



# Arizona Geological Society Newsletter

ARIZONA GEOLOGICAL SOCIETY, INC., TUCSON, AZ

MAY 2010

## May 4, 2010 DINNER MEETING

Lee Allison, Director of the Arizona Geological Survey, will deliver a presentation titled “**Everything Digital, Online, and Integrated**”.

**Sheraton Four Points**, Wild Cat Room: 1900 E. Speedway Blvd. in Tucson (Speedway Blvd. at Campbell Ave.).

Cash Bar at 6 pm, Dinner at 7 pm, Talk at 8 pm.

Cost: With reservation, members \$24, guests \$27, Students \$10. Without reservation, \$3 additional.

**RESERVATIONS: CALL 520.663.5295 by 5 p.m. on April 30, 2010.** Indicate low-salt, vegetarian, or vegan meal preferences. A coffee/salad/roll/dessert option is also available for \$18.

## ABSTRACT

### Everything Digital, Online, and Integrated

by Lee Allison and Stephen Richard, Arizona Geological Survey, Tucson, AZ

Imagine bringing geologic and land maps, core data, well logs, geochemistry, measured sections, or any other kind of geoscience data from anywhere in the world to your desktop in an instant, converted automatically, into an integrated format.

Efforts around the world are converging towards creation of an interoperable global digital data network for the geosciences based on common standards and protocols for data discovery and access, and a shared vision for distributed, Web-based, open source interoperable data integration. The Geosciences Information Network (GIN; <http://usgin.org>) being built at the Arizona Geological Survey, is linking databases in the U.S. state geological surveys (Association of American State Geologists - AASG) and the U.S. Geological Survey (USGS). The USGS Council on Data Integration has validated GIN as a critical component of USGS data integration architecture to resolve the challenges in linking data resources from all of its four branches – geology, geography, water, and biology. GIN has been adopted by the geothermal community as the data exchange mechanism for the U.S. Department of Energy-funded National Geothermal Data System (NGDS – [www.geothermaldata.org](http://www.geothermaldata.org)). In addition, all data generated by 123 new DOE-funded geothermal projects will have to be available through the NGDS.

The GIN - NGDS projects are the selected prototypes for the Energistics consortium’s effort towards seamless data integration in the upstream petroleum industry.

The OneGeology ([www.onegeology.org](http://www.onegeology.org)) initiative to make accessible online digital geologic map data for the world has 116 participating countries, providing over 120 map services on the Web from 40 nations. OneGeology – Europe (1G-E) is a European Commission project in which 29 national geological surveys and organizations are collaborating to build a continent-wide geoscience data network. Emerging practices from OneGeology, 1G-E, and GIN provide a foundation for the next step in creating a global digital data network of geoscience information.

Growth of this community of practice is attracting the attention of leading software developers including Microsoft Research, ESRI (ArcGIS), Schlumberger-MetaCarta, and others, as they adapt their products to integrate geoscience network capabilities.

---

**Lee Allison** is the Director of the Arizona Geological Survey and the State Geologist of Arizona. He is also a past President of AGS. **Stephen Richard** is a Research Geologist at the Arizona Geological Survey. Both work in the Arizona Geological Survey office located at 416 W. Congress, Suite 100 in Tucson.

## May Member Spotlight—Russell M. Corn

**Russell M. (Russ) Corn** was born in Missoula, Montana in 1931. He received a B.S. in Geological Engineering from the Montana School of Mines in 1953. After a stint in the Army where he served in the Counter Intelligence Corps at the Pentagon during the Korean War, he received an M.S. in Geological Engineering from the Colorado School of Mines. Russ is a father of six, and grandfather of eight. He lives in Tucson.

**When did you first become interested in geology?** During the Depression, my father attempted to operate a small placer mine that had been worked out 50 years earlier. Like any young boy, I thought it wonderful to play in the dirt, mud and water. The glint of gold when the sluice box was cleaned was fascinating. I have been interested in minerals, mining, geology and gold ever since.

**What was your first job?** My first job was for the U.S. Forest Service. I was a lookout, a fire guard, and a rod man on a survey crew. At the time, the Forest Service sold timber, built roads, and fought forest fires when the fires started instead of waiting until the fire was too large to control.

**What was your first job as a geologist?** The first job as a geologist was with Kerr-McGee Corp. in 1957. I remained with the company for 21 years. The first assignment included developing an exploration plan for concealed and non-outcropping lithium pegmatites in the tin-spodumene belt of North Carolina. As the only on-site employee, the duties included pretending to be a geochemist and a geophysicist, as well as a drill supervisor, core splitter and geologist.

**What is your most memorable field experience?** My most memorable field experience involved examining the Andes adits on the western slope of Red Mountain, Arizona. The short adit at higher elevations was driven on a fault zone with prominent chalcocite. The longer, lower adit intersected the same fault zone but did not encounter the prominent chalcocite. It was evident then that the chalcocite in the upper adit represented the “roots” of an overlying chalcocite blanket. The feature that made everything memorable was that at the end of the lower adit, under perfect humidity conditions, the walls and back of the adit were covered with bright blue two- to three-inch long chalcantite (copper sulfate) crystals.

**What do you consider your greatest professional achievement?** In the early 1960s, soon after moving to Tucson, I was able to convince Kerr-McGee’s management and others that the widespread pyritic and advanced argillic alteration in base metal mining districts represented the high level expression of porphyry copper mineralization and that there should be vertical zoning to better grade copper mineralization at depth. I was fortunate to have been associated with Kerr-McGee’s exploration program from the initial recommendation until the claims were patented.

**What do you consider your greatest achievement EVER?** Although it might not be considered an achievement, the most satisfying occurred when I obtained, through a Freedom of Information Request, the copy of a letter to the Chief Forester from the Regional forester, stating that the substantial budgeted funds designated for the scam that was the Mansfield Canyon CERCLA action, were being returned. This CERCLA Action was initiated in 1991 and apparently is still active. It involved an incompetent, unregistered consultant for the Forest Service, dishonest and false data, and a fictitious permanent resident. It was the most disgusting and deceitful waste of public and private funds that can be imagined.

**What are your hobbies?** Fishing, hunting, and tilting at windmills and the wasteful practices of the Federal government.

**Water, whiskey, or wine?** Water! I have spent too much time in the desert.

**Thanks, Russ!**



## Announcements

The 2010 **Arizona Hydrological Society Symposium** will be held September 1-4 at the Westin La Paloma in Tucson, Arizona. The theme is Dryland Hydrology: Global Challenges / Local Solutions. More information at <http://azhydrosoc.org>.

ABSTRACTS deadline has been extended to May 28! Check the website for more information.

### WELCOME NEW AGS MEMBERS:

**Daniel Bleak**, President of Nevada Plains Exploration Inc., in Apache Junction, AZ.

**Joshua Bleak**, president of Southwest Exploration Inc., in Apache Junction.

**Arthur Hauger**, geologist in Superior, WI.

**Seth McCauley**, Staff Hydrologist at Clear Creek Associates in Tucson.

## Upcoming AGS Dinner Meeting Speakers

**June 1, 2010:** Alex Iriondo

**Topic:** "New Ideas on the Distribution of Paleoproterozoic Provinces in Northwest Mexico: Possible Basement Influence on Subsequent Geological Events in Southwestern North America"

**July 6, 2010:** Stan Keith

**Topic:** "The Origin of Kerogen" or "Throw Hot Water on a Peridotite and Make an Oilfield"

**August 3, 2010:** Ray Grant

**Topic:** "Geology and Mineralogy of the Grandview Copper Mine, Grand Canyon, AZ"

## Late Spring Field Trip—RESOLUTION COPPER DEPOSIT

**SAVE THE DATE!** Plans are being formalized for a trip to the RESOLUTION COPPER DEPOSIT in Superior, AZ on June 5, 2010. The tentative plan is for participants to get themselves to Superior by their own devices by 9:30 a.m. The "official" trip will likely end by 2 p.m. Some "unofficial" stops may be added along the travel route in the afternoon. Watch the AGS website at: <http://www.arizonaageologicalsociety.org/> for more information as plans develop or contact AGS V.P. for Field Trips Doug Shakel at [dshakel@dakotacom.net](mailto:dshakel@dakotacom.net) or call him at (520) 241-5261. Here's a bit of information from the Resolution Copper website ([www.resolutioncopper.com](http://www.resolutioncopper.com)) to pique your interest:

*The Resolution Project is located in the historic Pioneer Mining District, three miles east of Superior, Arizona. Exploration from 2001 to 2003 indicates what **may be one of the largest copper resources ever found in North America and possibly worldwide**. The ore body rests more than a mile below the surface and appears to be of good grade. In May 2008, Rio Tinto, Resolution Copper's parent company, announced that Resolution Copper had completed sufficient drilling on the deposit to report an Inferred Resource of 1.34 billion tons, containing 1.51 percent copper and 0.040 percent molybdenum.*

*Mining projects are completed in stages, and our project is now in the "pre-feasibility" phase. The work scheduled for the next several years includes dewatering the former Magma mine and sinking an exploratory shaft to 7,000 feet below the surface, as well as preparing numerous studies to evaluate technical, legal and environmental issues and to prepare our mining plan. To achieve our target of commencing production by 2020, there is a tremendous amount of preparatory work to complete.*

*The copper ore will be mined using a method known as panel caving, a subset of block caving. Unlike an open pit mine, which involves extensive removal of the surface waste rock to access the ore body, this method accesses the ore from underneath through a series of deep shafts and tunnels.*

**A NOTE FROM THE EDITOR:** Last month's newsletter featured a reprint of an article that was originally published by the University of Texas titled "*Experts Reaffirm Asteroid Impact Caused Mass Extinction*". Since we re-printed that article, we have learned that one of the scientists who contributed to this exciting work, **David Kring**, is an AGS member who now works at the Center for Lunar Science and Exploration in Houston! If you wish to read the original article, you can find it in *Science*, volume 327, pp 1214–1218. The title is "*The Chicxulub asteroid impact and mass extinction at the Cretaceous-Paleogene Boundary*".

