

May 2018



Joint Meeting Announcement

AEG Sacramento Section

Thursday, May 10, 2018

Location: Yolo Brewing Company
1520 Terminal St, West Sacramento, CA 95691
Lots of free parking! [Link to map](#)

Speakers: **Greg L. Hempen PhD, PE, RG**
2017-2018 AEG National President

Topic: "What's My Line? Site Assessment!"

RSVP by 5/2 Dinner Options: Cousins Maine Lobster Food Truck (Maine Lobster Roll, Connecticut Lobster Roll, Cousins Lobster Tacos, or Grilled Cheese or Cheese Quesadilla as Vegetarian Options) **OR** Pizza and salad for shellfish allergies/non-lobsters fans

Meeting Sponsor:



A **Terracon** COMPANY

Agenda:

5:30-6:30pm – Social hour

6:30-7:30pm – Dinner

7:30-8:30pm – Speaker

8:30-8:45pm – Questions

Meeting Cost: \$30 members (with RSVP) and \$35 non-members

There will be a \$3 surcharge for walk-ins

\$10 students (no surcharge for student walk-ins)

The FIRST 5 students to RSVP are free

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

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

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

“What’s My Line? Site Assessment!”

May 10, 2018

presented by: Greg L. Hempen, Ph.D., PE, RG,
2017-2018 AEG National President

The presentation on the applied geologist’s most important duty, site assessment, develops how geophysics may advance the information at a site and reduce the risk of unknown site conditions.

Site assessment (or site characterization) has four components: literature search, regional geologic assessment, general field study, and detailed (or specialized) site study. The conceptual (site) model is developed from the critical geologic topics and hazards, which in turn are pertinent to the project’s requirements. For most sites the depositional environment, most recent erosional processes, geohydrology, geomorphology, and anthropogenic impacts will minimally engender study needs to determine the conceptual model for the particular project envisioned. Site characterization’s components need to be planned and sequenced (or phased) to accomplish all the work that should be conducted. Yet the phases of completing each of the latter three components are interdependent upon the data collected, the data analyses, and posited solution. So the actual work may not be completely appraised without the intervening processing of the information collected. Upon developing the site’s data and acceptance of the geologic conditions and other constraints at some finite scale, the conceptual model becomes the project’s best-known *site character*. Applied geophysics aids the efficient and cost effective planning, phasing and prosecution of the Site Assessment’s study and fieldwork.

The goal of applied geophysics should be to meet the desired Site Assessment’s objective(s) during an early phase of each characterization component that it is intended to support. Objectives addressed by geophysical surveys include: the verification of geologic features or hazards, the in situ determination of engineering properties, the detection of hidden cultural features, and physical or chemical features for regulatory compliance. Geologic input, rock property estimates, geophysical modeling, interference effects, and budgetary constraints are co-determining factors for the applied geophysical method’s selection. To reduce the impact of unexpected variations from the conceptual model, a moderate degree of geologic knowledge is necessary to determine the appropriate geophysical technique(s) to employ. Developing the geophysical hypotheses normally relies on some simplifying assumptions. There is no substitute for direct geologic or engineering or environmental data. Correlation of the geophysical model with available ground truth can be a laborious interpretative process, especially because iterations of both the geophysical models and the understood geology are usually required. The office interpretation of the data may continue to be processed until it coalesces into a self-consistent model with the observed and developed geologic data. The planning of a phased, sequential program with applied geophysics may provide the best site assessment at the lowest cost.

About Our Speaker



Greg is a Geophysicist in consulting practice (now part-time), since 2006. He performs duties for various offices, as mutually agreed and contracted. Greg specializes in all types of vibration mitigation from earthquakes, blasting and pile driving, and recommending appropriate geophysical studies for complex sites. His 40+-year career includes a long tenure at, and retirement from, the St. Louis District, Corps of Engineers (CoE).

Greg has conducted business for all levels of government, federal, state and local. He had worked closely with consulting firms, while managing studies on federal projects. He now consults in the private sector, but continues studies for federal and state offices as agreed. Greg received a B.S. in Geophysical Engineering from St. Louis University, a M.S. in Geo-Engineering from the University of Minnesota, Minneapolis-St. Paul, and a Ph.D. in Geological Engineering from the University of Missouri - Rolla (now Missouri University of Science & Technology). He is a Registered Professional Engineer and Registered Professional Geologist in Missouri. Greg has authored a variety of publications. He has been an adjunct professor of Environmental Science or Geotechnical Engineering at all the engineering universities in the St. Louis area. Greg taught several CoE professional training courses.

Several causes have gained Greg's attention over the years. He has long been active with AEG: President, 1989-90; Vice President, 1988-89; Treasurer, 1986-88; St. Louis Section Chair; Directory Editor; Finance Committee member, varied periods from the 1990's to the present; Midwest Regional Director, 2016-17; and, AEG Foundation Director (President, 2009-10), 2006-11. He served as the AEG Finance Committee Chair many times in the 1990s & 2000s; Greg has been the AEG Finance Committee Co-chair, 2013-17. Greg has been involved with the pursuit of several important public issues, including Geologists' Registration, public disaster preparedness, and building-code adoption. He has served on state commissions, and is presently serving on two State of Missouri organizations.