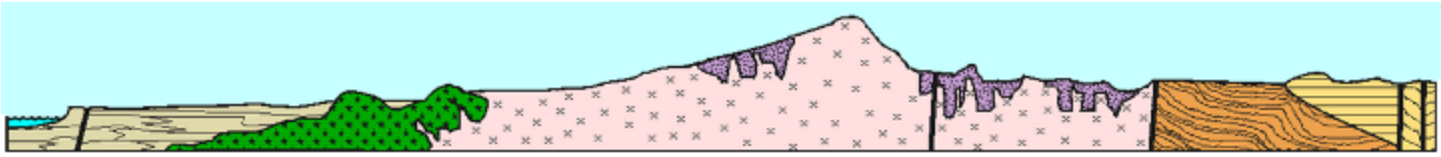


SAN DIEGO ASSOCIATION OF GEOLOGISTS

www.sandiegogeologists.org

SDAG MEETING ANNOUNCEMENT

Wednesday, September 20, 2017

Late Holocene Earthquakes on the Rose Canyon Fault

Presented by: ***Drake Singleton*** *and* ***Dr. Tom Rockwell***

Where: **Geocon Inc.—Upstairs Lounge**
6960 Flanders Drive, San Diego, CA 92121 (See Map)

When: 5:30 pm - Social Hour
6:30 pm - Dinner
7:30 pm - Program

Dinner: Mexican Buffett—Tacos and Enchiladas. Walawender Tavern (Beer & Wine)
Geocon will be checking all Student ID's. No Alcohol can be served to anyone under the age of 21

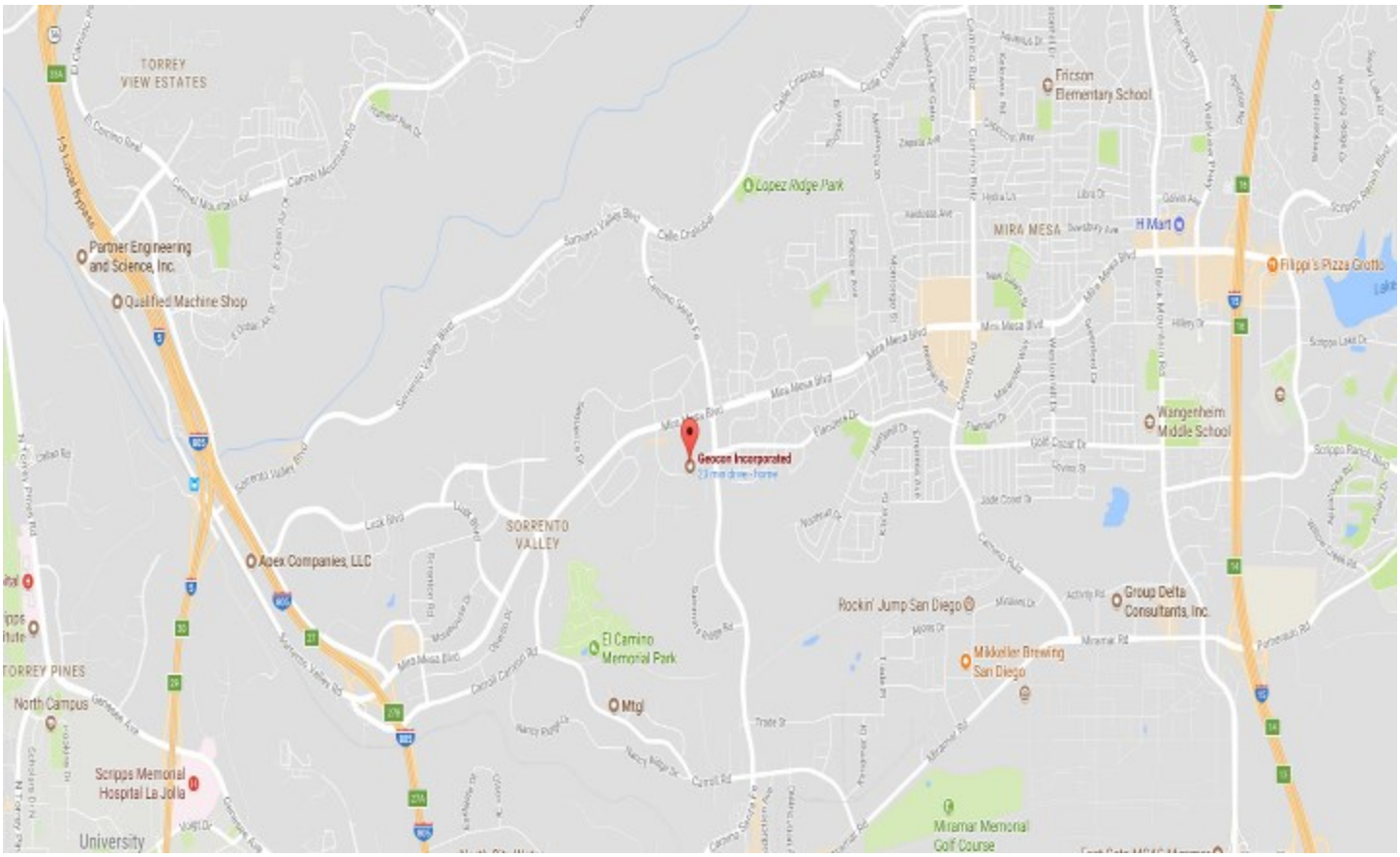
Cost: $35 per person, $5 discount for members, STUDENTS: $15.
Add $5 if you did not make a reservation.

Reservations: Make your reservation **online** at www.sandiegogeologists.org **no later than noon, Monday September 18th**. Reservations cannot be guaranteed after Monday at noon; but are always preferred over walk ins. **EARLY reservations well before the deadline are MUCH appreciated!**

Directions: FROM INTERSTATE 805: Take the Mira Mesa Blvd (Exit 27) exit. Head east on Mira Mesa Blvd for roughly 2 miles. Turn right onto Flanders Drive and Geocon will be on your left in about 0.4 miles.

FROM INTERSTATE 15: Take the Mira Mesa Blvd (Exit 16 exit. Head west on Mira Mesa Blvd for roughly 3.3 miles. Turn left on Camino Sante Fe and then turn right on Flanders Drive. Geocon will be on you right in about 0.2 miles at the second driveway.

Map:


TORREY VIEW ESTATES
Partner Engineering and Science, Inc.
Qualified Machine Shop
Lopez Ridge Park
Ericson Elementary School
MIRA MESA
H Mart
Filippi's Pizza Grotto
Wangenheim Middle School
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Apex Companies, LLC
Rockin' Jump San Diego
Group Delta Consultants, Inc.
El Camino Memorial Park
Mtgl
Mikkeller Brewing San Diego
TORREY PINES
North Campus
Scripps Memorial Hospital La Jolla
University
Miramar Memorial Golf Course

ABSRACT

Late-Holocene Earthquakes on the Rose Canyon Fault at Old Town, San Diego CA

Drake M. Singleton, Thomas K. Rockwell, Monte Murbach, Diane Murbach ,Jillian Maloney, Yuval Levy, Luke Weidman, Eui-Jo Marquez

We present the results of new paleoseismic trenches excavated across the main trace of the Rose Canyon fault (RCF) in Old Town, San Diego, to determine the timing of late Holocene earthquakes. The stratigraphy at the site consists of historical fluvial and alluvial fan deposits, several buried soil A horizons, massive silt strata, and older San Diego River gravelly secondary channel deposits. There is evidence for four large surface-rupturing events, as well as two smaller events, the youngest of which cuts the early historical living surface that contains glass, ceramics, cow bones, and a historical era foundation. This event is likely related to the 1862 San Diego earthquake, which had an estimated magnitude close to M6 and was described as “The day of terror in San Diego” in *The Los Angeles Star*. An even younger “cracking event” resulting in fissures through the historical alluvial deposits, and filled with historical-aged sand, suggests either a triggered event or minor creep. The possibility exists that addition smaller magnitude events have occurred on the RCF, but the stratigraphy at Old Town limits the resolution needed to distinguish evidence for every small surface rupture or cracking event. The four larger events produced substantially more deformation, and over a broader width of the fault zone, than the 1862 event: these events appear as displaced soil horizons, rotated silt beds, offset channel deposits, and fissures filled with overlying sediments. The youngest of these is immediately below the historical horizon and likely correlates with the most recent event recognized at multiple trench sites along the Rose Canyon fault in San Diego and dates to the past 400 years. The three older events have all occurred in the past 3,500 years, with the penultimate large event dated to about 1300 AD. The results of this paleoseismic study, combined with earlier results, indicate that the Rose Canyon Fault has sustained activity throughout the Holocene and into the Historical period. Comparison of paleoseismic results from the Newport-Inglewood fault (NIF) indicates that some RCF earthquakes have similar timing with NIF events, most likely indicating the occurrence of a sequence or cluster of events on the coastal system of strike-slip faults. The alternative explanation – large earthquakes rupturing both faults simultaneously – is unlikely when both the slip rate and recurrence intervals for these faults are considered.

BIOS

Drake Singleton is currently a third-year PhD student in the Joint Doctoral Program in Earthquake Science and Applied Geophysics between San Diego State University's Department of Geological Sciences and University of California, San Diego's Institute of Geophysics and Planetary Physics at the Scripps Institution of Oceanography. He received a Bachelor of Arts degree in the Geological Sciences from the University of Colorado Boulder in May 2013. Prior to his arrival in San Diego, Drake worked as a well-site geologist for High Plains Consulting LLC monitoring daily operations and geologic conditions of natural gas drilling operations in Wyoming's Green River Basin. Drake's current research involves the use of applied geophysical techniques in combination with paleoseismic investigative methods to gain a better understanding of earthquake rupture characteristics and fault structure through structural stepovers and fault segmentation.

Dr. Thomas Rockwell is a nationally and internationally renowned paleoseismologist and structural geologist who has published over 135 articles in major international journals, coauthored a number of book chapters, published 50 papers in conference proceedings and guidebooks, and coauthored over 300 papers presented at professional meetings. Having served as Geology Group Leader for the Southern California Earthquake Center for many years, he is an expert on the tectonics and earthquake hazards of southern California and Baja California, has conducted extensive trenching programs to date earthquakes on faults in the western U.S., South and Central America, the Middle East and Asia, and routinely uses soil stratigraphy and geomorphology combined with various radiometric dating techniques to assess rates of fault activity, determine recency of faulting, and date past earthquakes. In the past decade, he has initiated a number of ground-breaking studies on fault zone architecture and processes in southern California with PhD students Ory Dor and Neta Wechsler, as well as with many MS-level students. New work on fault zone damage, pulverization, and fluid processes has resulted in over a dozen well-cited papers on this topic since 2006. His other research focuses on understanding earthquake occurrence in time and space. Current projects include the characterization of fault systems behavior by understanding patterns of past recurrence of large earthquakes on faults in southern California, northern Mexico, Panama, Argentina, Portugal, Spain, Turkey, India, and Israel. This work includes resolving information on slip per event, as it relates to understanding the controls on segmentation and rupture termination. Current work on fault zone processes initially focused on damage characteristics, but has shifted to the role of fluids and the processes that produce the damage. He has also worked extensively on the affects of tectonism on the landscape, and using geomorphology to constrain rates and timing of tectonic events. Included in this latter aspect is detailed mapping and dating of marine terraces along the west coast of North America and assessment of paleosea level during the late Quaternary.

UPCOMING MEETINGS

Meetings are usually held on the 3rd Wednesday of the month but may change to accommodate the speaker and meeting place schedules. Check the SDAG web site for updates.

October 14 –15, 2017	2018 SDAG Field Trip—Julian
November 15, 2017	TBD
December 13, 2017 *2nd Wednesday*	Tom Demere San Diego Natural History Museum

2017 SDAG EXECUTIVE COMMITTEE

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VICE PRESIDENT - Chris Livesey, liveseychris@yahoo.com

SECRETARY – Ken Haase, secretary@sandiegogeologists.org

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PUBLICATIONS – Lowell Lindsay; *Sunbelt Publications*; Ph: (619) 258-4911, x111; fax:(619) 258-4916; **llindsay@sunbeltpub.com**

SDAG SECRETARY'S CORNER

Secretary's Corner, September 2017

Greetings SDAG,

We've had a another great summer at SDAG. A great talk by Jorge Ledesma, a successful joint meeting with SCGS and hopefully the start of a new series of group meetings with the Society of American Military Engineers. I hope everyone has had a great summer and hope to see more students at the upcoming meetings. This month on September 20th we have Drake Singleton and Dr. Tom Rockwell speaking about Late-Holocene Earthquakes on the Rose Canyon Fault at Old Town. Geocon will be hosting the event again in our upstairs lounge with Taco and Enchilada Catering. It will be a great talk so be sure to get your sign ups in early!

The Field Trip is fast approaching! The signup forms are included in the newsletter. Chris Livesey has provided some updates for a great trip to Julian. We would love everyone to attend so get those signups sent over to him. The deadline for signups to avoid late fees is September 20th. The field trip is on October 14th and 15th.

A thank you to everyone who has come to meetings this year, we have had great turnout and hope to continue to see that moving forward. See you on September 20th!

Sincerely,

Ken Haase | *Staff Geologist / SDAG Secretary*
GEOCON INCORPORATED
6960 Flanders Drive, San Diego, California 92121
P|858.558.6900 ext. 204 M|619.818.3425
haase@geoconinc.com / www.geoconinc.com / Facebook / Linkedin

ANNOUNCEMENTS

SDAG Fall 2017 Fieldtrip—October 14th and 15th 2017.

Preliminary Field Trip itinerary

I am happy to announce this SDAG 2017 field trip update and general itinerary. As previously discussed, this trip will take you along State Route 78 in Ramona and State Route 79 through Julian. In an effort to break up the monotony of a typical roadside geology field trip, this year, two short hikes will be incorporated to invigorate you. Prior to crawling underground in the Eagle Mine and visiting the Ranchito mine, we will explore the local geology of the area, including the Ramona plutonic complex, ballena gravels precariously outcropped atop a mountain top, surficial deposits will be re-examined (optional stop time pending), and gold claim/prospecting locations. For your convenience and assurance, that I am not leading you atop a hillside no less grueling as Mount Himalaya; I have provided a topographic profile, courtesy of Google Earth. Please note the itinerary is preliminary and is subject to change.

October 14, 2017

0700 – 0800: Registration check-in, continental breakfast (provided), coffee, water, orange juice, receive your memorable gift

0800 – 1100: Hike to the ballena gravels with discussion by Pat Abbott

Round trip ~2.4 miles, Gross Elevation Gain ~600 feet

1100 – 1200: Miscellaneous stops pending time, gold claims, Pseudo Tsunami Deposits re-examined (speaker TBD and time permitting)

1200 – 1300sh: Lunch (provided) at Inaja Memorial Park,

1300sh – to 1500: Hike to understand the Ramona Plutonic Complex with commentary by Mike Thacker

Round trip ~2.4 miles, Gross Elevation Gain ~500 feet

1500 – 1600: Additional stops, time permitting

1600 – 1700: Arrive at Menghini Winery, set up your temporary homesteads, enjoy light conversation over drinks with friends, enjoy the rare opportunity to camp among the vineyards and orchards of Julian

1700 - ____: Dinner (provided), evening enjoyment and slumber

2200 – 0700: Quiet hours

October 15, 2017

0700 – 0800: Breakfast (provided) and to-go-lunch (provided) for the afternoon

0800 – 1100: Ranchito Mine at Right Fender Ranch, with commentary by Monte Murbach and Mike Hart. **HIGH CLEARANCE VEHICLES ONLY**

1100 – 1300: Subsurface exploration of the Eagle Mine with commentary by the mine's curators. Enjoy your lunch (previously provided) and depart the field trip at your leisure!

1300 – _____: New Stop! Enjoy a very rare opportunity to pan for your own gold on private land. We have been granted access to private property that is a tributary of the famous Coleman Creek. The creek where gold was discovered! This is optional and will require wading water, hiking, and pioneering prospector work, as last year's rains have spurred abundant vegetation along the banks. The owner will be taking a 50% royalty on recovered gold.

The following list will hopefully give you some ideas on what to bring….you might want less and you might want other items not listed

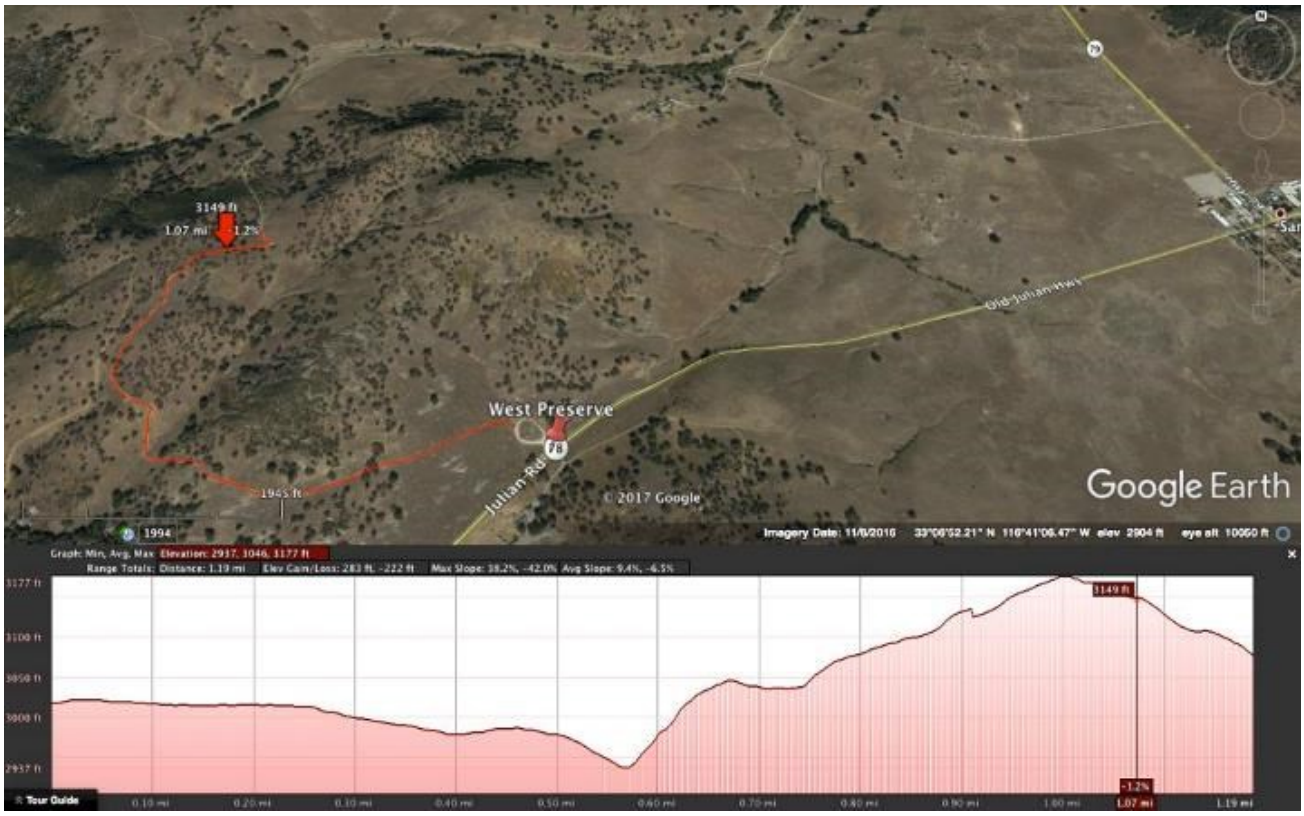
Suggested Camping Gear List

- Camping chair
- Personal wine or beer mug
- Hat
- Sunscreen
- Lip Balm
- Toothbrush
- Insect repellent
- First aide kit
- Emergency fire extinguisher
- Hiking shoes
- Leisure shoes
- Appropriate clothes (hiking, sleeping, leisure)
- Cool clothes for day
- warm clothes for nights
- Sleeping pad
- Pillow
- Sleeping bag
- Flash light
- Walking/hiking stick
- Camera
- Sunglasses
- Water canteens/camel pack for hydration during the hike

(beverages are included with the trip during meals and road stops, however we will not be hiking with the cooler supply)

General topo profile along the hike towards the ballena gravels

General topo profile along the hike towards the Ramona plutonic complex



SDAG Field Trip 2017

Julian-Banner District: A Road to Gold

The 2017 San Diego Association of Geologists annual field trip on October 14 and 15, 2017 will traverse along State Route 78 and 79, from Ramona towards Julian, California. Surficial deposits will be re-examined to draw new conclusions. Curiously propagated gravels atop peaks will bewilder you. A plutonic complex will be observed at a daunting scale. The history of gold mining will be told and lode deposits examined within a mine. Gold prospecting spots will be revealed! A more detailed timeline will be provided, as itinerary can change, but for planning purposes please be ready for an 8am start on Saturday and conclusion of the trip on the following Sunday afternoon. For those not interested in camping, hotel accommodations in the Julian area might be available, but are not included in the registration cost and must be reserved independently.

What is included:

- Camping access at Menghini Winery
  (you will need to provide personal camping equipment)
  (portable restrooms will be provided, no showers)
- 5 meals (Saturday Continental Breakfast, Saturday lunch, Saturday dinner, Sunday breakfast & lunch)
- Snacks and beverages throughout trip
- 2017 SDAG fieldtrip Guidebook plus a bonus book
- Memorable gift
  A good time with friends and associates

Important Dates:

- September 20, 2017: Last day to register, without late fee
- **September 30, 2017: Last day to register late**
- October 1, 2017: Registration is closed
- October 14, 2017: Field trip begins!
- October 15, 2017: Field trip concludes.

Registration information is on the next page:

SDAG Field Trip 2017

Julian-Banner District: A Road to Gold

Registration Information

Name(s):_____

Address:_____

Phone No._____

Email Address:_____

Party Quantity and Cost

Quantity		Cost
_____	Non-member(s): X $175 =	_____
_____	Member(s): X $150 =	_____
_____	Student(s): X $75 =	_____

Total Amount Enclosed (late fee add $15.00 per person) _____

Meal Choice: ___ regular ___ vegetarian

Please note: registration fee is non-refundale and the event is rain or shine, events may change without notice

Make checks payable to San Diego Association of Geologists

Mail to: Leighton & Associates, Inc.
Attention: Chris Livesey
3934 Murphy Canyon Rd, Suite B-205
San Diego, Ca. 92123

Geological Society of America Annual Meeting

https://www.geosociety.org/

2017

Abstract Deadline: August 1, 2017

Early Registration Deadline: August 18, 2017

Meeting Dates: October 22-25, 2017 in Seattle, Washington

2018

Field Trip Submission Deadline: December 1, 2017

Session and Short Courses Deadline: February 1, 2018

Abstract Deadline: August 14, 2018

Meeting Dates: November 4-7, 2018 in Indianapolis, Indiana

FOR SALE: Hargrave Environmental Consulting. Lots of equipment and supplies. $50k.

Contact: clhargrave@gmail.com

Have you ever wanted to run through an active quarry surrounded by Early Cretaceous Santiago Peak Volcanics? Well now is your chance!

Vulcan Chula Vista is hosting a 3.7 and 7.4 mile run through their quarry in Chula Vista. The event is tax deductible and proceeds go the Chula Vista Fire Fighter Association. The event will take place on October 28th.

Visit the website for pricing and sign up information:

http://quarrycrusherrun.com/san-diego/

57-Hour San Ysidro Southbound Border Closure: Sept. 23-25

A temporary closure of the San Ysidro El Chaparral border will take place for southbound vehicular traffic from September 23-25, 2017. The 57-hour closure will be in effect from Saturday, September 23 at 3am to Monday, September 25 at 12 noon. The I-5 and 805 freeways will be closed for all southbound traffic, beginning at the I-905. Southbound vehicle border crossings will be diverted east to the Otay Mesa border crossing.

The San Ysidro pedestrian crossings (northbound and southbound) will remain open as usual and northbound vehicle traffic at the San Ysidro border will not be affected.

The temporary closure is the first stage of a seven-stage process that will last until Spring 2018 and will consist of lane reductions and construction to reroute the southbound San Ysidro El Chaparral border crossing and realign the I-5 freeway. The entire realignment project is expected to be completed by June 2019.

Department of Geological Sciences

College of Sciences

Blue Gold Area of Excellence

Hydrologist/Hydrogeologist

AY2017/2018

The Position – Assistant Professor (Tenure Track), Hydrologist/ Hydrogeologist

The San Diego State University Department of Geological Sciences invites applications for a HYDROLOGIST or HYDROGEOLOGIST at the assistant professor level. We seek to hire a candidate with demonstrated expertise in hydrogeology or hydrology using applied geophysics, geochemistry, computational methods and/or geospatial techniques. Areas of focus may include, but are not limited to, fractured flow, fault-controlled flow, critical zone hydrology, rock-water interactions, water quality and water quantity. The successful candidate will be expected to develop a vigorous, externally-funded, independent research program with student participation. Contribution to the Department of Geological Sciences teaching mission and participation in University and/or community service is also expected. Candidates should have a PhD in Geology or related field, relevant post-doctoral experience, a strong record of research accomplishments, external funding and a demonstrated capacity for teaching.

Additional information and application procedures are available at Https://apply.interfolio.com/43919. Review of applications will begin on 1 November 2017 and continue until the position is filled. Please direct questions about the position to the search committee chair, Dr. Thomas Rockwell, trockwell@mail.sdsu.edu.

SDSU is a Title IX equal opportunity employer.

Department of Geological Sciences

College of Sciences

Structural Geology/Tectonics

AY2017/2018

The Position – Assistant Professor (Tenure Track), Structural/Tectonic Geology

The San Diego State University Department of Geological Sciences invites applications for a tenure-track position in STRUCTURAL GEOLOGY/TECTONICS at the Assistant Professor level. We seek to hire a candidate who uses field-based and/or computational models to address questions related to structural deformation in regions of active tectonics. Specific areas of research might include any aspects of structural geology and/or active tectonics through the use of field studies, applied geophysics, computational techniques and/or models. The successful candidate will be expected to develop a vigorous, externally-funded, independent research program with student participation. Contribution to the Department of Geological Sciences teaching mission and participation in University and/or community service is also expected. Candidates should have a PhD in Geology or related field, relevant post-doctoral experience, a strong record of research accomplishments, external funding and a demonstrated capacity for teaching.

Additional information and application procedures are available at https://apply.interfolio.com/43917. Review of applications will begin on 1 November 2017 and continue until the position is filled. Please direct questions about the position to the search committee chair, Dr. Thomas Rockwell, trockwell@mail.sdsu.edu.

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de maximis, inc., a nationwide firm specializing in **project coordination**, currently has opportunities in Southern California. We are currently looking to fill the following position:

Project Manager: Candidate would have a B.S. Degree in Geology, Biology, Chemistry, or Engineering (Mechanical, Chemical or Civil). Professional Registration or ability to obtain within two years, and Masters degree is a plus. Candidate should have 5 to 10 years relevant experience in the environmental consulting industry and familiarity with local regulatory agencies, RWQCB, DTSC and EPA and guidelines especially CERCLA and the NCP. Familiarity with chlorinated solvents, such as TCE is a plus.

Candidate needs to have demonstrated site investigation/remediation knowledge. Working knowledge of groundwater monitoring, treatment system design, construction or operation including systems such as Air Stripping, SVE, DPE, LGAC, and VGAC are a plus. Additional skills include work plan and report preparation, task management, cost estimating and scheduling experience. The candidate should be detail oriented and have excellent verbal and written communication skills. Position will be based in Southern California (preferably Orange or Los Angeles County but San Diego County is acceptable) and will require some travel. OSHA 40-hour training and valid California driver's license required.

de maximis, inc. offers competitive salaries and benefits, and a challenging work atmosphere. To learn more visit our website at: www.demaximis.com.

Qualified candidates should send resumes, along with a cover letter summarizing experience and salary requirements to:

de maximis, inc.

Attention: Mike Palmer

1322 Scott St, Suite 104

San Diego, CA 92106

mpalmer@demaximis.com

Interactive Fault Map for San Diego

As part of the update for the San Diego-Tijuana Earthquake Planning Scenario, Working Group No. 1's "Fault Map Subcommittee" has completed the first publicly available bi-national active and potentially active fault map. This interactive GIS map includes the first publicly available active and potentially fault map locations from the City of San Diego. The City of San Diego fault locations and activity of faults are based chiefly on interpretation of information contained in geologic reports by private consultants. The City of San Diego identifies active faults as Holocene (<= 11,000yr) and potentially active as Quaternary (up to 1.6my). City of San Diego fault investigations are ongoing that may require future revision of this map. This map is not a substitute for a site specific fault investigation. The map also includes an updated fault map layer from the State CGS. CGS suggests users defer to the City of San Diego fault data, where marked, for increased accuracy. The map also integrated the faults south of the border for a bi-national cross border view. You can expand the map legend on the left side to see the fault ages and sources for each layer that can be turned on or off for the map view. You can select from 1 of 12 base maps. You can click on the fault line on the map to see the meta-data source. This map includes the yellow dashed SURFACE FAULT RUPTURE location layer that will be used for the infrastructure, social, and economic impacts and emergency response for the update to the Earthquake Scenario. In addition, active and potentially active fault investigation locations from private companies are planned to be added to this map as a resource. This map is an on-going project and resource as our knowledge increases about local active and potentially active faults.

The link is available at: http://www.sandiegogeologists.org/Faults_map.html

I would like to thank Carolyn Glockhoff for her endless GIS work, Jim Quinn and the City for providing their data and time, Jerry Treiman with CGS for his time preparing the Surface Rupture and providing their new State fault data layer, and Luis Mendoza at CICESE for providing the faults south of the border. Please contact Diane Murbach (dianemurbach@gmail.com), Chair for the SD-TJ Earthquake Scenario Working Group #1 - Earth Science, if you have any questions, or see any errors on this new fault map.

Diane Murbach (619) 865-4333

Engineering Geologist, C.E.G.

www.murbachgeotech.com

CALL FOR ARTICLES

SDAG invites members to submit articles on their current research or an interesting project they are working on for publication in the monthly newsletter. The article should be no more than 1 page in length. Photos are welcomed; too. Please submit articles to the SDAG secretary via email.

PHOTO OF THE MONTH

If you would like to submit a photo, email them to secretary@sandiegogeologists.org and I will try and put them in the newsletter. Provide a short description of the picture.

I've got no cool photos to show!
Submit yours to be featured here!

SDAG RESEARCH TOOL

SDAG RESEARCH TOOL - A comprehensive listing of all papers published by SDAG, whether as annual field trip guidebooks or special publications, is now available on our website. Entries are sorted by primary author, or chronologically by date of publication, from our first guidebook in 1972, up the San Luis Rey River in 2013, from Coast to Cactus in 2014, and finally over the edge to the Coyote Mountains in 2015. These can be accessed or downloaded as .pdf files. They are fully searchable in Adobe Reader or Acrobat, so if you are researching a topic, "tsunami" for example, you can search for that keyword. This listing will be updated as new books are published. Thanks to Greg Peterson and Hargis + Associates, Inc., for making this possible. See the links below:

http://www.sandiegogeologists.org/SDAG_Pubs_authors.pdf

http://www.sandiegogeologists.org/SDAG_Pubs_chronological.pdf

REQUEST for 2017 SDAG/SDGS 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 for our San Diego Association of Geologists (SDAG) group. 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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Contact: ***Dr. David R. Hargis***

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http://www.tetratech.com

Contact: ***Dave Bloom***

Contact: **Rupert Adams, CEG**

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