

# Inland Geological Society

December 2018

Newsletter of the Inland Geological Society

Volume 34 No. 12

Next Meeting:

**Wednesday  
December 5<sup>th</sup>**

Time:

**Social: 6:00pm  
Dinner: 7:00pm  
Lecture: 7:30pm**

Location:

**Jurupa Mountains  
Discovery Center  
7621 Granite Hill Dr.  
Jurupa Valley, CA  
92509  
(Map on Pg. 6)**

Coming to

Dinner?

**Please RSVP  
to Jessie Bagby  
by Monday, 12/3  
rsvp.igs@gmail.com**

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**December Speaker:**

**Astrid Garcia**

**Undergraduate Student, University of California, Riverside**

**"Global Seismicity Using InSAR"**

**Abstract:**

Interferometric synthetic aperture radar (InSAR) is a remote sensing technique that uses radar to measure ground displacement. The European Space Agency's Sentinel-1 mission consists of two SAR satellites, each with a 12-day orbital repeat. The mission's objective is to quickly respond to earthquakes and routinely provide data to monitor volcanoes, strain accumulation on active faults, and other hazards, such as landsliding or land subsidence.

This presentation focuses on the effort to study global seismicity using InSAR. Inverse models for global earthquakes of interest were produced using data collected by Sentinel-1 since 2015. These models are of interest because they provide pertinent information about the detected earthquakes, such as accurate locations and estimates of source parameters. The first step in producing these models is to process the data collected by Sentinel-1 into interferograms, the patterns formed by wave interference, and are effectively contour maps of the movement of the ground. We focused on earthquakes that were located on land, with depths less than 20 km and magnitudes between 5.5 and 7. Once an earthquake is clearly identified in the data, the inverse modelling process can begin.

*(continued on p. 2)*

### Abstract (cont.)

Thus far, we have produced models for earthquakes that have occurred near Huarichancara, Peru, Machaze, Mozambique, Sary-Tash, Kyrgyzstan, and Yilkiqi, China. Ultimately, the information acquired from these earthquake models contributes to our understanding of the tectonics of each source region, and can be used to calibrate seismic locations and models.

### **Speaker Biography:**

Astrid Garcia is currently an undergraduate student majoring in general geology at the University of California, Riverside (UCR). She transferred there from Riverside City College where she participated in the Geoscientist Development (GEODE) Program. Through this program she was mentored by Dr. Gareth Funning, associate professor at UCR, where they researched earthquake detectability using interferometric synthetic aperture radar (InSAR). She is co-author on their recently published paper, "A systematic study of earthquake detectability using Sentinel-1 Interferometric Wide Swath data." In addition to her interest in remote sensing technology, Astrid is president of the Geology Student Organization at UCR. She encourages her peers to learn about their local geology and to be active members in their community through local volunteer work and professional outreach.

**ALL IGS MEMBERS ARE INVITED TO COMPLETE AND SUBMIT AN OFFICER AND BOARD MEMBER BALLOT, INCLUDED WITH THIS NEWSLETTER, FOR THE SELECTION OF PRESIDENT, SECRETARY, WEB MASTER, AND NEWSLETTER EDITOR FOR 2019-2020. BALLOTS SHOULD BE SUBMITTED BY EMAIL TO [RSVP.IGS@GMAIL.COM](mailto:RSVP.IGS@GMAIL.COM).**

**Check out IGS's Facebook Page at  
<https://www.facebook.com/groups/InlandGeo/>**

Contact Margaret Gooding at  
at [mgooding@roadrunner.com](mailto:mgooding@roadrunner.com) to join.

AEG is accepting abstracts for a Shlemon Specialty conference titled *State of the Science: Investigation of Active Faults in the Basin and Range Province* to be held at the UNLV Campus, Las Vegas, Nevada on March 28-29, 2019. The deadline for abstract submittal is January 15, 2019. For additional information, see the flyer at [https://www.aegweb.org/resource/resmgr/shlemon\\_march\\_28-29\\_2019\\_ver.pdf](https://www.aegweb.org/resource/resmgr/shlemon_march_28-29_2019_ver.pdf), or contact John H. Peck (702-556-5229, email: [peckj1@juno.com](mailto:peckj1@juno.com)) or Gary Luce (775-883-1600, email: [lucegc@charter.net](mailto:lucegc@charter.net)).

**Marino Engineering Associates, Inc. (MEA)** announces a workshop titled *Introduction to Numerical Modeling in Geotechnical Engineering with Emphasis on FLAC Modeling* to be held January 25-26, 2019, in downtown Los Angeles. The course will be taught by Dr. Siavash Zamiran, P.E., the 2018 ASCE St. Louis Young Engineer of the Year, and is recommended for civil, geotechnical, mining, petroleum, and geological engineers. MEA is offering a \$200 registration discount to AEEG Inland Empire members by using the code "AEEG" when submitting the registration form. For additional information about the course and registration, visit the web page at <http://meacorporation.com/event/flac/>.

## EMPLOYMENT OPENING

### CALIFORNIA MINING AND GEOLOGY BOARD AND DEPARTMENT OF CONSERVATION State Geologist

The State Mining and Geology Board and the Department of Conservation are accepting applications for the position of State Geologist. The California State Geologist serves as the head of the California Geological Survey (CGS), one of the largest state surveys in the nation. CGS provides scientific products and services about the state's geology, seismology, and mineral resources, including their related hazards, that affect the health, safety, and business interests of the people of California. It is one of the oldest geological surveys in the nation, and today produces more products and provides more services to more people than any other state survey.

Interested parties should submit a statement of interest and a completed Standard Form 678 (which may be supplemented by a resume) to the State Mining and Geology Board.

The position will be open until filled. For additional information and complete application instructions, visit the website at <https://www.conservation.ca.gov/smgb/Pages/state-geologist-position.aspx>.

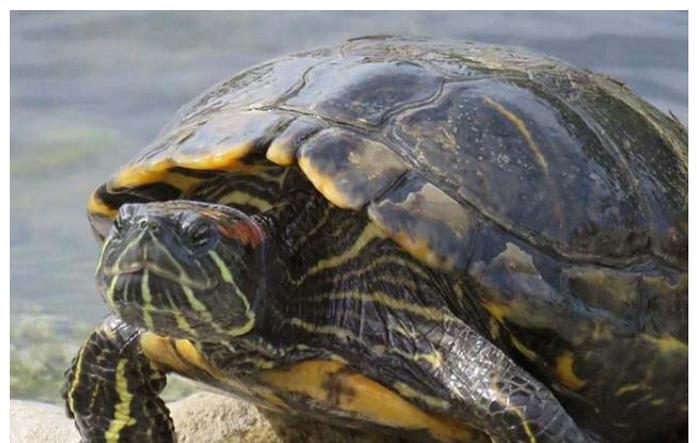
Visit the  
**Jurupa Mountains Discovery Center**  
7621 Granite Hill Drive, Jurupa Valley, California 92509  
951.685.5818

The Jurupa Mountains Discovery Center hosts the Ruth and Sam Kirkby Earth Science Museum, which houses a unique collection of exhibits including the Crestmore Quarry, fluorescent minerals, Indian artifacts, mining exhibits, petrified wood, sea shells, dinosaur exhibits, fossils, rocks and minerals, and many more.

The onsite Granite Hill Nursery stocks a large variety of cacti and succulents, and the gardens showcase mature and unique species over several acres. A collection of butterfly gardens is under construction as part of ongoing Eagle Scout Service Projects. The Center also provides hands-on educational kits for educators, houses a critter corner in the gift shop, and hosts themed toddler times on Friday afternoons.

The Center is always looking for volunteers to assist in the many on-going activities from light construction work to assisting with tours and programs. This is a worthwhile and fulfilling opportunity for scientifically-minded individuals of all ranks, from students through working professionals to retirees. This service will look great on your resume! Please contact Executive Director Wes Andree at 951/685-5818 or [director@jmddc.org](mailto:director@jmddc.org) for further details.

*Visit the website at <https://jmddc.org> to learn more about the Jurupa Mountains Discovery Center!*



## ADDITIONAL UPCOMING EVENTS

REGISTRATION NOW OPEN!



# GEO-CONGRESS 2019

8th International Conference on Case Histories in Geotechnical Engineering  
Philadelphia, Pennsylvania | March 24-27



## Top 5 Reasons to Attend

- **Network** with your colleagues from around the world.
- Attend Terzaghi, Peck, and Seed **Award Lectures**.
- Gain essential **ethics and geo-business information** at sessions provided by GBA.
- Visit exhibitors to find the **latest tools, techniques, e-programs**.
- Earn **Professional Development Hours (PDHs)** to maintain your professional licensure while gaining focused knowledge.
- **Experience Philadelphia.** A First World Heritage City, with its iconic 300 years of history amidst a vibrant 21st century culture and streets lined with parks, shops, public art, restaurants, and museums. Philadelphia is home to four Civil Engineering Historic Landmarks – a perfect landing spot for civil and geotechnical engineers!

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

Registration is now open for AEG's *Risk Assessments for Dam and Levee Foundations Workshop* to be held April 24-26, 2019, in Denver, Colorado. This workshop will focus on the role and contributions of engineering geologists and geotechnical engineers in the Risk Informed Decision Making process in managing dam and levee safety programs, risks associated with geological potential failure modes, and communication with Risk Assessment teams. For additional course and registration information, visit the website at <https://www.aegriskworkshop.org/>

Plan ahead for the Geological Society of Nevada's 2020 Symposium, *Vision for Discovery: Geology and Ore Deposits of the Basin and Range*, scheduled for May 12-24, 2020, at the Nugget Casino Resort in Sparks, Nevada. Abstract submittal will open soon! For more information, visit the organization's website at <http://www.gsnv.org/2020-symposium/>.

## Upcoming Meetings/Events

### Inland Geological Society

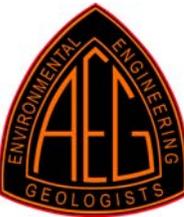
The Inland Geological Society typically meets the first Wednesday or Thursday of each month. On Wednesday, January 9th, the speaker will be John Grammer of ESRI. For more information, visit our website at [www.inlandgeo.org](http://www.inlandgeo.org).

### South Coast Geological Society



Monthly dinner meetings are typically the first Monday of each month. The December meeting has not been announced yet. For more information, visit the association website at [www.southcoastgeo.org](http://www.southcoastgeo.org).

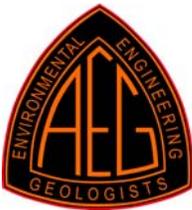
### AEG—Southern California Chapter



The AEG — Southern California Chapter typically meets the second Wednesday of each month at Victorio's Ristorante in North Hollywood. The December meeting has not been announced yet. For more information, visit the association website at

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

### AEG—Inland Empire Chapter

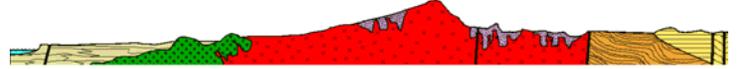


The AEG — Inland Empire Chapter typically meets the third Wednesday of each month at Pinnacle Peak Steakhouse, 2533 S. La Cadena Drive, Colton. The December meeting has not been announced yet. For more information, visit the association website at [www.aegsc.org/chapters/inlandempire](http://www.aegsc.org/chapters/inlandempire).

### Rock & Gem Shows—various locations

Various rock and mineral shows will be held throughout southern California. To find one near you, visit [www.rockngem.com](http://www.rockngem.com), then select the Show Dates tab.

### San Diego Association of Geologists



Meetings are usually held the third Wednesday evening of each month. The December 19th meeting will feature Tom Demere of the San Diego Natural History Museum. For more information, visit the association website at [www.sandiegogeologists.org](http://www.sandiegogeologists.org).

### Los Angeles Basin Geological Society



Monthly lunch meetings are typically the 4th Thursday of each month from 11:30 am to 1:00 pm at the Willow Street Conference Center, 4101 E. Willow Street, Long Beach. The December meeting has not been announced yet. For more information, visit the association website at [www.labgs.org](http://www.labgs.org).

### Get Your IGS Coffee Mug!

IGS coffee mugs are available at the monthly meetings for \$10. Get yours at the upcoming meeting!



**IGS MEETING LOCATION:**  
**Jurupa Mountains Discovery Center**  
 7621 Granite Hill Drive  
 Jurupa Valley, California 92509



## **IGS OFFICERS**

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