Insight into geologic mapping of mélanges from structural geologic research: Implications for engineering geologic analysis and illustration of the value of field geologic training

Guest Speaker: Dr. John Wakabayashi, Jahns Lecturer 2017-2018

With the continued decline in the amount and intensity of field training for geology students, researchers and young professionals are less well equipped to deal with the geologic complexity of mélanges than they were 10 to 20 years ago when they were already vexed. Detailed field work challenges the prevailing academic model of mélanges as mega shear zones (“subduction channels”) and shows that such mélanges formed as submarine landslide deposits. This leads to a significantly different model of processes along the subduction interface. It also has implications for practical mapping and characterization of mélanges for engineering purposes. A decade ago I had stated that the mode of mélange formation (sedimentary, diapiric, or tectonic) was not relevant to engineering characterization but I have shown this to be wrong, because different modes of formation make very different predictions for the distribution of materials and the nature of various contacts. The sad truth is mélanges are even more complex from a mapping standpoint than we had imagined a decade ago and this places a premium on geologic mapping skills and the training that builds such skills.

Bio: Dr. John Wakabayashi

John Wakabayashi is a San Francisco Bay Area native who moved to Fresno in 2005 to begin his academic career as a geology professor at California State University, Fresno. He received his B.A. in Geology in 1980 from UC Berkeley, and his PhD in Geology in 1989 from UC Davis (advisor: Eldridge Moores). He is a Professional Geologist (California) and a Fellow of the Geological Society of America.
Message from the Chair

Thanks to everyone who attended our true March meeting and thanks again to Charlie Hammond with Cornforth Consultants / Landslide Technologies for his presentation *Rattlesnake Hills Landslide: Overview and Monitoring*. His work provided a comprehensive and technical evaluation of a media sensationalized landslide promulgated by others. I understand the Nisqually Chapter’s related monthly meeting presentation from folks at WSDOT and DNR focused much on getting out in front of these types of stories to better control the message.

We are nearing the end of the meeting season with just two remaining this year! Our April meeting, which is on WEDNESDAY April 18th will be from the 2017-2018 AEG National Richard H. Jahns Distinguished Lecturer, Dr. John Wakabayashi. Dr. Wakabayashi is a San Francisco Bay Area native who moved to Fresno in 2005 to begin his academic career as a geology professor at Cal State Fresno. John will be presenting *Insight into geologic mapping of mélanges from structural geologic research: Implications for engineering geologic analysis and illustration of the value of field geologic training*.

Our May meeting is our annual Student Poster Night that will be capped with a presentation by Nick Zentner from Central Washington University. Please show your support of the students from our local colleges and universities by attending this meeting. Plus, this year’s meeting will be FREE for all attendees and with a sponsored bar – THANK YOU PLI Systems, Inc.! – so no excuses. We are hoping to get a large number of student participants, please encourage any who you know may have interest. Remind them large sums of money are awarded to at least five students.

VOLUNTEER OPPORTUNITIES: We are bringing our AEG Oregon Chapter Committee Chair positions into the 2nd decade of the 21st Century with some reorganization. The Board’s plan is to combine the Newsletter and Webpage Editor Chairs into a team of volunteers – the Technology Team, which sounds pretty hip. Our goal is to provide meeting information via email and on our Chapter website, eliminating the PDFs. The Technology Team will entail two volunteers including the current Webpage Editor, Matt Randall, and one of you lucky folks along with support from the Board. If you look at our current Newsletter, a box with “Could Be You?” fills the Program Chair vacated by Mike Marshall when he became the Secretary. Speaking of Secretary, if you feel like you have the muster, we are seeking a new Board member for the upcoming year! Our Chapter is guided by us volunteers, the more people involved the better our ideas for progressing our offerings and the smoother it will run. Please consider volunteering for one of these positions for the coming year(s).

On March 23rd we had our first planning meeting for the 2020 AEG National Meeting. A very, very Special Thank You! for all those who attended! Several members volunteered to be part of the planning committee during the proposal, but times change and some of these folks are no longer in the area. If you are still interested in contributing, please reach out to Linda Marks and/or myself. This notification is also a call for members who may now want to join the planning committee, including an affinity for volunteering to be the Chair or Co-Chair for the conference. Additional information will be provided at our upcoming monthly meeting.

As a reminder once again, our 61st AEG Annual Meeting / 13th IAEG Congress is scheduled for September 15th to the 23rd, at the Hyatt Regency in San Francisco. Registration is now open - be sure to register today! For meeting information and updates visit www.aegweb.org/SanFrancisco2018.

I look forward to seeing everyone at our April meeting.

Mark Swank, CEG
AEG Oregon Chapter Chair

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

*Karl Terzaghi*
Spring 2018 SOE Seminar Series Lineup
Held jointly with USGS OR Water Science Center and Oregon State University
Tuesdays from 12-1 PM
CIN 92 (Fifth Ave. Cinema)

10-Apr
Marty Briggs USGS, CT
Surface Geophysical Methods for the Characterization of Preferential Flow processes and Water Exchanges Along the River Corridor

17-Apr
Anne Jefferson Kent State
Signals of stormwater management across scales

24-Apr
Ann Hayden Southern Illinois University - Carbondale
Using hydraulic modeling to evaluate connectivity enhancement under alternative restoration scenarios in the Atchafalaya River Basin

1-May
Michael Manga University of California - Berkeley
Earthquakes and water (and why the Lusi eruption was not caused by an earthquake)

8-May
Paul (Chris) Milly USGS/NOAA
Streamflow in Our Warming World: Hydrologic Droughts Ahead? Or Just a Lot of Hot Air?

15-May
Adrienne Aiona Portland Bureau of Environmental Services
The nexus between monitoring, engineering and policy for stormwater management in Portland

22-May
Renee Brooks US EPA - Western Ecology Division NHREERL
Snowpack contribution to flow in the Willamette River over the last 7 years.

29-May
Hongbin Zhan Texas A&M University
Opportunities and Challenges for China and US Collaboration in Hydrogeological Research and Education. A Success Story: the Art of the Push-and-Pull Aquifer Test

5-Jun
Jessica Lundquist University of Washington
Learning to See in Thermal Infrared: Sensing Snow and Forest Temperatures from Point to Aircraft to Satellite Scales
"The earth is large and old enough to teach us modesty."

Hans Cloos

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Pictured: Vancouver Waterfront Redevelopment

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The AEG Oregon Chapter Newsletter
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