

# Inland Geological Society

Newsletter of the Inland Geological Society

Volume 22 No. 12

*This Meeting:*  
Wednesday  
December 6<sup>th</sup>

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

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

Coming to Dinner?

Please RSVP:  
By Tuesday 12/5  
(951) 782-3295  
[food@inlandgeo.org](mailto:food@inlandgeo.org)  
or  
[dlass@waterboards.ca.gov](mailto:dlass@waterboards.ca.gov)

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## December Speaker:

**Dr. Michael A. McKibben**

**UC Riverside**

## **Arsenic in Groundwater**

Only active smoking compares in cancer risk to that of arsenic in drinking water. Other arsenic hazards to humans include diabetes, neurological, cardiovascular, pulmonary and reproductive effects. Tens of millions of people worldwide are subject to significant arsenic exposure via drinking water, prompting the EPA and WHO to recently lower the maximum contaminant level (MCL) from 50 to 10 ppb; some U.S. states are setting even lower limits. Because 20% of U.S. ground waters have As levels exceeding 3 ppb (35% of ground waters in the western states), governments, water agencies and industries are scrambling to identify their problematic water resources and develop cost-effective remediation strategies to meet the new federal and state MCLs. Anthropogenic sources of arsenic contamination are manifold, including semiconductors,

*Arsenic Continued on Page 2*

### **Arsenic (Continued from Pg. 1)**



treated lumber, poultry feed, and mining wastes. Natural mineral sources include oxidizable As-bearing sulfide minerals (arsenopyrite, pyrite) and reducible Fe oxyhydroxides containing adsorbed As. Arsenopyrite is the most rapidly-dissolving of the As-bearing sulfides, and its presence in modern mining wastes (as opposed to the slower-dissolving weathering product scorodite found in older dumps) poses a problem. The pH and redox state of groundwaters also play critical roles in controlling As release and determining whether aqueous As species will be ionic or neutrally-charged, thus affecting their removability via adsorption or ion exchange methods.

*Michael A. McKibben is Associate Professor of Geology at UCR, specializing in Geochemistry and Economic Geology. His current research focuses on the kinetics of arsenic release into groundwaters from minerals, and modeling mineral-fluid interactions in hydrothermal and groundwater systems. He teaches courses in Geochemistry, Optical Mineralogy, Petrology, and Economic Geology, and is the undergraduate advisor for UCR Geology majors. He is a member of The Geochemical Society and a Life Fellow of the Society of Economic Geologists.*

### **Inland Geological Society Seeks Speaker Topics and Speakers**

Informative and interesting talk topics and speakers on subjects in the earth sciences have always been a highlight and purpose of regular monthly meetings of the Inland Geological Society for over 20 years. Local and regional topics and speaker programs are essential for a group that meets monthly, for the most part that is comprised of local or regional residents or employees, professional or interested parties alike.

Currently, IGS is seeking suggestions for future talk topics and suggestions for potential speakers. Your suggestions and ideas are very important, so that we can cover a cross-section of subjects and interests

IGS is soliciting your suggestions for topics for throughout the year and suggested speakers, as follows:

- Request a Topic
- Suggest the reason for the Topic
- Suggest a Speaker
- Suggest Speaker contact information
- Suggest Other Topics/Speakers
- Other requests

Please forward your ideas and suggestions to [Phuong Chau](#).

## Upcoming IGS Talks

### **Jan. 3, 2007 (Thursday)**

Bruce Murray, Professor of Geology,  
CalTech, Los Angeles, CA

Talk Description: His work on the Manix Fault,  
near the Barstow area

### **Feb. 7, 2007 (Wednesday)**

Gary Peterson, Professor of Geology,  
SDSU, San Diego, CA

"Evolution of Granitic Landscapes"

[www.rohan.sdsu.edu/~3gleep6/planets.html](http://www.rohan.sdsu.edu/~3gleep6/planets.html)

## Other Announcements

### **Meeting:**

AAPG Annual Convention and Exhibition  
April 1-4, 2007 • Long Beach, CA

[Understanding Earth Systems](http://www.aapg.org/longbeach/)

<http://www.aapg.org/longbeach/>

### **Meeting:**

20th Anniversary SAGEEP  
Symposium on the Application of Geophysics to  
Environmental & Engineering Problems

April 1-5, Marriott City Center, Denver, CO

<http://www.eegs.org/sageep/index.html>

### **Meeting:**

American Institute of Hydrology (AIH)  
Integrated Watershed Management:  
Partnerships in Science, Management, and  
Planning, April 22-25, Reno, NV

<http://www.aihydro.org/conference.htm>

### **Meeting:**

AEG 1st North American Landslide Conference  
June 3-8, Vail Marriott, Vail, CO

<http://www.mines.edu/academic/geology/landslidevail2007/>

## 2007 IGS OFFICERS

Want to sharpen your communications skills? Need that cool reference for your resume?

### **Don't wait, volunteer now!**

Nominations are now being accepted for the 2007 IGS Officer positions. Current nominations include the following:

President – Greg Johnson  
Vice-President – Phuong Chau  
**Vice-President Co-Chair - Open**  
Secretary – Dixie Lass  
Treasurer – Maggie Gooding  
Membership Chair – Steve Mains  
Newsletter Editor – Patrice Copeland  
**Web Master/Mistress – Open**

Please contact a current IGS officer to make your nominations today!

## Upcoming Short Courses:

IGS, along with AEG Inland Empire, are co-sponsoring short courses through UCR Extension with the gracious coordination of Dr. Tien-Chang Lee. Upcoming courses include the following topics for Winter and Spring quarters, respectively:

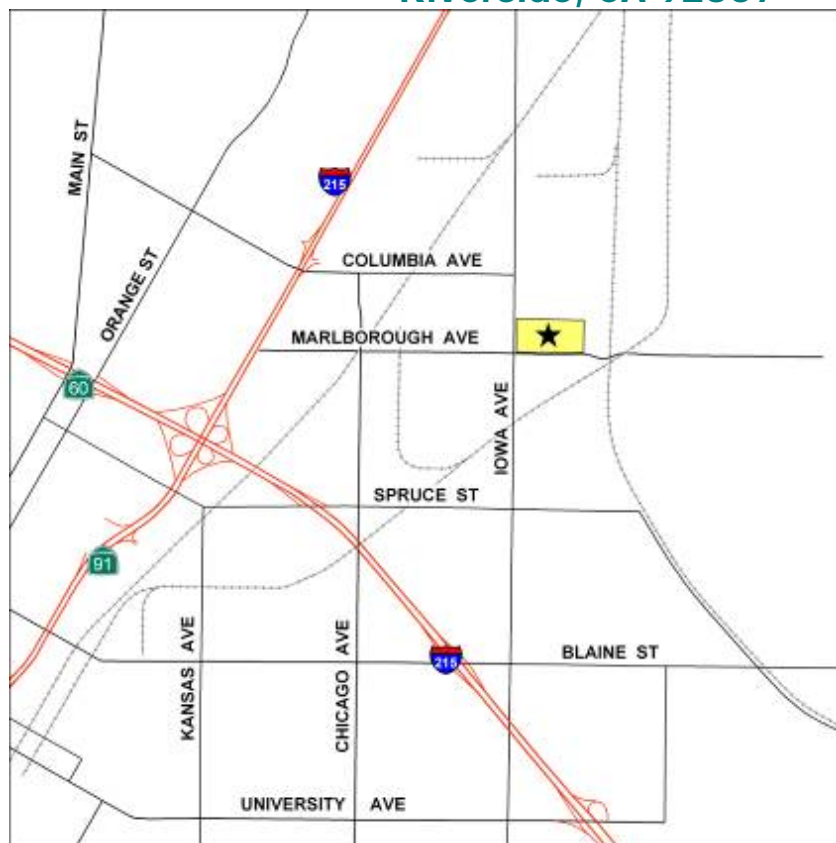
- Groundwater Issues and Problems in the Inland Empire
- Seismic Issues and Problems in the Inland Empire

More info will be posted regarding dates, times, etc. Keep your ear to the outcrop...or the newsletter!



**IGS MEETING LOCATION:**

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

**Inland Geological Society Newsletter**

c/o Geomatrix Consultants



250 E. Rincon St. Ste 204  
Corona, CA. 92897