Announcing

AEG San Francisco Section - March Meeting

Student Speaker Night

Dom Galic, UCB, Modeling Dam Behavior and
Nancy Shostak, SJSU, Revisit of 1906 Earthquake MMIs

Restaurant:	Sinbad's Restaurant, Pier 2 Embarcadero Street, San Francisco www.sinbadsrestaurant.com for maps and directions
Date and Time:	Tuesday, March 13, 2007 6:00 pm—Social Hour and Sign-in 7:00 pm—Dinner (Chicken, Fish or Vegetarian) 8:00 pm—Presentation
Cost:	$35 AEG Members, $40 Non-mem, $15 Students, +$5 for late RSVP

Reservations: To RSVP fax or e-mail Sachiko Tanikawa (fax # 510.268.5099, email: treasurer@aegsf.org) with the following information:

(1) Name (2) Phone number (3) Meal Choice

Driving Directions: From the Bay Bridge, exit at Embarcadero, drive north along Embarcadero to Pier 2.

BART Directions: Exit the Embarcadero Station, walk up Market Street toward the Ferry Building (less than ½ a mile). Cross Embarcadero, Sinbad's is to the right of the historic Ferry Building.

Parking: Valet parking is available; public parking is where you can find it.

Please Note: Please make reservations by FRIDAY, March 9; availability cannot be guaranteed after Friday.

Walk-ins are not guaranteed!

For financial reasons no-shows and last minute cancellations will be charged.

AEG MEETING ANNOUNCEMENT

Tuesday, March 13, 2007
Sinbad's Restaurant
Pier 2 Embarcadero Street, San Francisco
Social Hour 6pm, Dinner 7pm

$35 members/$40 nonmembers/$15 students/+$5 for late RSVP

RSVP by noon Friday March 9

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Dom Galic, **Anticipating The Failure Route Of A Sliding Asymmetric Dam Monolith,** Department of Geotechnical Engineering, galic@newton,berkeley.edu, University of California Berkeley

A gravity dam consists of massive semi-independent parallel blocks. These individually cast monoliths are able to resist upstream hydraulic pressures by virtue of their enormous weight and resulting frictional resistance. The compound nature of gravity structures makes them ideal for wide shallow valleys, but it also makes them susceptible to series-type failures. However, recent work suggests that depending on foundation topography, the strength of a gravity dam may be greater than the individual strength of its weakest monolith. This is due to the fact that asymmetric foundation topography may cause a sliding monolith to buttress against its neighbors, possibly strengthening the dam. We examine this phenomenon in the context of a simple three-dimensional foundation, and predict the sliding path of a model monolith based on the dip of its foundation planes.

Biography Dom grew up in Palo Alto, where he attended Henry M. Gunn senior high school. He enrolled at the University of California in 1995 as a Civil Engineering major. Following the receipt of his bachelor's degree in 1999, Dom traveled east to continue his education at the University of Virginia, where he obtained a Master's degree in Applied Mechanics. Having discovered that he missed both rock mechanics and the west coast, Dom returned to the University of California in 2002. He is currently a PhD candidate in geo-engineering. His research interests include the study of frictional sliding, rigid body dynamics, and macro scale roughness in dam foundations. In his free time, Dom enjoys low-inclination mountaineering.

Nancy C. Shostak, **High-Resolution Analysis Of Modified Mercalli Intensities For The 1906 Earthquake In The Vicinity Of San José, California**, nshostak@aol.com, Department of Geology, San José State University

The goals of the study are to map, in the highest possible resolution, Modified Mercalli intensities (MMI) for the April 18, 1906 earthquake in San José, California, and adjacent areas and to determine key factors controlling the distribution of intensities. The mapping is resolvable on a point-by-point basis and interpretable on the scale of urban neighborhoods. This work complements the Santa Clara Valley section of the Lawson Report (1908) and Shake Map of Boatwright and Bundock (2006).
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Nancy C. Shostak, **High-Resolution Analysis Of Modified Mercalli Intensities For The 1906 Earthquake In The Vicinity Of San José, California (continued)**

Structures existing in 1906 are sensitive indicators of MM intensities in the range VI through IX. Over 600 MMI data points, of which 80% were interpreted from professional inspection reports made immediately after the earthquake, have been merged in GIS with information from historical Sanborn Fire Insurance maps to link precise locations and building details from 100 years ago with modern maps. Patterns of MMI can be analyzed by geographic region and detail of building construction. Overlays of 1906 damage data on the 2006 Quaternary geologic map and 3-D geologic block model of the San Francisco Bay area developed by the USGS permit interpretation of areas of higher or lower MMI in terms of surficial and bedrock geology.

An overall, or median, intensity between MMI VII and VIII has been assigned to San José for the 1906 earthquake. Several areas of substantially higher or lower MM intensity have been identified within and near the city. In particular, it is clear that (1) maximum MMI in downtown Campbell, CA, is lower than the median for downtown San José, although Campbell is closer than San José to the San Andreas fault and is in the deep, sedimentary Cupertino basin; and (2) MMI in East San José is higher than for San José, possibly because the Silver Creek fault intensifies shaking at the western edge of the Evergreen basin.

Biography Nan Shostak is pursuing a M.S. degree in Geology at San José State University as a student of John Williams. A Bachelor's degree in mathematics from Bryn Mawr College led to a first career as a pension actuary and Fellowship in the Society of Actuaries. Nan hopes to combine the two disciplines by helping refine economic loss modeling for earthquakes.