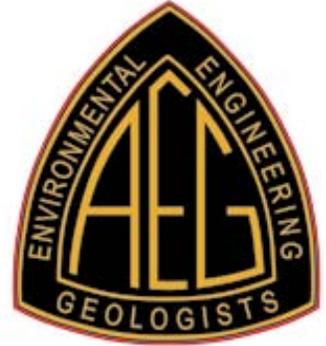


March 2018



AEG Meeting Announcement

AEG Sacramento Section



2018 JAHNS LECTURER

Wednesday, March 7, 2018 (RSVP by 2/28/18)

Speaker: Professor John Wakabayashi
California State University Fresno

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

Location: Kupros Craft House, Top Floor
1217 21st St., Sacramento, CA 95816
[Link to map](#)

Parking: Street Parking (Closest Parking garage is 1801 L Street Garage)

Meeting Sponsors: TBD (Let us know if you would like to sponsor!)

Buffet Dinner: Seasonal arugula salad, mashed potatoes, sautéed seasonal vegetables, and braised beef with au jus. Please let us know if you would like the vegetarian option (oven roasted squash bowl). A full bar with a great selection of craft beer will be available.

Agenda:
5:30–6:30pm – Social hour
6:30–7:30pm – Announcements & Dinner
7:30–8:30pm – Speaker

Meeting Cost:

Members: \$35

Non-Member: \$40

PLEASE REGISTER BY 2/28/18! We need a full head count one week before the meeting and cannot guarantee walk-ins. Thank you!

Student Sponsorships welcomed! Sponsor a student for \$20 (suggested).

RSVP at <http://www.aegsacto.org/meetings/signup/>

or email: chase.white@conservation.ca.gov

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

Wednesday, March 7, 2018

presented by: Dr. John Wakabayashi, California State University Fresno

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.

Based on the following published papers (but the applied geology implications are not in these papers):

Wakabayashi, J., 2017, Structural context and variation ocean plate stratigraphy, Franciscan Complex of California: Insight into mélange origins and subduction-accretion processes: *Progress in Earth and Planetary Sciences* 4: 18, 23p., doi: 10.1186/s40645-017-0132-y

Wakabayashi, J., 2015, Anatomy of a subduction complex: Architecture of the Franciscan Complex, California, at multiple length and time scales: *International Geology Review*, v. 57, p. 669-746. doi:10.1080/00206814.2014.998728.

About our 2017-2018 Jahns Lecturer

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.

After graduating from Davis he worked as an engineering and environmental geologist for 16 years (1989-2005), the last 13 years as an independent consultant based in Hayward, California, before becoming an academic. He worked on a variety of different types of projects, including seismic hazard evaluation/paleoseismology, slope stability, engineering and forensic petrography, naturally occurring asbestos, and two Superfund projects on which his primary specialty was evaluation of ambient concentrations of metals of environmental concern in soils and rock. He was a member of the Working Group on California Earthquake Probabilities.

When not doing project work (ie. when not billable), he conducted independent research, some of which derived from his project work, but most of which dealt with more esoteric research issues such as subduction initiation processes, metamorphic P-T paths and metamorphic contrasts as tectonic indicators, emplacement of ophiolites, subduction interface processes and development of subduction complexes, evolution of orogenic belts, development of strike-slip fault systems, and long time and length scale geomorphology. He incorporated academic research of his own and others into all of his project work, trying to bridge the academic-applied geology gap from the standpoint of a practitioner. After becoming an academic he has continued his efforts to bridge this gap, with realization that the vast majority of geology professors have never been employed in the engineering and environmental geology profession that most geology graduates will work in. He incorporates both his professional and research experience into his teaching so as to better prepare students for professional careers, as well as providing a foundation for students who wish to undertake graduate study.

His research has resulted in 82 published papers, over 100 abstracts tied to presentations at major geoscience meetings. The breadth of his research has broadened rather than narrowed over time. In spite of the wide range of research interests, the geology of that beguiling train wreck of rocks known as the Franciscan Complex of coastal California remains his chief interest and the many aspects of mélanges have become his main focus since 2009. At Fresno State he teaches non-major introductory geology, geology major undergraduate courses in petrology, geomorphology, and structural geology, graduate courses on active tectonics/seismic hazard analysis and orogenic belt tectonics, and his bread-and-butter undergraduate course in advanced geologic field mapping (he makes his students map Franciscan along with landslides, flights of stream terraces and some potentially active faults). He has supervised or is supervising a large number of graduate and undergraduate student researchers, and this includes a number of students from outside of Fresno State.

Outside of geology and beer (an amateur brewer since 1994), he is probably best known for his experience trout fishing in the backcountry (must be hiked to) of California, having launched casts into over 750 different lakes, about 700 of these in the Sierra Nevada; 2015 was an especially good summer. His strength and fitness routine that prepares him for his fieldwork and recreational hiking (and burns off some of the beer), as well as holding his body together for his return to playing basketball, has also gained some notoriety. This routine includes excessively long plank sessions and multiple repetitions of muscle ups.