

Inland Geological Society

May 2015

Newsletter of the Inland Geological Society

Volume 31 No. 5

Thursday,
May 7th

Time:

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

Location:

LSA Associates
1500 Iowa Ave
Suite 200
Riverside, CA
92507

(Map on Pg. 4)

Coming to
Dinner?

Please RSVP:
By Monday 4/4
(951) 784-2168
dixie.lass@att.net

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April 1st Speakers:

Giovanni Norman

Undergraduate Student, Geology major, San Diego State University

Interaction of the Truckhaven Fault and West Salton Detachment at Wonderstone Wash, Southern California

Abstracts

The Truckhaven-Modoc Mine at Rainbow Rock Quarry has been a gold and silver mining prospect for over one hundred years. It is situated along the north edge of Wonderstone Wash in the northwestern Seventeen Palms USGS 7.5 minute quadrangle, located in the southeastern section of the active San Andreas Fault system. This regional area is characterized by seismic activity, continental rifting, volcanism, hydrothermal alteration, rapid sedimentation and active precious metal deposition. The Truckhaven Fault strikes approximately NE and separates a Jurassic quartz monzonite footwall from a Pleistocene conglomerate hanging wall. This oblique normal fault zone dips southeast and hosts sites of epithermal alteration, including gold and silver mineralization. To the southwest of Rainbow Rock is the source of Wonderstone Wash. Our goal was to observe remnants of where the Truckhaven fault soles into the West Salton Detachment. During mapping of the Truckhaven Fault along Wonderstone Wash we observed several exposures of hydrothermal alteration; reverse faulting and metamorphic amphibolite facies. Thin section analysis attempts to classify observed metamorphic exposures and further illustrate regional tectonics and mineralization of precious metals. By illustrating the architecture of these two faults, we hope to understand the kinematics that occurred during their activity.

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Biography:

Mr. Giovanni (Gio) Norman will be graduating this May with a B. S. in General Geology from San Diego State University. He grew up in Poway, California and currently resides in San Diego, California. His senior thesis utilizes structural geology and petrology in order to develop a model for the architecture of the interaction of the Truckhaven Fault with the West Salton Detachment. Immediate aspirations include a position in precious metal or aggregate mining. Gio has previously held positions as a firefighter for the California Department of Forestry and as a stone installer for 8 years. Further aspirations in a career in geology include groundwater quality and control, studying soils and volcanoes of Hawaii, New Zealand and Iceland and their potential to harbor life.

RIMS Science and Engineering Fair Featured Presentations

ABSTRACT

The globally distributed Ediacara biota is comprised of the Earth's oldest macroscopic organisms. They lived on shallow sandy sea bottoms between 575 and 543 million years ago. Most of the taxa are enigmatic and difficult to classify with living animals. Scientists have suggested these organisms to be fungi, arthropods, echinoderms, extinct phyla and other organisms. This research project examines the extinct genera *Spriggina* and *Parvancorina* to try and constrain their biology and ecology through the testing of three hypotheses: 1) that these organisms grew allometrically like modern organisms and the genus *Spriggina* added segments like modern segmented organisms; 2) that these organisms has size frequency similar to that of modern continuously reproducing marine invertebrates; and, 3) that these soft bodied organisms were made of different material and thus exhibit different types of deformations. To test these hypotheses, length, width, and frequency of each specimen of the two genera were measured. Data show that the genus *Parvancorina* exhibits an exponential or allometric growth like all other marine invertebrates. The genus *Spriggina* however, showed a linear growth line indicating isometric growth. This is not found in any marine invertebrates and is a very uncommon method of growth. Both taxa have right skewed size frequency distributions consistent with continuous reproduction. Segment insertion in *Spriggina* is surprisingly not governed by size. Finally, *Parvancorina* was more commonly deformed than *Spriggina*. These data demonstrate that *Parvancorina* was biologically more similar to modern bilaterians than *Spriggina*.

Biography:

Mr. Ian Hughes was born in Riverside California in 2000. After spending a year in Boston he went to Pachappa elementary. In 6th grade, he transferred to the Riverside STEM Academy where he has been ever since. He runs track and cross country for Poly High School. He enjoys surfing, skating, playing guitar and SCUBA diving. He hopes to become a marine biologist or geologist.

ABSTRACT

The Box Springs Mountains, located in northwestern Riverside County, are an igneous pluton containing several mafic intrusions. The purpose of the experiment is collect data on the rocks exposed along the Box Springs trails to give hikers relevant and useful information about the surrounding geology. We collected samples from eight localities along the "M" and "C" trails. The most common rock type observed was granodiorite, with metamorphosed granodiorite and pegmatite being less common. This study is ongoing and will continue into next year. We plan to sample from additional localities and continue studying the mineralogy of these rocks through thin sections. Mr. Astran and Ms. Baustista presented their project last month.

Biography:

Mr. Connor Astran is a dedicated and highly driven sophomore who attends the Riverside STEM Academy. He has displayed his commitment to the hard sciences by starting up a project with close collaboration with grad Students from UCR. His interest of geology stemmed from his searches of fossils and geodes at his father's construction sites. Mr. Astran has also a part of a multitude of clubs at his school, such as Science Olympiad, Science Club, ASB among others.

Ms. Sophia Bautista is a sophomore attending the Riverside STEM Academy. Sophia is in Science Club, ASB, and Science Olympiad, which sparked her interest in geology.

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

AEG—So. California Chapter Meeting



The meeting details for the next meeting for the AEG-Southern California Chapter is to be announced. For more info., visit the So. California Chapter at www.aegsc.org/calendar/.

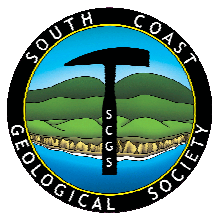
AEG—Inland Empire Section Field Trip



The AEG Inland Empire Chapter will be having a field trip on "An Uplifting Experience: The Cajon Valley: 70 Ma of Textbook Geology" on **Saturday, May 2, 2015**. For more info., visit

www.aegsc.org/chapters/inlandempire/index.php.

South Coast Geological Society Meeting



Mark Legg will be presenting a talk on "High-Resolution Mapping of Two Large-scale Transpressional Fault Zones in the California Continental Borderland: Santa Cruz-Catalina Ridge and Ferrello"

on **Monday, May 4, 2015** at the Double-Tree Club in Santa Ana, CA. For more info., visit SCGS on Facebook and/or

www.southcoastgeo.org.

Los Angeles Basin Geological Society



LABGS generally has their meetings on the fourth Thursday of each month. Visit their website for more info. (www.labgs.org).

San Diego Assoc. of Geologists Meeting

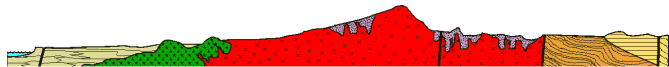


Monte Marshall will be presenting a talk on the "Geology of the Polynesian Islands" on **Tuesday, May 12, 2015**. For more info, visit www.sandiegogeologists.org.

SDAG/SCGS Joint Meeting

Eric Drummond will be presenting a talk on "Ice Cold Gold" on **Monday, June 1, 2015**. For more info, visit www.sandiegogeologists.org.

San Diego Assoc. of Geologists Field Trip



SDAG will be having a field trip to the Western Salton Trough Regional Tectonics, Coyote Mountains and Vicinity on **Nov. 6-8, 2015**. For more info, visit www.sandiegogeologists.org.

IGS Meeting Schedule

June 3, 2015 (Wednesday)

Dr. Stephen Osborn, Assoc. Professor, California State Polytechnic University, Pomona
Water quality & natural gas production: A tale of two shales

July 2, 2015 (Thursday)

Debbie Kunath, Graduate Student, California State Polytechnic University, Pomona
Source's of salinity and water in a spring and natural oil seep system in the Santa Susana Mountains, Newhall, California

IGS MEETING LOCATION:

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

**2015 IGS OFFICERS****Co-President**

Greg Johnson, LADPW
 gjohnson@dpw.lacounty.gov
 626.458.1741

Co-President

Rob Johnson, AMEC
 rob.b.johnson@amec.com
 951.369.8060

Co-Vice President

Jeff Fitzsimmons, John R. Byerly, Inc.
 geojeff08@att.net
 909.877.1324

Co-Vice President

Debbie Kunath, Consulting Geologist
 Debbie_Kunath@ymail.com
 760.885.0232

Treasurer

Margaret Gooding, LSA Associates
 Margaret.gooding@lsa-assoc.com
 951.781.9310 x279

Secretary

Dixie Lass, Retired
 Dixie.lass@att.net
 951.784.2168

Membership

Steven E. Mains, Watermaster
 Support Services
 watermains@aol.com
 951.780.5636

Newsletter Editor

Shelby Barker, AECOM
 shelby.barker@aecom.com
 760.680.0389

Web Mistress

Marina West, Bighorn Desert View
 Water Agency
 wells.out.west@gmail.com
 760.910.3264

Web Master

Ernie Roumelis, AKW Geotechnical
 eroumelis@verizon.net
 951.265.9849