

# Inland Geological Society

March 2011

Newsletter of the Inland Geological Society

Volume 27 No. 3

**This Meeting:**

**Thursday,  
March 3<sup>rd</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 to**

**Steve Mains:**

**By Monday 02/28  
(951) 780-5636  
watermains@aol.com**

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**March Speaker:**

**Larissa Dobrzhinestskaya, Ph.D.**  
**Professor, Department of Earth Sciences**  
**University of California-Riverside, Riverside, CA**



**Diamond: Beauty, Science, Technology  
And Political Conflicts**

Abstract

Diamond, a high pressure polymorph of carbon, is valued as a gemstone and as a unique industrial/technological material due to its extraordinary hardness, transparency, high thermal conductivity, and ability to be a semiconductor when doped with boron. Most natural diamonds are formed in the Earth's deep interior, which is called the mantle, where high pressure and high temperature stabilize carbon in the form of diamond crystals. Diamonds are delivered to the surface by volatile rich magmas rising up through pipe-like structures, or they are incorporated in rocks and minerals formed during collisions of continental plates. There are also solar diamonds, scattered in cosmic space, and impact diamonds formed due to meteorite bombardments of the Earth.

Due to diamond's chemical inertness and its stability over geologic time, it is a near-perfect container for fluid and solid inclusions that are trapped during

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diamond growth. The chemistry and structure of such inclusions are used to reconstruct the mineralogy in Earth's deep horizons and the conditions of diamond-forming media. All of this provides valuable information for understanding the movements and collisions of continental plates; mountain building; mantle enrichment with H<sub>2</sub>O and light elements, including <sup>40</sup>K, which strongly influence the Earth's thermal evolution; volcano eruptions; and earthquakes.

Diamond is one the most important materials used in high-technology and many industrial applications because of its unique physical properties. Yet, being so useful for human life and society, diamonds unfortunately are used to fuel and finance armed conflicts—such diamonds are known as “bloody diamonds” or “conflict diamonds.” The United Nations General Assembly has recognized that conflict diamonds are a crucial factor in prolonging brutal wars in parts of Africa. In Angola and Sierra Leone, conflict diamonds continue to fund the rebel groups that are acting in contravention of the international community's objectives of restoring peace in the two countries.

### **Biography:**

Dr. Larissa Dobrzhinestskaya received her B.S. and M.S. from the geology department of the Saint-Petersburg University in Saint Petersburg, Russia and her Ph.D. in geology and mineralogy from the Moscow University in Moscow, Russia. Prior to her current position as Professor in the Department of Earth Sciences of the University of California, Riverside (UCR), she worked as a geophysicist for the Department of Earth Sciences of UCR as well as Senior Research for the Los Alamos National Laboratory in New Mexico. In 2001, she received the Distinguished Researcher Award at UCR.

### **RSVP NOTICE** **This Month Only**

To ensure that your request is counted, please RSVP  
to Steve Mains for the March 2011 meeting at  
951-780-5636 or by email at [watermains@aol.com](mailto:watermains@aol.com).

### **SPEAKERS WANTED**

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

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

**Please contact Jon Smith, Steve Mains or Greg Johnson  
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)

### SME—SoCal Section Meeting



Walter Lombardo, Geologist and Owner of the Nevada Mineral and Book Company, Orange, CA, will be giving a talk on "Diamond Mines in North America". The meeting will be on **Tues., March**

**15, 2011** at the Pomona Valley Mining Co. Restaurant, in Pomona, CA. For more info., visit [www.smenet.org/](http://www.smenet.org/)

### Los Angeles Basin Geological Society



Bob Toole, WSPA, will be presenting a talk on "California Energy Policy". The meeting will be on **March 24, 2011** at The Grand at Willow Street Conference Center. For

more info, visit [www.labgs.org](http://www.labgs.org).

### Los Angeles Basin Geological Society



Ray Ingersoll will be presenting a talk on "Restructuring Southern California". The meeting will be on **April 28, 2011** at The Grand at Willow Street Conference Center.

For more info, visit [www.labgs.org](http://www.labgs.org).

### Fourth IWA Specialty Conference

The topic of this year's conference will be *Natural Organic Matter: From Source to Tap and Beyond* and will be held **July 27–29, 2011** in Costa Mesa, CA. For more info., visit [www.regonline.com/NOM2011](http://www.regonline.com/NOM2011)

### South Coast Geological Society meeting



Dr. David K. Lynch will be presenting a talk on the "San Andreas Fault: What it is, where to find it and what it means". The next meeting will be held on **Monday, March 1, 2010** at the Doubletree Club Hotel in Santa

Ana, CA. The speaker is to be determined. For more info., visit [www.southcoastgeo.org](http://www.southcoastgeo.org)

## IGS Meeting Schedule

### **April 6, 2011 (Wednesday)**

Dr. Alan L. Smith, CSU, San Bernardino  
TBA

### **May 5, 2011 (Thursday)**

Eric Scott, CSU, Curator of Paleontology, San Bernardino County Museum  
TBA

### **June 1, 2011 (Wednesday)**

TBA



**IGS MEETING LOCATION:**

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

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