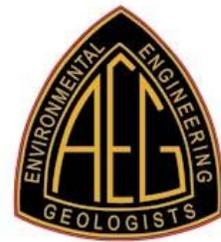# Joint EERI/AEG Meeting Announcement

Sacramento Chapter of EERI & AEG Sacramento Section

Tuesday, June 19, 2018

Speaker: **Kevin W. Franke PhD, PE**
Brigham Young University

Topic: **"Use of Small Unmanned Aerial Vehicles (sUAVs) in Post-Earthquake Geotechnical Reconnaissance Following the 2016 Central Italy Earthquakes"**

Location: Old Spaghetti Factory
1910 J Street, Sacramento, CA 95811
Free parking nearby! Link to map

Parking: Parking Available on-site and directly east of the restaurant on J St. (look for sign saying Spaghetti Factory Parking Only)

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

Dinner: Spaghetti with your choice of marinara or meat sauce or fettuccini alfredo. Soft drinks, coffee, and tea are complementary. A cash bar will be available for alcoholic beverages.

Agenda:
5:30–6:15pm – Social hour
6:15-7:00pm – Announcements & Dinner
7:00-7:45pm – Speaker
7:45-8:00pm - Questions

Meeting Cost:
Members: $30
Non-Member: $35
Students: $10 (the FIRST 5 students to RVP are free!)
There will be a $5 surcharge for walk-ins.

Student Sponsorships welcomed! Sponsor a student for $20 (suggested).
RSVP at http://www.aegsacto.org/meetings/signup/
or email: chase.white@conservation.ca.gov

"Use of Small Unmanned Aerial Vehicles (sUAVs) in Post-Earthquake Geotechnical Reconnaissance Following the 2016 Central Italy Earthquakes"

June 19, 2018
presented by: Kevin W. Franke, Ph.D., PE
Brigham Young University

Three large earthquakes (M5.9 to M6.5) struck the Mt. Vettore region of the Central Apennines in Italy between August 24 and October 30 in 2016. The Geotechnical Extreme Events Reconnaissance Association (GEER) sent reconnaissance teams to the damaged area twice following these events: after the initial M6.0 in late August, and again after the larger M6.5 event in early December. Challenging terrain and geo-political conditions made traditional engineering reconnaissance of the affected villages and slope/rock slopes difficult, if not impossible. Researchers on the GEER team implemented an innovative solution to deploy sUAVs to collect aerial imagery from the sites of interest. This presentation summarizes the equipment that was used, the type of data that was collected, and the models of damaged sites that resulted from these efforts. Overall, the use of sUAVs in the post-earthquake reconnaissance was a success, and established a new standard for geotechnical reconnaissance following an extreme event.

About our Speaker:

Kevin W. Franke, Ph.D., P.E. is an Assistant Professor in the Department of Civil and Environmental Engineering at Brigham Young University. Kevin's principal research focus relates to geotechnical/earthquake engineering. Kevin and his students are currently developing performance-based (i.e., probabilistic) methods for dealing with soil liquefaction and its associated hazards. Additionally, Kevin is an investigator in the Center for Unmanned Aircraft Systems (C-UAS), which is currently the only NSF-sponsored research center for UAVs. Kevin's research focus in the Center deals with new and improved applications of small unmanned aerial vehicles (sUAVs) in monitoring infrastructure and performing post-disaster reconnaissance.

Prior to his current position at BYU, Kevin worked for 6 years as a professional civil engineering consultant for Kleinfelder, Inc. and URS Corporation. Kevin contributed to multiple significant projects throughout the western and central US including Kennecott Utah Copper tailings impoundment, facilities at Los Alamos National Labs, California High Speed Rail, North Torrey Pines Bridge seismic retrofit, I-15 Corridor Reconstruction in Utah County, Sacramento Area Flood Control Authority Levee Evaluations/Improvements, Levee improvements in New Orleans, Roscoe Wind Farm in Texas, Legacy Parkway in Utah, and multiple schools and hospitals throughout CA, OR, and WA. Kevin received his BSCE from Utah State University in 2004, is MSCE from University of Washington in 2005, and his Ph.D. from Brigham Young University in 2011.