



Sacramento Chapter

MARCH MEETING

When: Thursday March 23 from 6 to 7pm - open free admission.

Where: Kleinfelder, 2882 Prospect Park Dr. Suite 200, Rancho Cordova, CA 95670. Entrance on east side of building. Free parking.

Earthquake Strong Motion - Measurement to Analysis

Anthony Shakal, PhD

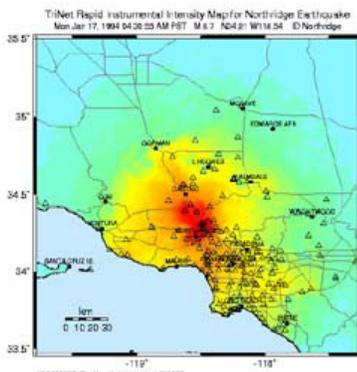
California Strong Motion Instrumentation Program
California Geological Survey

The measurement of strong shaking during damaging earthquakes is critical to the improvement of structural resilience and to guiding post-earthquake emergency response.

The CGS Strong Motion Instrumentation Program measures the strong motion of buildings, bridges, dams and ground response sites. CSMIP has developed an extensive network of 1300 stations, beginning after the damaging 1971 San Fernando earthquake, which includes 230 well-instrumented buildings (70 are hospitals), 80 bridges and 900 ground response stations (35 are downhole geotechnical arrays). For each structure and array the locations of the sensors are carefully planned. The strategies for planning instrumentation of each type of station, and of ground response sites, will be discussed.



Once strong motion data is recorded, rapid recovery and analysis are valuable. The CSMIP automated data recovery, processing and analysis, followed by automated distribution through the Internet at www.strongmotioncenter.org, revolutionizes the utility of strong motion information after an event. The post-earthquake tools ShakeMap and ShakeCast are based on the automated availability of strong motion data, and they can be very useful response tools. Longstanding issues including the usable frequency band of data, and the paucity of data in the nearfield will also be discussed.



SPEAKER BIO:

Tony Shakal has been with the California Strong Motion Instrumentation Program during a time that it increased from 300 stations to the current 1300 stations. The CSMIP program now works cooperatively with OSHPD, Caltrans, the USGS and other agencies to instrument buildings, bridges and ground sites. Tony came to the CSMIP program in the California Geological Survey from Lawrence Livermore National Lab in 1981. His degrees are a PhD in seismology (MIT) and MS and BS in engineering (Univ. Wisc).

Questions/Comments: Contact Zia Zafir (zzafir@kleinfelder.com), Alexander Wright (awright@wallace-kuhl.com), or Julie Fogarty (foraery@csus.edu)

Images from conservation.ca.gov