November Lunch Presentation:
Building Near Faults

Who: Jonathan D. Bray, Ph.D., P.E., NAE Professor, University of California, Berkeley

Background: Jonathan Bray is the Faculty Chair in Earthquake Engineering Excellence at the UC Berkeley. Dr. Bray is a registered professional civil engineer and has served as a consultant on several important projects and peer review panels. He has authored more than 340 research publications on topics that include liquefaction, ground motions, slope stability, surface fault rupture, and post-event reconnaissance. Dr. Bray is a member of the US National Academy of Engineering and has received several honors, including the Peck Award, Joyner Lecture, and Huber Research Prize.

Presentation: Sound engineering principles can be employed to address the hazards associated with surface fault rupture. Robust procedures exist for evaluating the consequences of permanent ground movements. Whereas their use in designing systems to accommodate ground movements due to a variety of phenomena is widely accepted, their use in areas containing surface traces of active faults is often questioned, even when the anticipated ground movements are minimal. Active faults cannot always be avoided, nor should they be avoided, when their hazard is far less than other hazards and the hazard can be effectively mitigated through the application of sound engineering concepts.

In addressing the surface fault rupture hazard, the potential patterns of ground deformation should be developed through the use of a comprehensive investigation and detailed mapping. Measured patterns of surface fault-induced ground deformation from similar types of faulting from past events offer useful insights to complement site-specific studies. Mitigation can be achieved in those cases when avoidance is not possible or practical. Engineers can design structures to accommodate fault-induced ground movements. Building strong, ductile structural foundation elements that can accommodate some level of ground deformation and isolating the superstructure from much of the underlying ground movement are effective design measures. Structures should not be tied into the ground with piles or piers. Other mitigation measures include establishing non-arbitrary setbacks based on fault geometry and displacement, and the overlying soil; constructing reinforced earth fills to spread out the underlying ground movements; using slip layers to decouple ground movements from foundation elements; and using compressible materials to reduce ground-movement induced lateral earth pressures.

PLACE:	Roy's Club Italian Restaurant**,** 218 D Street, Eureka
DATE:	Thursday, November 17, 2016
TIME:	12:00 to 1:00 PM
***COST*:**	$15.00
RSVP:	Please RSVP by Monday, November 14, 2016 Via Constant Contact or Email: lwinklerprins@shn-engr.com Phone: Lianna Winkler-Prins at (707) 269-1044

UPCOMING EVENTS

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