

NORTHERN CALIFORNIA GEOLOGICAL SOCIETY



“GEOLOGY OF THE LAKE TAHOE REGION, NEVADA and CALIFORNIA”



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NCGS FIELD TRIP - Saturday June 25 and Sunday June 26, 2011

**Field Trip Leader:
Dr. Richard Schweickert, Professor Emeritus Geology
University of Nevada, Reno**

**Field Trip Coordinator:
Tridib Guha**

Field Trip Leader's Biography:

Dr. Richard Schweickert received his Ph.D. in geology at Stanford University, and was an Associate Professor at Columbia University and then Professor of Geology at UNR until his retirement in January 2010. He was a Foundation Professor at the University since 1993. He specializes in research on structural geology and tectonics, with special emphasis on the Sierra Nevada and the western U.S. With NSF funding, he has carried out research in Alaska, California, Nevada, Chile, Argentina, Newfoundland, Italy, and Corsica. His ongoing research includes: Active faults, landslides, and tsunamis in the Lake Tahoe basin, involving detailed structural mapping, trenching, drilling, submarine geology, soil gas profiling, and stratigraphic studies; volcanic stratigraphy of the Lake Tahoe basin; stratigraphy, structure, and geologic history of the Tahoe City area; and structure and stratigraphy of the Saddlebag Lake pendant and adjacent areas in the High Sierra.

Major discoveries by Schweickert and his students since the early 1980's include:

- regional thrust faults in the eastern Sierra Nevada
- a Triassic caldera near Tioga Pass, Yosemite National Park
- a major syn-batholithic dextral strike-slip fault system with over 400 km displacement
- Paleozoic and Mesozoic subduction complexes and island arcs in the Sierra Nevada region
- active faults, megalandslides, and past tsunamis in the Lake Tahoe basin

Lake Tahoe fieldtrip:

The Lake Tahoe basin is an active half-graben at the Sierra Nevada-Great Basin boundary. The basin was dammed near its present outlet by basaltic shield volcanoes about 2 Ma and ~900 ka. Three main active fault zones lie within the basin and are capable of M7 earthquakes. Such earthquakes would likely generate significant tsunamis. A megalandslide along the western edge of the lake removed latest Pleistocene glacial moraines, produced a ~10 km3 debris avalanche, and generated a tsunami at least 30m high. Giant boulder megaripples were produced on shallow shelves north and south of the megalandslide. The age of the megalandslide is uncertain, but likely is between 15 ka and 7 ka. This fieldtrip will feature stops at South Lake Tahoe, Emerald Bay, Meeks Bay, Sugar Pine Point, Eagle Rock, Tahoe City, and Kings Beach. Evidence of active faults, landslides, glaciation, basaltic volcanism, and tsunamis will be emphasized.

***** **Field Trip Logistics** *****

This 2-day field trip will start from Pleasant Hill to Sacramento (pick up) to South Lake Tahoe(via Hwy50) meet Field Trip Leader. Camping at Sugar Pine State Park

Time & Departure: 7:00 am Saturday June 25, 2011 Sun Valley Mall Sears Parking Lot, Pleasant Hill (corner of Contra Costa Blvd and Willow Pass Road) – Sacramento pick up place will be notified later

Cost: \$120/person includes transportation by chartered bus, guidebook, morning coffee & pastries, lunches, and refreshments, BBQ dinner with vino & beer. Camping.

A list of participants will be circulated so that you can arrange carpools to the departure location.

*******REGISTRATION FORM Lake Tahoe Field Trip*******

Name: _____ E-mail: _____

Phone : _____ Phone (cell): _____ Meals: Regular : () or Veg: ()

Please mail a check made out to NCGS to: **Tridib Guha**
5016 Gloucester Lane,
Martinez, CA 94553

Questions: e-mail: tridibguha@sbcglobal.net Phone: (925) 370-0685 (evening), (925) 451-1999 (day)