

**GEOSYSTEMS ENGINEERING SEMINAR - MASON 2117**  
**FRIDAY SEPTEMBER 26<sup>TH</sup> – 1:00 TO 2:00 PM**



**TURNING DISASTER INTO KNOWLEDGE**

**Jonathan D. Bray, Ph.D., P.E.**  
**Faculty Chair of Earthquake Engineering Excellence**  
**University of California, Berkeley**

Advancing hazard-resistant design demands an understanding of what happens when a disaster occurs. Documenting and sharing the key lessons learned from extreme events around the world contributes significantly to advancing research and practice in hazards engineering. The detailed mapping and surveying of damaged areas provides the data for well-documented case histories that drive the development of many of the design procedures used by geotechnical engineers. Many design methods are based on insights gleaned from observations from past events. Field observations are particularly important in the discipline of geotechnical engineering, because it is difficult to replicate in the laboratory soil deposits built by nature over thousands of years. Much of the data generated by an extreme event is perishable and therefore must be collected within a few days of the occurrence of the event. Thus, engineers should be ready to investigate the next important extreme event.



**Adapazari, Turkey (1999 Kocaeli EQ)**

**LIDAR image Ruta 5 (2010 Chile EQ: R. Kayen)**

**Biography:** Jonathan Bray is the Faculty Chair of Earthquake Engineering Excellence at the University of California, Berkeley. He earned engineering degrees from West Point, Stanford, and Berkeley. Dr. Bray is a registered professional civil engineer and has served as a consultant on several important engineering projects and peer review panels. He has authored more than 300 research publications on topics that include the seismic performance of earth structures, earthquake ground motions, liquefaction and its effects on structures, earthquake fault rupture propagation, and post-event reconnaissance. Dr. Bray is a Fellow in ASCE, and he has received several honors, including the ASCE Peck Award, Prakash Award, ASCE Huber Research Prize, Packard Foundation Fellowship, and NSF Presidential Young Investigator Award.



**Geotechnical Extreme Events Reconnaissance**  
*Turning Disaster into Knowledge*

