

ASSOCIATION FOR WOMEN GEOSCIENTISTS



Salt Lake Chapter

President's Message

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Greetings to all! We are in the midst of fall and as I write this, one day before midterm elections are to take place. I did my part and voted early, which turned out to be very convenient in Salt Lake County, as multiple locations were offered throughout the valley.

It seems as if the current political climate in the country is shadowing what my regulatory office is experiencing with the mining industry in Utah. We are noticing a lot of resistance to regulation or "over-regulation" as some are inclined to call it. For instance, we have been put on notice that there is a time-sensitive directive in place from the Obama administration to the Environmental Protection Agency to better regulate a practice known as "mountain-top removal" mining. This practice has called into question how well the laws protect the nation's streams and overall water quality. Although this directive was primarily aimed at regulating mining in Appalachia, Utah has requested participation in the rewrite of this rule process. Our agency is actively providing comments to the EPA and the Office of Surface Mining, Reclamation & Enforcement to any proposed changes to the laws. Our objective is to address all the hydrologic challenges that Utah, the second driest state in the nation faces. The climate of our state is often in stark contrast to those issues faced in the eastern part of the country. We hope that providing a voice to this rule-making process will better represent Utah if any changes to the laws occur.

Another issue a bit more close to home is a groundwater discharge problem that is currently occurring at the Crandall Canyon mine. Most of you probably identify the Crandall Canyon mine with the collapse that occurred in 2007 entombing 6 workers and killing 3 attempted rescuers. Now that the mine is sealed, mine water has been continuously discharging with iron concentrations above state water quality standards. The company is successfully treating the water, but treatment is extremely costly.

President's Message continued...

Our agency has requested that the company put up a bond for perpetual treatment of this groundwater, since there is no indication that the iron levels are decreasing. The purpose of asking the company to bond for this groundwater remediation project ensures that groundwater treatment continues in the event the company walks away or goes bankrupt. The company has challenged us on this request, stating that bonding for this type of treatment is unprecedented in Utah and goes "beyond what is required in the rules". The Utah Board of Oil, Gas and Mining will publicly hear this case at the December 2010 board hearing.

Other than all the heavy issues I am faced with at work, I did manage to have some light-hearted fun at the AWG-SLC Chapter potluck and star party that we hosted at the end of September at the University of Utah Frederick A. Sutton Geology Building. I would like to thank Margie Chan and Kip Solomon for helping us to coordinate this event. The potluck was VERY well-attended with old friends, as well as lots of new faces, mainly from the student body of the University of Utah Geosciences program. Each of the attendees took a moment to introduce ourselves and briefly discussed our careers with the students. The food was great and the night sky was clear and prime for star viewing!

Another event that I had the privilege of attending in early October was the annual Utah Geological Association field trip. This year's trip took place in South-Central Utah that spanned amazing west-to-east stratigraphy from Parowan Gap, Markagunt Plateau, Escalante National Monument, the Water pocket Fold near Capitol Reef National Park, and ending in Hanksville. It was wonderful to be in the company of so many esteemed geologists and it provided a great opportunity to meet new and interesting people...not to mention the unbeatable scenery and education the trip afforded. It can be a bit costly, but I highly recommend future fall field trips with UGA.

On a final note, we are still looking for somebody to take the reins and fill in our President-Elect position. Please contact me if you would be interested in stepping up to the plate and keeping our chapter continuously active.

Warm wishes,

April

Association of Engineering Geologists

January 13th Dinner Talk:

Bill Lund of UGS on Ground Fissures in the Cedar City Area

Dinner/Social - 5:30 to 6:30 PM; Program begins at 6:30 PM

Place - Rocky Mountain Pizza

3977 S. Wasatch Blvd. (North of Dan's at the Olympus Hills Shopping Center)



Science Fair Judges Needed

The Chapter is seeking seven volunteers to judge and award prizes to the **top geoscience projects** presented by girls at the **Salt Lake Valley Science & Engineering Fair** on **Wednesday through Friday, March 23-25, 2011**. Judges last year said that this was a hugely rewarding and fun experience. Won't you consider volunteering part of your day to encourage young women in the geosciences?

Judges will review projects that have a strong geoscience component and that are presented by girls. Last year we considered projects that dealt with topics such as porosity of rocks, deicers in soil, CO₂ injection, and geo-engineering for tsunami mitigation. Judging involves reviewing the presentations without the 5th to 12th grade students present, then interviewing those students whose projects show the best use of scientific method and originality. Using a matching grant from the AWG Foundation we award over \$700 in cash and prizes to the top three projects in each of three age divisions. Awards will acknowledge good science and encourage young women to pursue the earth sciences. To be a judge, you only need a working knowledge of geosciences and the ability to interact with the student to determine why her project is the best. Another volunteer position is available to help with the logistics and award presentation if your schedule does not allow for judging on Thursday or Friday. The science fair organization provides all judging materials and the Chapter will reimburse you for travel expenses. University students and teachers, practicing and non-practicing geoscientists, **YOU** are qualified and needed!

Judges must be present at the University of Utah Rice Eccles Stadium Tower from 8:30 AM to 1:00 PM on Thursday, March 24 or 7:30 AM to 2:00 PM on Friday, March 25.

More details on the Salt Lake Valley Science & Engineering Fair can be found at <http://slvsef.org/>

For more information or to volunteer as a judge or coordinator contact Lucy Jordan by **February 23** at (801) 537-3347 or lucyjordan@utah.gov. Last year, volunteer positions filled up quickly, so don't delay, contact Lucy today.

The scientific theory I like best is that the rings of Saturn are composed entirely of lost airline luggage. ~ Mark Russell

AWG Fall Activities

By April Abate

RED BUTTE GARDEN NATURE WALK

Early in September, AWG-SLC held a fall meeting at Red Butte Garden. We thought it would be fun to hold the meeting in the gardens followed by an evening nature walk with one of the staff naturalists. Most people think of the striking gardens at Red Butte as the sole attraction, but as it turns out, there is quite a decent trail network above the gardens that few people venture into. We were lead by one of the naturalists along some of the less-traveled dirt trails. Unbeknownst to most of us, was an old inactive quarry on the property that is situated high up on a steep hillside. The stone from the site was used to construct most of the military buildings at the Dugway facility out in the West Desert. These trails are only minimally maintained by the staff at Red Butte but offer amazing views of the city – especially at sunset which was when we were there. Of course, the risk you take being up on these trails is that you are putting yourself in the company of rattlesnakes who call the hills behind Red Butte home. As we were coming down trail from our hike, we heard some pretty loud rattling in a pile of rocks. This snake clearly knew we were coming and did not appreciate our presence. Thankfully, the rattling was a good warning: enough to allow us to find a way around this resident who did not like “trespassers”. The naturalist at Red Butte told us that the only incident of a snake biting a patron was a time when a photographer decided to get a close up of a snake – the snake did not want its picture taken and proceeded to bite her on the forehead!

POTLUCK SOCIAL AND STAR PARTY



On September 29th, AWG hosted a fall mixer held at the University of Utah. Several members and students from the University of Utah gathered at the Fredrick A. Sutton Geology and Geophysics Building to enjoy a great meal courtesy of... everyone! We each had an opportunity to introduce ourselves and briefly discuss what it is we do in our careers. Our hope was to provide some inspiration and knowledge to the students and illustrate to them how diverse the geoscience field can be and the many career choices it offers.

Afterward, the group headed to the top of the Physics building for some prime night sky viewing on a clear, gorgeous night. As luck would have it, Jupiter was visible and with the aid of a telescope, we were able to see one of the red dust clouds in the planet’s atmosphere. We were also treated to some viewings of double stars, which are two stars that orbit each other because of gravitational attraction. Oftentimes, there can be clusters and clusters of stars that are orbiting each other because of gravity...cool stuff!

Utah Geological Association (UGA) Fall Field Trip

By April Abate-Adams

I had the pleasure of spending a three-day weekend in south-central Utah at the beginning of October with some of the best minds within the local/regional geoscience community. The trip began near Parowan at the Black Rock volcanic field, which are tertiary-aged volcanic eruptions. We toured Parowan Gap, a natural gap in the rock that served as a pass for the Pioneers. The stop featured some pretty neat Indian petroglyphs as well as interesting geology. The trip then headed east to study the structure and stratigraphy of the Markagunt and Paunsagunt Plateaus and the Quaternary glaciation and karstic groundwater regimes in the area. The second day, we toured the beautiful Grand Staircase-Escalante National Monument to view Mesozoic and early Tertiary strata with stops that included views of the Waterpocket Fold and the Henry Mountains laccolith. From Capitol Reef National Park, the trip headed further eastward toward Hanksville with a discussion of effects on water quality from the Mancos Shale in the Fremont River drainage.



Brian Head Peak at 11,000+ feet above sea level: The Leach Canyon Formation, an ash-flow tuff is exposed at the top of the peak. The ash-flow likely erupted from the Caliente caldera further west at the Utah-Nevada border, approx. 24 ma years bp.



Petroglyphs exposed at Parowan Gap.



Hadrosaur print near Parowan Gap found in the Grand Castle Formation, a braided fluvial sandstone.

Interested in Presenting Your Research to a Wider Audience?

If you would like to present your research at an upcoming monthly meeting of the Utah Geological Association (UGA), please contact Leslie Heppler, the UGA Program Chair.

Leslie can be reached at leslieheppler@utah.gov or 801-538-5257

Note from Past AWG-Salt Lake Chapter Past Scholarship Winner, Patricia Garcia

Dear Janae,

Hi, I thought I would keep you updated on my progress since being awarded the research scholarship. I have been accepted to talk about our research in Mali about arsenic contamination at the 6th annual Nepali Geological Conference. I am very excited about this wonderful opportunity, and thanks again for helping me make this happen.

Patti

*Patricia Garcia
Utah Valley University*

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