



Geological Society of Nevada Southern Nevada Chapter Newsletter

March 2007

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Harnessing a Dragon: Studying Volcanoes in Kamchatka

SPEAKER: Adam Simon

DATE: Thursday, March 29, 2007

LOCATION: LFG Rm. 102

TIME: Social half-hour at 6:30 pm
Meeting business at 7:00 pm
Talk at 7:15 pm

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The Spring Silent Auction of mineral and fossil specimens will be held following the talk

Geological Society of Nevada, Southern Nevada Chapter

University of Nevada, Las Vegas

4505 Maryland Parkway, Box 4010, Las Vegas, NV 89154-4010

<http://geoscience.unlv.edu/GSN/gsnsc.htm>

Our March 29 meeting will be a special opportunity to get to know other GSN chapter members and the perfect chance to invite a friend or colleague to join us. The meeting will start a little later this week to make it easier for members to come after work. Social time begins at 6:30 this month with food and refreshments, including beer. With new

officer elections coming up in April, it is the perfect time to get to know the members whom you are considering as nominees for officers positions. A talk by Adam Simon on the currently active volcanoes in Kamchatka, Russia will follow and after that we will hold the Spring Silent Auction. If you would like to donate mineral or fossil specimens to the auction contact Bruce Hurley at rocks2bwh@aol.com. Please note that Wayne Belcher's talk, previously scheduled for this meeting, has been rescheduled for the April 26 meeting.

The trip to Utah was a lot of fun for everyone. Thank you to all who participated. Photos and details of the trip have been provided courtesy of Jean Cline and Bruce Hurley on the following page. And, finally don't forget to register early for the GSN field trip to Yucca Mountain April 12-13.

-- Lora Griffin

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DINOSAUR TRACKSITE FIELD TRIP

Article by Bruce Hurley

Photos by Jean Cline



On Saturday, February 24, a group of ten dinosaur trackers departed the parking lot of the Speedway Casino in North Las Vegas for the Warner Valley and Johnson Farm dinosaur tracksites near St. George, Utah. The group arrived at Warner Valley before midday and was rewarded with cool but sunny and calm weather. As a previous group of visitors was just departing the site, the GSN party had complete access to the trackway for the duration of their stay.

At Warner Valley, only casts of tracks themselves are now present, as foot impression casts were removed from this site some years ago. The tracks preserved at this locality are in a thin sandstone bed within the Moenave Formation of early Jurassic age. Two distinct types of tracks are present. The smaller tracks are believed to have been made by an early coelurosaur, while much larger tracks may have belonged to a prosauropod weighing as much as half a ton. Use of a broom exposed several small tracks previously covered by loose sediment, and all tracks were well examined and photographed.



After visiting Warner Valley, the group drove to the Johnson Farm Discovery Site in St. George, reaching the site just in time for a presentation by Dr. Jim Kirkland, the State Paleontologist for Utah. Dr. Kirkland spoke on recent Jurassic and Cretaceous dinosaur, bird, and mammal discoveries in China, especially those from Liaoning Province. He later compared recent Jurassic and Cretaceous dinosaur finds in Utah with those from China, and discussed potential interactions between these two dinosaur populations, through time.

Following Dr Kirkland's talk, members of the field trip were able to view the dinosaur, crocodilian and fish fossils found at Johnson Farm



These fossils are also hosted by the Moenave Formation. Among the most spectacular fossils here are impression casts from the sandstone layer overlying the clayey siltstone hosting the trackway. These impressions include scrap marks in the shallow lake bottom made by swimming dinosaurs, foot casts with claw and skin impressions, and tail drag marks.

Other unusual fossils include large networks of fossil mudcrack impressions and an impression of mud splattered around a large dinosaur foot cast. Smaller dinosaur tracks at Johnson Farm are thought to have again been made by coelurosaurs, while much larger tracks may have made by dilophosaurs as much as fifteen feet in length.

After completing their tour of the Johnson Farm Discovery Site, most trip members adjourned to the St. George Cracker Barrel Restaurant for a very-long-delayed lunch, before the drive home. Walking in the footsteps of dinosaurs can be an appetite-building experience!

UNLV GeoSymposium



The 2nd Annual Las Vegas GeoSymposium is scheduled for Friday and Saturday, April 20 & 21, 2007 at the Marjorie Barrick Museum on the UNLV campus.

The GeoSymposium is a student-run geology research colloquium designed to provide graduates and undergraduates with an opportunity to present posters, or talks on their original research and receive feedback from industry, civic, and government professionals as well as academics. Local and national scientific and professional companies are invited to attend.

The first day of this mini-conference will include poster presentations, talks and plenty of time for students and professionals to interact. The second day, there will be a field trip exploring local geologic formations of the Lake Mead area.

The research presented at the 2007 Las Vegas GeoSymposium represents some of the most recent science advanced in the Geoscience Department over the last academic year. At the 2006 symposium more than 30 students presented.

Some of the topics from last year's talks and posters included the latest information on Great Basin soils, Costa Rican speleothems, high-resolution seismic reflection, shear zone constraint mechanisms, and Nevada groundwater systems.

The symposium encourages businesses looking for future scientists to attend. They are also looking for sponsorship from the scientific community. If you are interested in attending, sponsoring, or just want more information contact Shelley Zaragoza at zaragoz3@unlv.nevada.edu.

Share your latest geology-related photos and stories with other GSN SNV chapter members. Contact Lora Griffin at lora.griffin@unlv.edu to find out how.

Geologists for a Cure

The **12th Annual Race for the Cure** will take place, **Saturday May 5, 2007** at the Fremont Street Experience in downtown Las Vegas. Local geologists will gather together to raise money for the *Susan G. Komen Breast Cancer Foundation*.

There are **6 Ways to Participate:**

5k Run (timed) ~ \$20 registration
5k Walk (timed) ~ \$20 registration
1 mile walk ~ \$20 registration
Sleep in for a Cure ~ \$20 registration
Kids for the Cure® (ages 3-12; \$10 registration)
Babies for the Cure® (under 3 yrs; \$10 registration)

Prizes will be awarded to the top run finishers, largest teams & individuals who raise the most money for the breast cancer foundation.

For more information on how you can join with geologists from the UNLV Geosciences team email rhowley@unlv.nevada.edu or visit http://race.komenlasvegas.com/site/TR?team_id=7210&pg=team&fr_id=1020 &/or <http://race.komenlasvegas.com>.

Start Times:

5K Run – Start Time: 8:15am
5K Walk – Start Time: 8:20am
1 Mile Fun Walk – Start Time: 8:45am
Sleep In for the Cure® - For those individuals or team participants who are unable to attend the Race but wish to support the fight against breast cancer.
Register as a Sleep In for the Cure® participant and receive a special Sleep In for the Cure® T-shirt (vs. the Race T-Shirt).

You must register online by April 26, 2006

Registration is only \$20 if part of a team!
Robyn Howley will pick-up all team packets and distribute them before Race Day!

If you don't wish to join the team you can still support the cause by donating to a single team participant or by making a team donation!

GSN SPRING FIELD TRIP

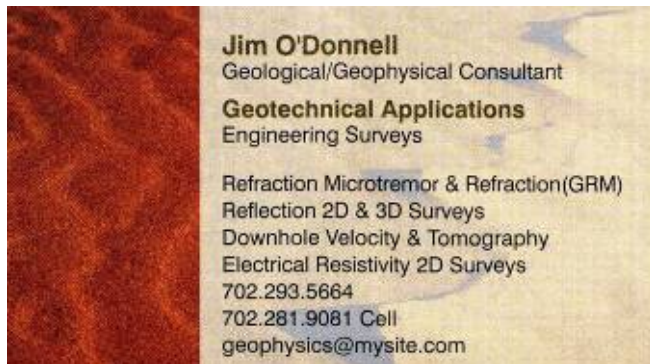
Nevada Test Site, Yucca Mountain, and Searchlight District

April 11-13, 2007

On Wednesday, April 11, 2007 members will begin arriving at Terrible's Hotel and Casino on Paradise Road in Las Vegas for the GSN Spring 2007 Field Trip. On Thursday, April 12, the trip will take GSN members on a tour of Nevada Test Site geology and Yucca Mountain. Friday, April 13, will follow with a tour of the interesting geology of Searchlight, Nevada; highlighting sites such as the Quartet mine and the Searchlight pluton's unique zonation and contact relationships. Make your reservations early; space is limited to 45 participants. Registration forms and trip details can be found on the web site at www.gsnv.org.

MEETING SPONSORS ADVERTISING

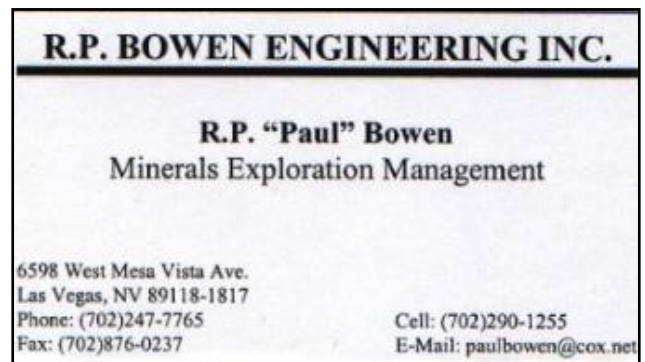
Meeting sponsorship has always been important to the goal of keeping operating costs to a minimum to ensure that funds are available for chapter functions and scholarship awards. Now, in appreciation, **meeting refreshments sponsors receive newsletter advertising** on our "Meeting Sponsors" list through the end of the fiscal year. Businesses or individuals who would like to sponsor a social hour at one of our GSN Southern Nevada Chapter meetings or would like to place a "Paid Advertisement" in our monthly newsletter should contact Bruce Hurley at (702) 295-1284 or hurley@nv.doe.gov.



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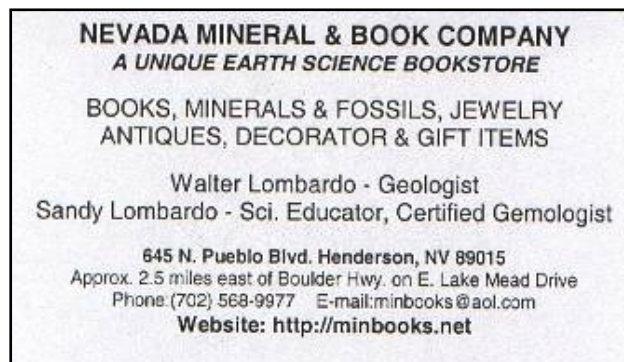


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Harnessing a Dragon: Studying Volcanoes in Kamchatka

Speaker: **Adam Simon**

ABSTRACT

Dr. Adam Simon of the University of Nevada Las Vegas Department of Geoscience will present a photographic survey of volcanoes on the Kamchatka Peninsula in far eastern Russia and discuss the importance of studying active volcanoes with implications for predicting eruptions and for harnessing their energy to power our ever-growing population. Kamchatka contains more than 100 volcanoes, 29 of them still active, making this the most volcanically active region on Earth. The focus of research is Mutnovsky Volcano which last erupted in 2000 C.E.. Currently, Mutnovsky is actively degassing > 1,000 tons of sulfur dioxide per day implying shallow level degassing of at least 0.5 cubic meters of melt per second. Fumarole temperatures in the active crater are on the order of 700 degrees Fahrenheit. A geothermal power plant located at Mutnovsky Volcano currently supplies geothermal power to 70,000 people in Kamchatka and within the next five years the output will supply power to 300,000 people, the entire Kamchatka population. The Basin and Range geologic province in Nevada, Utah, Arizona and Oregon is currently an area of rapid geothermal power development. Exploration in Kamchatka may provide insight into geothermal power potential locally. But in order to harness the power of volcanic steam, we first must understand how the volcano works. To do this, Dr Simon and his international colleagues plan to drill into the flank of the volcano to recover samples from the magma conduit. Indeed, these samples will be from the belly of the beast. Learn more about this cutting edge research and enjoy the awesome natural splendor of remote Kamchatka.

SPEAKER'S BACKGROUND

Dr. Adam Simon is an experimental geologist and instructor and for the University of Nevada Las Vegas. He received an M.S. in geology from the State University of New York, bachelor and Ph.D. degrees in geology from the University of Maryland. He has published papers on magmatic systems in the Journal of Petrology, American Mineralogist, and Geochimica et Cosmochimica Acta. Last year Dr. Simon was awarded the UNLV New Investigator Award for a fluid inclusion study to track fluid migration in sedimentary basins. In January he received a grant from the National Science Foundation to conduct a three year experimental study to elucidate PGE, base metal sulfide and Au fractionation in layered mafic intrusions.

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UPCOMING EVENTS

- March 29:** Adam Simon – Active Volcanoes of Russia: Geothermal Power Potential
- April 12:** GSN Spring 2007 Field Trip Day One –
Nevada Test Site and Yucca Mountain
- April 13:** GSN Spring 2007 Field Trip Day Two –
Searchlight Mining District
- April 26:** Meeting – Wayne Belcher
Death Valley Regional Groundwater Flow Model

Officer Elections will be held at the April meeting. So, now is the time to start thinking about your choices for nominees.