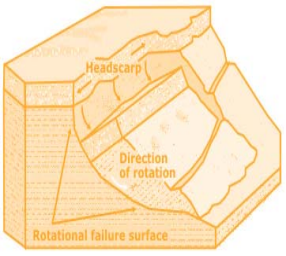
"The earth is large and old enough to teach us modesty."

Hans Cloos









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The Oregon Section Newsletter

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