

SAN DIEGO ASSOCIATION OF GEOLOGISTS

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SDAG MEETING ANNOUNCEMENT Wednesday January 15, 2003

Seismic Wave Exploration of the Lower Lithosphere beneath the Hawaiian Swell

with DR. GABI LASKE OF USCD

- Where:** Qwiggs
5083 Santa Monica Avenue
Ocean Beach
Phone: (619) 222-1101
- When:** 6:00 pm – Social Hour
7:00 pm – Dinner
8:00 pm – Program
- Directions:** Interstate 8 West to Ocean Beach - take Sunset Cliffs Blvd to Newport Avenue and turn right on Newport. Go to the bottom of Newport and turn right onto Abbott. The next intersection is Santa Monica Ave. Look for Quiggs on the second story of the wood and glass building at 5083 Santa Monica (this is from memory). Plenty of parking is available across the street from Quiggs in the beach parking lot.
- Dinner:** Salmon or Prime Rib, served on a bed of garlic mashed potatoes, vegetable, Quiggs house salad, and coffee. The vegetarian selection is Basil Couscous.
- Cost:** \$25.00/person, \$15/student
- Reservations:** Make your reservation online through the SDAG website at www.sandiegoeologists.org or call the SDAG Reservation Line at: (619) 521-0165, ext. 190, **no later than 5PM! Monday, January 13th**. Contact Margaret Eggers at (619) 521-0165, ext. 132 with any questions.

RESERVATIONS CAN NOT BE ACCEPTED AFTER MONDAY AT 5PM.

Dr. Gabi Laske - Dr. Laske received her M.S. and Ph.D. in physics (with a major in geophysics) at the University of Karlsruhe/Germany in 1988 and 1993. She then came to IGPP/Scripps Institution of Oceanography as a Postdoc where she has been working as a global seismologist. Though her degrees and current research have been relying primarily on data collected at permanent global broad-band seismic stations, she has been involved in numerous active-source refraction seismic experiments and also goes to sea to deploy OBSs (ocean bottom seismometers) to collect passive seismic (earthquake) data. Dr. Laske is currently a research geophysicist at Scripps and teaches graduate courses in seismology and non-science major undergraduate courses (earth's dynamic systems, natural disasters). To find out more about Dr. Laske's research interests visit her web site at <http://www.mahi.ucsd.edu/Gabi>.

PRESENTATION: 'THE HAWAIIAN SWELL EXPERIMENT'

The Hawaiian hotspot is regarded as the archetype hotspot, due to its great distance from plate boundaries and being located on a very simple oceanic plate. Its detailed study could shed light on where its supply of hot mantle material comes from and how a hotspot works. The Hawaiian bathymetric swell that is associated with the Hawaiian hotspot is one of the most prominent and tantalizing features in the Pacific Ocean. Yet the mechanism of its support is still largely unknown. A plethora of geodynamical models places the buoyant mantle material causing the swell relief into the lithosphere as well as into the asthenosphere below. The geodynamical models are equally ambiguous regarding the predicted seismic anomalies related to this material. The reason for this ambiguity has been that global tomographic imaging lacks the resolution to image narrow hot spot plumes (of the order of a few 100 km wide). Moreover, traditional OBS (ocean bottom seismometer) equipment lacks the technology and band-width to record seismic waves necessary to image ocean mantle structure in a regional seismic study.

The SWELL (Seismic Wave Exploration in the Lower Lithosphere) Experiment is designed to record teleseismic intermediate-period Rayleigh waves (15-85 s period) and image the seismic structure of the lithosphere-asthenosphere system on and around the Hawaiian swell. Our pilot feasibility study was one of two pioneering experiments to deploy wide-band ocean bottom instruments in a long-term deployment (5 and 7.5 months). With the Scripps L-CHEAPO instruments (Low Cost Hardware for Earth Applications and Physical Oceanography), using differential pressure gauges (DPG) as sensors, we recorded seismic surface waves of unprecedented band width. We are able to constrain seismic structure down to at least 150 km. The pilot array was located to the southwest of the Island of Hawaii and mapped a strong gradient in structure across the flank of the Hawaiian swell, with the lowest seismic anomalies being located closest to the island chain. Initial results indicate that the source of the swell support reaches at least as deep as the asthenosphere. A concurrent EM/MT experiment also reveals that the cause of the low seismic anomalies found beneath the swell cannot be caused by connected melt pockets but are most likely due to thermal effects or compositional heterogeneity. The main experiment, that is now a multi-PI endeavor and includes many seismic analysis components (e.g. including a body wave tomographic study similar to that of ICEMELT in Iceland), will be launched in November 2003.

2003 EXECUTIVE COMMITTEE

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ANNOUNCEMENTS:

**It's that time of year again!! Please renew your SDAG membership!
A membership form is included in this newsletter. We appreciate your
updating your membership ASAP to keep your membership current!!
Once again this year we offer the option of email newsletters at a reduced
rate. Be sure to note your selection on your renewal form which is included
with this newsletter and available on the SDAG website.**

Upcoming 2003 Meetings:

February, 2003	TBD
March 12, 2003	Joint meeting w/South Coast, Dr. Jeffrey Marshall, from Cal Poly Pomona Costa Rican Geology and Geomorphology

DO YOU HAVE AN ANNOUNCEMENT?? Do you have an event, job opening, field trip or other announcement you would like to share with our members?? Just call or email our SDAG Secretary, Margaret Eggers at 619-521-0165 OR meggers@hargis.com.

SDAG NEWSLETTER IS DIGITAL! If we don't have your e-mail address, or your email address changes, or if you have problems with the electronic format please contact Margaret Eggers at meggers@hargis.com, or call at 619-521-0165, ext. 132.

SDAG Wear: - Monte has a variety of shirts, hats, visors and even a nice vest with the SDAG logo. A small selection is available for purchase at the meetings; all SDAG wear can be ordered from Monte.

SDSU Geology Department Seminar Series – Wednesday Afternoons - The seminar announcement page is at: www.geology.sdsu.edu/seminars/

SDSU SPRING SEMESTER GEOLOGY COURSE OFFERINGS

Evening Courses offered from the Geology Department:

Geology 550 - **Engineering Geology**: Monday at 5 pm (Johnson)

Geology 653 - **Aquifer Testing and Well Hydraulics**: Tuesday at 5 pm. (Huntley)

Geology 633 - **Quaternary Geology**: Thursday at 5 pm (Rockwell)

Other courses are also available during the day, including Geology 552 (Lab and Field Techniques in Hydrogeology) - Friday from 9 am to 7 pm. The complete list of available classes can be found at: www2.sdsu.edu/cgi-in/schedule/browse=dept/command=search/dept=GEOL/semester=spring03

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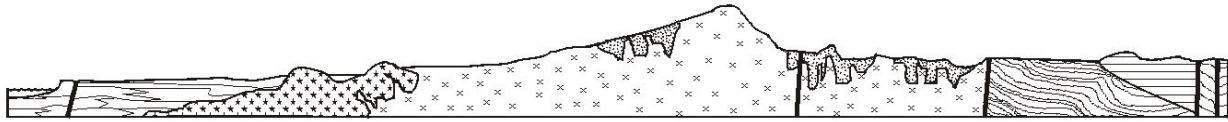
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POSITIONS AVAILABLE:

- **HARGIS + ASSOCIATES, Inc.** San Diego: is looking for a **CIVIL ENGINEER**. 10 years minimum experience required in soil and groundwater remediation and regulatory interface. Excellent opportunity for an experienced, registered California Civil Engineer. Strong leadership skills required. Excellent salary/benefits and work atmosphere. Send resume to: Kim Stransky, Hargis + Associates, Inc., 2365 Northside Drive, Suite C-100, San Diego, CA. 92108. EOE M/F/D/V. Hargis + Associates is a SDAG Corporate Sponsor. Visit us at www.hargis.com.
- Engineers, Geologist, and Soil Technicians – **Southern California Soil and Testing, Inc., (SCS&T)** has positions available for all levels of engineers, geologists, and technicians. **SCS&T** offers a comprehensive compensation and benefit package, and the opportunity to work on a wide range of projects. Submit resumes in confidence attention Dan Adler, P.O. Box 600627, San Diego, CA 92160-0627, fax 619-280-4717, email – dadler@scst.com
- **TerraPacific Consultants, Inc.** is a San Diego based geotechnical consulting firm specializing in soil and foundation engineering throughout the southwest. We are seeking a motivated **engineer** or **geologist** for our San Diego office who is interested in finding solutions to challenging geotechnical problems. We are looking for an honest, hard working, technically minded person to perform subsurface investigations, collect field data, perform geotechnical analysis and write reports. Qualified candidates must be close to registration, minimum of 2 years experience and possess good communication skills. Some experience in geotechnical forensic investigations is preferred. Field work and out of town travel will be required on regular basis throughout California, Nevada, New Mexico and Arizona. Position demands an organized, self-starter with the ability to get things done in a timely manner. The right qualified, independent and hard-working individual will be offered an excellent salary, profit sharing and benefit package commensurate with their experience. If you are interested please submit a resume and cover letter to: **TerraPacific Consultants, Inc. 12245 World Trade Drive, Suite G, San Diego, CA 92128 fax to 858-521-1199. e-mail to rheap@terrapac.net**

- **Geocon Consultants, Inc.**, a San Diego-based environmental services firm, is seeking **Senior Staff Geotechnical Engineer** with 2 to 4 years experience. BSCE required, MSCE preferred. Registration desirable. Previous experience in land development a plus. **Project Geotechnical Engineer** with 3 to 5 years experience. BSCE required, MSCE preferred. Registration required. Experience in land development a plus. **Engineering Field Technician** with 2+ years experience desired but not mandatory. Land development and/or hillside experience a plus. E-mail resume to hr@geoconinc.com or fax (858) 558-6159 or mail to Human Resources, 6960 Flanders Drive, San Diego. 92121.
- [Ninyo & Moore](#) has the following positions to be filled in San Diego:
Project-level Geotechnical Engineers and Geologists (5+ years experience)
Staff and Senior Staff-level Geotechnical Engineers and Geologists (2+ years experience)
Staff and Senior Staff-level Environmental Scientists, Geologists and Engineers (1+ years experience); **Field Technicians** with appropriate soils and materials testing certifications;
Deputy Inspectors for concrete, masonry, welding and structural steel. ICBO certification required, DSA and City of San Diego certification a plus. Please submit resumes in confidence to the Corporate Personnel Director at: Ninyo & Moore, 5710 Ruffin Road, San Diego, California, 92123, or via e-mail at careers@ninyoandmoore.com. EOE. [Ninyo & Moore](#) is a **SDAG Corporate Sponsor**.



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**San Diego Association of Geologists
c/o Margaret R. Eggers, PhD, CHG
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