

# Inland Geological Society

December 2012

Newsletter of the Inland Geological Society

Volume 28 No. 12

*This Meeting:*  
Wednesday,  
December 5<sup>th</sup>

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

Location:  
LSA Associates  
1500 Iowa Ave  
Suite 200  
Riverside, CA  
92507  
(Map on Pg. 4)

Coming to  
Dinner?  
Please RSVP:  
By Monday 12/3  
(951) 784-2168  
dixie.lass@att.net

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## December Speaker:

**Ms. Jennifer Kurashige**  
Recent Graduate, Cal Poly Pomona, CA

## **Water Quality Analysis of Natural Springs in San Antonio Canyon**

### *Abstract*

Water quality is becoming increasingly important in our expanding cities so this study focuses on the water quality of natural springs at their source and what happens as the water travels down stream encountering both human and natural influences that affect water quality. The specific parameters for the analysis so far are temperature, pH, pHmV, dissolved oxygen, oxidation reduction potential, total dissolved solids, and conductivity. The locations for the analysis spans several locations along the San Antonio River. The goal of the study is to determine the affect of septic systems, natural mineral deposits, and run off on the water quality of the San Antonio River.

Using the Geological Sciences' Horiba multi-parameter water quality meter, I have sampled several locations along the San Antonio River keeping a careful log of variations both as the seasons change and as the day changes. To ensure the multi-parameter meter was functioning properly we brought in a portable pH meter to compare with the pH of the multi-parameter meter. I have steadily increased the number of locations and now have 13 points stations that I record data on a twice a month basis.

Thus far, we have seen a wide range of temperatures that are affected by the warming of the summer season and the time of day at which the measurement is taken. The pH parameter has shown a very slow, but steady drop from the mid 8 range to mid 7 range. The pHmV parameter varies greatly, but does show some signs of decreasing as over the past month and a half. Electrical Conductivity general shows very little variation across the different sites except at the Cascade Creek site which shows a huge jump and is more that doubled in value compared to the other sites including sites down stream from the creek. I am not sure yet what the significance of this is, but it could have to do with the creek coming into contact with certain types of sediments or bedrocks. The Oxidation Reduction Potential parameter has not been showing a consistent trend, but it still requires further comparison between the other values.

While the locations down stream do show signs of decreased water quality it may no have as much to do with local septic systems as with that geology of the area. Further research of the region is required to gain a better understanding of the area including major geologic units and faulting which can affect the origin of springs and streams.

***Biography:***

**Jennifer Kurashige** recently completed her degree in geology with an emphasis in geophysics and earth exploration at California State Polytechnic University in Pomona, California. She completed her undergraduate senior thesis on a water quality analysis project using a multi-parameter water quality meter from Global Water Instrumental, under the supervision of Dr. Jon Nourse. Her experience includes analyzing, documenting, photographing, and mapping fault trenches in the 29 Palms region; visual analysis of 3-D aerial photos using a stereoscope and comparing the photos with topographic maps to determine key features and historical analysis; ArcGIS for mapping and updating information; analyzing groundwater well data to create flow maps; extensive mapping exercise work; using StereoWin to create stereonets; mitigation calculations; creating diagrams for field data; knowledge of computer programming and data analysis as well as on site analysis. She is currently a Staff Geologist for The Source Group, Inc.

## **SPEAKERS WANTED**

**We are still looking for more speakers for future meetings.**

**Tell us what you have been working on!**

**Students of all levels are encouraged to participate!**

**Contact Jon Smith, Debbie Kunath or Steve Mains  
to get your name in the schedule!**

## Upcoming Meetings/Events

### Rock & Gem Shows—Various Locations

Various rock and mineral shows will be throughout So. California. To find one near you, visit [www.rockngem.com/showdates.asp](http://www.rockngem.com/showdates.asp)

### Groundwater Resources Assoc. of CA

Join the Southern California Branch for their "Holiday" Dinner Meeting. Speaker and Presentation details are to be determined. The meeting will be on **Wednesday, December 12, 2012** at the Doubletree Club Hotel in Santa Ana, CA. For more info, visit [www.grac.org/](http://www.grac.org/)

### South Coast Geological Society Meeting



Ms. Meredith Rivin, MS, Associate Curator of Paleontology at the John C. Cooper Center, will be giving an update on the John C. Cooper Center. The John C. Cooper Center is a partnership between Orange County Parks and California State University, Fullerton. The meeting will be on **Monday, December 3, 2012** at the DoubleTree Club Hotel in Santa Ana, CA. For more info., visit [www.southcoastgeo.org](http://www.southcoastgeo.org)

### San Diego Assoc. of Geologists Meeting



Dr. Tom Demere, Curator of Paleontology at the San Diego Natural History Museum, will be presenting at San Diego Association of Geologists December meeting on **Wednesday, December 19, 2012**. For more info, visit [www.sandiegogeologists.org](http://www.sandiegogeologists.org)

### AEG—Inland Empire Chapter Meeting



Dr. Doug Yule, Professor of Geological Sciences, California State University, Northridge, will be presenting a talk on the "Probability of Through-going San Andreas Fault Rupture in San Gorgonio Pass" on **Tuesday, December 11, 2012** at the Cask n' Cleaver Restaurant in Rancho Cucamonga, CA. For more info, visit [www.aegsc.org](http://www.aegsc.org)



## IGS Meeting Schedule

**January 10, 2013 (Thursday)**

2012 McEllhiney Lecturer  
*Life-Cycle Economic Analysis*

**February 6, 2013 (Wednesday)**

TBA

**March 7, 2013 (Thursday)**

TBA

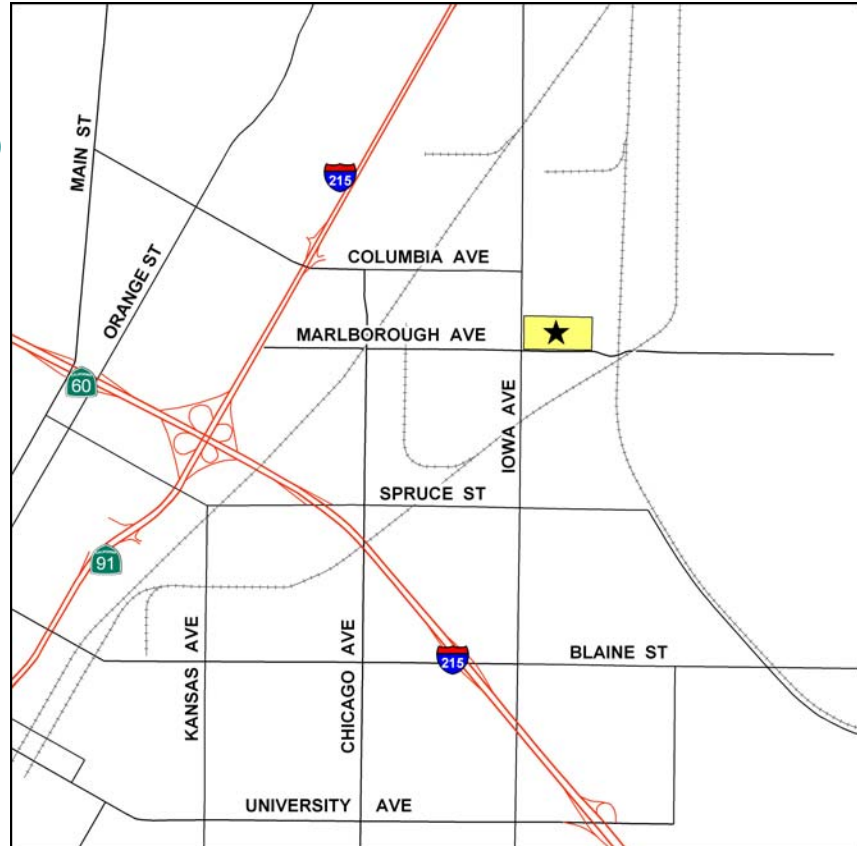
**April 3, 2013 (Wednesday)**

TBA



**IGS MEETING LOCATION:**

**LSA Associates, Inc.**  
**1500 Iowa Ave, Suite 200**  
**Riverside, CA 92507**

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