

# SAN DIEGO ASSOCIATION OF GEOLOGISTS

[www.sandiegoeologists.org](http://www.sandiegoeologists.org)

## SDAG MEETING ANNOUNCEMENT

WEDNESDAY, April 20<sup>TH</sup>, 2011

**“Straightening of the northern San Jacinto Fault, California: Is the San Jacinto fault competing with the San Andreas Fault for “Big Kid on the Block”?”**

*Presented by*

**Gayatri Indah Marliyani – Student Scholarship Winner  
(Graduate Level)**

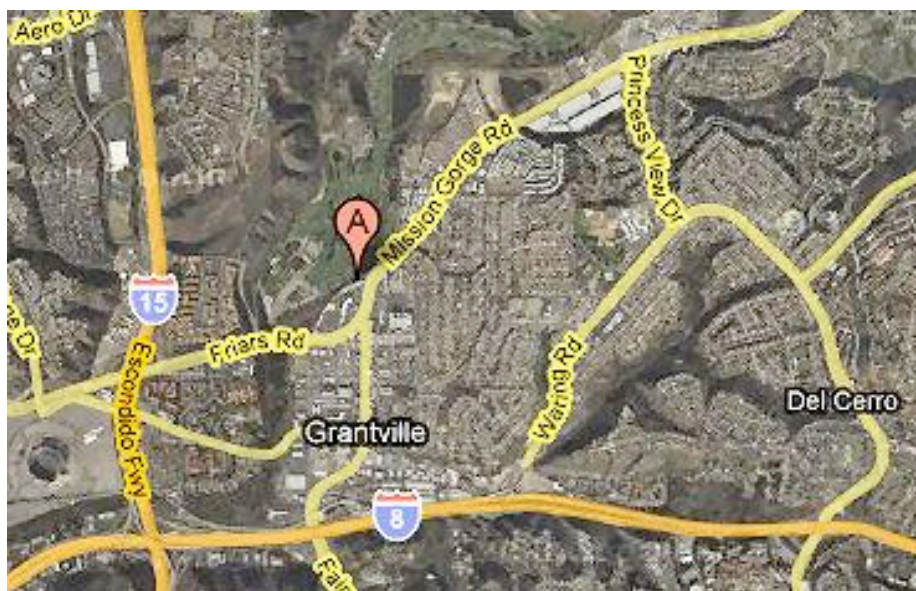
**AND**

**“Geochemistry and Petrogenesis of mid- Miocene Volcanoes from  
the Ancestral Cascades of Northeastern California”**

*Presented by*

**Stephen J. Warner – Student Scholarship Winner  
(Undergraduate Level)**

**Where:** **Emiliano’s Mexican Restaurant** (Overlooking Admiral Baker Golf Course)  
6690 Mission Gorge Road, San Diego, CA 92120. 619-284-2460



**When:** 5:30 pm – Social Hour  
6:30 pm – Dinner  
7:15 pm – Program

**Dinner:** Mexicano fantastico. Beverage station. Cash bar.

**Cost:** \$30 per person, \$5 discount for members, STUDENTS: \$20. Add \$5 if you did not make a reservation

**Reservations:** Make your reservation **online** at [www.sandiegogeologists.org](http://www.sandiegogeologists.org) no later than noon, **Monday, April 18<sup>th</sup>**.

**RESERVATIONS CANNOT BE ACCEPTED AFTER MONDAY AT 12 NOON.  
IF YOU DO NOT MAKE A RESERVATION, WE CANNOT GUARANTEE YOU A MEAL.**

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## SPEAKER ABSTRACTS

### Geochemistry and Petrogenesis of mid- Miocene Volcanoes from the Ancestral Cascades of Northeastern California

*Steven J. Warner and Victor E. Camp, Department of Geological Sciences, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182*

Several well-preserved, mid- to late Miocene volcanoes in northeastern California could well have an origin associated with the late Tertiary development of the ancestral Cascades volcanic arc. To assess this possibility, we have analyzed seventeen samples from the Spanish Springs Peak volcano and ten additional samples from four nearby volcanoes for major- and trace-elements using a Philips Magix Pro X-ray spectrometer. The analytical results demonstrate that these volcanoes are predominately composed of basaltic trachyandesite lavas that exhibit mildly alkali to calc-alkaline differentiation trends. The analyses also fall in the basic high potassium andesite field of Gill (1981). However, selected analyses with similar silica contents from the late Tertiary Western Cascades (duBray et al., 2006) do not share these same properties, but instead they are basaltic andesites that fall along subalkaline (tholeiitic and calc-alkaline) trends and plot in the basic medium to low-potassium andesite series of Gill (1981). These differences demonstrate that the volcanoes in northeastern California contain lavas that are chemically distinct from the majority of lavas associated with the Western Cascades. Furthermore, the calculated  $K_{55}$  values (i.e.,  $K_2O$  normalized to a silica content of 55%) for both lava suites are distinct, with the northeastern California lavas having a  $K_{55}$  value of 1.97%, which is more than double that of the Western Cascades lavas at 0.69%. As noted by Dickinson and Hatherton (1975), higher  $K_{55}$  values in arc volcanic suites typically correlate with greater depths to the seismic zone of the underlying subducting slab. This is consistent with the sampled volcanoes lying further inland from the oceanic trench, presumably above a deeper part of the subducting Juan de Fuca plate. An alternative hypothesis is that the higher alkalinity of these volcanoes is due to a greater degree of mantle metasomatism that may or may not be related to mid- to late Miocene subduction.

# Straightening of the northern San Jacinto Fault, California: Is the San Jacinto fault competing with the San Andreas Fault for “Big Kid on the Block”?

*Gayatri Indah Marliyani, Department of Geological Sciences, San Diego State University, 5500 Campanile Drive, San Diego, CA 9218; Thomas Rockwell, Nate Onderdonk, Sally McGill*

New CPT and trench observations along the Claremont Fault at Mystic Lake indicate that the primary activity of the northern San Jacinto Fault has jumped west by nearly a half kilometer in the area of the “Hemet step-over”, and now lies within Mystic Lake itself. Previous seismic reflection data also suggest the presence of new/young fault that cuts the middle of Mystic Lake even farther west, and seismicity observations are consistent with the idea that new fault strands have formed within the step-over zone. Finally, new paleoseismic data suggest that some late Holocene earthquakes may have jumped the step. All of these observations suggest that the “Hemet Step-over”, which has been used as the primary basis for segmenting the northern San Jacinto Fault, is being by-passed and that the fault may now be capable of larger earthquakes that rival those on the San Andreas Fault.

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## 2011 SDAG MEETING SCHEDULE - Mark your Calendars!

Meetings are usually on the 3<sup>rd</sup> Wednesday of the month but may change to accommodate speaker and meeting place schedules. Check here for updates!

May 18, 2011	<b>Carolyn Glockhoff - “Mapping the San Diego Underground”</b>
June 15, 2011	<b>Vicky Todd - The Southern California Batholith</b>
July 20, 2011	<b>Mark Legg - Tsunamis</b>

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## 2011 EXECUTIVE COMMITTEE

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**WEBMASTER** – Carolyn Glockhoff; *Caro-Lion Enterprises*, Ph: (858) 549-3396; [carolyn@caro-lion.com](mailto:carolyn@caro-lion.com)

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### \*\*\* Notes \*\*\*

Prospective monthly speakers have been lining up and pounding down our doors! But we are always interested in hearing what you may have to say. Anyone interested in presenting a talk for the monthly dinner meetings should contact our president, Chuck Houser.

## PRESIDENTS CORNER, APRIL 2011

Hi everyone! Well the first quarter of 2011 is now behind us! The three meetings we've had so far have been great, many thanks to Diane Murbach, as well as Stephen Jacobs and Barrett Salisbury. The speakers at our April meeting will be the annual student scholarship recipients, Gayatri Marliyani and Steven Warner. We will enjoy great Mexican food at Emilianos and great presentations from these two students. Be sure to be there on the 20<sup>th</sup> this month!

The 2011 field trip continues to develop. As before, if you have any ideas for papers, or know people who have worked in the area and might have some good material, let Todd know. It looks like we might break tradition a little by not having a break in meetings around the field trip. Gary Girty plans to present to SDAG at the October meeting. This will be a precursor to the field trip. The field trip will be in early November, and the November speaker is already scheduled. More details will follow later for that.

I was privileged to spend Saturday, March 19<sup>th</sup>, in the Trigo Mountains of western Arizona with the annual SDSU alumni field trip. Twenty-two years ago, I mapped about 2.3 miles of the North Trigo Detachment Fault in a very long day using a xerox copy of a USGS topographic map. On the 19<sup>th</sup>, Todd and I re-mapped a little over two miles with Google Earth images in about 4 hours. Love that Google Earth!



*Photo showing a nice fault ramp dipping to the left with lower plate green Precambrian-aged chlorite schist to the right and red upper plate Tertiary-aged volcanics to the left.*

Many of you are aware of the recent passing of our friend and colleague, Lyne Perry. Please keep her family and those friends closest to her in your thoughts at this difficult time.

Chuck Houser

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## Request for Sponsors: 2011 SDAG/SDGS and Publication SPONSORS

On behalf of the San Diego Geological Society, Inc. (SDGS), a public benefit 501(c)3 nonprofit educational corporation, we would like to request tax deductible Donations at our San Diego Association of Geologists (SDAG)

The list of paid Sponsors and the forms to become a Sponsor are located on the SDAG web site at: <http://www.sandiegogeologists.org/Sponsors.html>.

Your donation will further the SDGS mission to promote geology and related fields in the greater San Diego region, operating through the San Diego Association of Geologists (SDAG), a committee of SDGS. To achieve our primary educational objective, we organize frequent field trips and maintain a program of monthly meetings featuring speakers on current geological topics. We also publish field trip guidebooks and other publications related to geology and natural history. We encourage scholarship and research by awarding scholarships from the elementary through graduate levels. With your \$100 "EMERALD" donation, your name/business will be listed as a sponsor on the SDAG web site (<http://www.sandiegogeologists.org/>) and in the monthly SDAG meeting newsletters. With your \$500 "RUBY" or \$1,000 or more "DIAMOND" level donation, your business card will also be included on the SDAG web site and in the monthly SDAG meeting newsletters. In addition, as a "\$1,000 or more DIAMOND" level donation you will be presented with a thank you plaque. Should you have any questions regarding a Sponsorship, please contact our non-profit SDGS Secretary (Diane Murbach) at 619-865-4333.

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### Reminder: Annual Membership Dues for 2011!

SDAG Membership dues are due! If you have not already done so, please complete the form located here <http://www.sandiegogeologists.org/MemberForm.pdf>, with a check for \$25, to keep yourself in good standing. That's \$2.08 per month, what a bargain!

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### MEETINGS AROUND THE REGION:



The Groundwater Resources Association (GRA) presents the 6<sup>th</sup> Symposium in the Tools and Technology Series - **ENVIRONMENTAL FORENSICS IN AN ERA OF EMERGING DIAGNOSTIC METHODS**, to take place **April 12, 2011** at the Hilton Irvine/Orange County Airport Hotel, Irvine CA. The deadline for hotel reservations at the GRA rate is **March 22, 2011**. More information is available at <http://www.grac.org/environmentalforensics.asp>



The South Coast Geological Society (SCGS) Monthly Meeting, Monday April 11, 2011 at the Doubletree Club Hotel, Santa Ana. Speaker: **Jay W. Parker, PhD** Topic: **NASA UAVSAR Images M7.2 Quake Near Mexicali, Sees Fresh Hazard to Los Angeles**. More information and reservations available at <http://www.southcoastgeo.org>



92<sup>nd</sup> Annual Meeting of the Pacific Division of the AAAS (Advancing Science, Serving Society), including the 7<sup>th</sup> World Congress on Mummy Studies will take place at the University of California, San Diego, June 12-16, 2011. Visit <http://associations.sou.edu/aaaspd/> for more information. Abstract submission information is on page 24 of this newsletter. The deadline for abstract submission is April 19, 2011.

**CALL FOR PAPERS!! For the 2011 SDAG Field Trip Guidebook:**

**"GEOLOGY AND MINING HISTORY OF THE EASTERN IMPERIAL COUNTY REGION"**

This year's San Diego Association of Geologists field trip and guidebook will focus on the area of eastern Imperial County: essentially, the areas east of the Imperial sand dunes, and any outlying areas that are relevant. The guidebook would have these "sections": Structural and basement geology, mines (including history), Neogene geology and paleontology, and the road log(s). Papers might include subjects such as the Chocolate Mountains anticlinorium, detachment faults, geologic units such as the Bouse Fm., Orocopia Schist, etc. Historical papers on the Hedges/Tumco mining district in the Cargo Muchacho Mountains and the Potholes gold mine on the river have been promised so far, as well as cutting-edge geological papers. First draft manuscripts are due September 2, 2011.

The field trip is scheduled for November 4, 5, and 6, 2011, and camp will likely be at the Picacho State Recreation Area, about 25 miles north of Winterhaven, on the Colorado River. The geology is simply fantastic! Contact Todd Wirths, field trip guidebook editor, at [todd@wirths.com](mailto:todd@wirths.com) or 858-337-0098 to discuss logistics or for more information.

**2011 Desert Symposium: "Southern Exposure: A Trip through Southern California Outcrops"**



Plan to share your research with a presentation or a poster at the fabulous Zzyzx, California Desert Studies Center. The event is being held on April 22-23, 2011, with an accompanying field trip on April 23-25, 2011. Interested parties should contact William Presch Ph.D., Director of Desert Studies, Department Biological Sciences, California State University, Fullerton, at 657-278 2215 [wpresch@fullerton.edu](mailto:wpresch@fullerton.edu). For more info go to the

Desert Studies Center website at <http://biology.fullerton.edu/dsc>.

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environment to successfully deliver projects. Interested in informational interviews as well employment opportunities. Contact: Carme Cervantes, [carmecervantes@hotmail.com](mailto:carmecervantes@hotmail.com), 4250 4th Avenue, San Diego 92103, C.A. (858) 888-3716

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**Please Make a Note! Effective immediately, the San Diego Association of Geologists has a new mailing address:**

**San Diego Association of Geologists (SDAG)  
3130 N Evergreen Street  
San Diego, CA 92110**

We've consolidated and therefore replaced the addresses formerly intended for membership correspondence: PMB 157, 5694 Mission Center Road, Suite 602, San Diego, CA 92108, and ordering of publications: P.O. Box 191126, San Diego, CA 92159-1126

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**AT THE NEXT OUTCROP..**



LYNE PERRY 1962-2011 - Lyne was a dear friend of many geologists and paragliders in southern California. Lyne was an honorary member of the South Coast Geological Society and past President of the San Diego Association of Geologists. She graduated with her bachelor's degree in geological sciences from San Diego State University in 1985. She then worked for Catlin Engineering, Leighton and Associates, Kleinfelder and others before becoming an independent consulting geologist and environmental professional. Lyne loved to travel the world and enjoyed adventures in places like Belize, Costa Rica, the Galapagos, Turkey, Nepal, Australia and Tanzania. She enjoyed skiing, scuba diving, paragliding, marathon running, hiking, geology field trips, wine tasting and margaritas! Unfortunately, she recently died of her own hand. Lyne is survived by her mother, Bereline, and brother, Joseph, both of Hemet. A celebration of her life is planned for Saturday, April 23. She will be missed. For more info on the celebration, email [s.tanges@att.net](mailto:s.tanges@att.net)

Your notes of comfort and condolences can be sent to:  
Mrs. Bereline Perry and Mr. Joseph Perry  
43331 Briarcliff Drive  
Hemet, California 92544-6664



CAPTAIN LOYD DILL (1920-2011) Captain of the Deep Sea Drilling Project's Glomar Challenger and amateur ham radio operator some of you may know. Loyd Evans Dill, 91, passed away Saturday, April 2, 2011 at Crossgates River Oaks, Brandon Mississippi. The long-time resident of Brandon was retired after more than 20 years as a Merchant Marine Captain of the Glomar Challenger. He was preceded in death by his wife, Neil Dill; and daughter, Phyllis Perkins. Survivors include grandsons, Tony Perkins (Candice) and Andy Perkins (Nora), all of Brandon; great-grandchildren, Evan and Sarah; and sisters, Minnie Pearl Gammil, Etoile Washington and Willie Mae Tucker. Funeral services are 2:00pm Tuesday, April 5, 2011.