



# SPHERES OF INFLUENCE

A QUARTERLY NEWSLETTER FOR DEG – 2013 ISSUE 3

## President's Column

Douglas E. Wyatt, Jr., PhD., P.G.



## The Need for Evangelizing the Educated

I recently had the opportunity to give the closing Plenary Session talk in Gaithersburg, MD, for the Minority Serving Institutions Council of Partners Conference at the National Institute of Standards and Technology (NIST). This was a meeting of universities, organizations, and various offices of the federal government that serve minority students, overall a well-educated gathering. My topic was the future of global energy and the Science, Technology, Engineering and Mathematics (STEM) requirements necessary for future students to enter the energy market. It was enjoyable with good participation and interaction and for me, a meaningful opportunity. However, I was a bit surprised at the general lack of knowledge or understanding in such an educated audience about energy in general, how it exists, how it is globally distributed, produced, transformed, transported or utilized, but I was very excited at their overall desire to learn.

People have come to expect that the routine availability of energy should be ubiquitous. We exist in a universe that is really nothing but energy manifested in various forms so why should we not expect to have all of the energy we want or need? Well, we all know that it is not that simple and that science, engineering, and technology are all needed to find, produce and utilize the energy we need. However, many of the well-educated public, even many of the educators themselves, are not aware of the basic concepts, principles, science and technology related to all forms of energy. To guide students into energy careers as well as guide policy and decision-makers into wise choices we must try and inform all that we can about all that we know.

We have invested our time and talent, even our well-being, into our respective areas of expertise. I feel we need to take the extra step of insuring that those that are well-educated and are educating others, or those that influence decisions or policy, know the basic principles of energy science. Many of us personally and organizationally do this now but I feel that maybe we need to step up our game and become more evangelistic with our knowledge. A greater practical knowledge of energy can only benefit us all.

One Dean from a southern university came up to me after my talk and said "I really enjoyed your talk, you don't speak like a normal PhD type or research scientist, but sounded more like a preacher!" I consider that a compliment!

## From the Editor-In-Chief's Desk

Kristin M. Carter, P.G.

Our December 2013 issue of Environmental Geosciences provides the findings of geologic carbon sequestration research conducted by the West Virginia Geological and Economic Survey for Silurian-age deposits in the central Appalachian basin, as well as a fascinating international submission regarding the opportunities and challenges of developing shale gas resources. During my tenure as Editor-in-Chief, I have seen that carbon sequestration, although having experienced road bumps in funding and popularity, has continued to occupy the minds and focus of earth scientists. Further, the promise of domestic energy security, coupled with the environmental benefits offered by natural gas over other fossil fuel sources, have really seemed to drive our journal content within the past couple years. Enjoy this upcoming issue.

## The Good, The Bad, and The Ugly

Everyone is familiar with Old Faithful. This past summer, CNN published an article about another geyser in Yellowstone National Park, The Steamboat geyser, and its unpredictable eruption schedule. The article, and the topic of geysers in general, has inspired this issue's "The Good, The Bad, and the Ugly" which will explore topics in geothermal energy. While there may not be as much "controversy" surrounding geothermal energy as other energy sources, such as shale gas, geothermal energy has become a hot topic in countries seeking to exploit its power.

[www.cnn.com/2013/08/01/us/yellowstone-geyser/index.html?iref=allsearch](http://www.cnn.com/2013/08/01/us/yellowstone-geyser/index.html?iref=allsearch)

The CNN article describes Steamboat geyser and a witness account of its eruption, the first in 8 years. More on the geysers of Yellowstone can be found at <http://www.nps.gov/yell/naturescience/geysers.htm>

[www.geysers.com/default.aspx](http://www.geysers.com/default.aspx)

Calpine Corporation, a U.S. power company, has harnessed the energy from naturally occurring steam reservoirs in the Mayacamas Mountains in northern San Francisco to provide renewable energy for Northern California. The interactive website explains the properties of geothermal sites, an extensive historic timeline of the use of geothermal energy in the region, and an explanation of the company's wastewater inject into the geysers.

[www.geo-energy.org](http://www.geo-energy.org)

The Geothermal Energy Association is a hub for press releases, meetings, and other geothermal information resources. The site also has a Twitter feed that follows geothermal news in social media. If you are interested in the GEA, you can also register to become a member through this site.

[www.smartplanet.com/blog/report/8216clean-geothermal-energy-plant-sparks-protest-in-italy/2670](http://www.smartplanet.com/blog/report/8216clean-geothermal-energy-plant-sparks-protest-in-italy/2670)

In smartplanet Laura Shin discusses an ongoing protest over a geothermal energy plant in rural Italy. Italy is home of the world's first geothermal plant and has the highest percentage of renewable energy from geothermal out of all the European Countries. So why, as the concentration of CO<sub>2</sub> in the atmosphere exceeds 400 ppm in the area, are citizens protesting clean energy? Some of the reasons include claims of a falling water table, increasing concentrations of arsenic in groundwater, and the release of other pollutants such as sulfide and ammonia.

[www.ipsnews.net/2013/08/geothermal-energy-stuck-in-a-hole-in-switzerland](http://www.ipsnews.net/2013/08/geothermal-energy-stuck-in-a-hole-in-switzerland)

This article from the Inter Press Service News Agency explores a 3.6 magnitude earthquake that has been blamed on an active geothermal project. The project, which is taking place in the Swiss city of St. Gallen is the beginnings of a geothermal power station with the capability to supply electricity for up to 5,000 households and eventually provide heat to half of the city's buildings. On July 19, when gas was encountered at a depth of 4,450 meters, water was pumped into the hole to reduce downhole pressure. The next day, an earthquake occurred. Since then, further drilling has been cancelled and the project's future is unknown.

[Thinkgeoenergy.com/](http://Thinkgeoenergy.com/)

Think Geoenergy is a self-proclaimed leader in geothermal energy news. The site covers geothermal news across the globe, including details on the Swiss seismic event mentioned above.

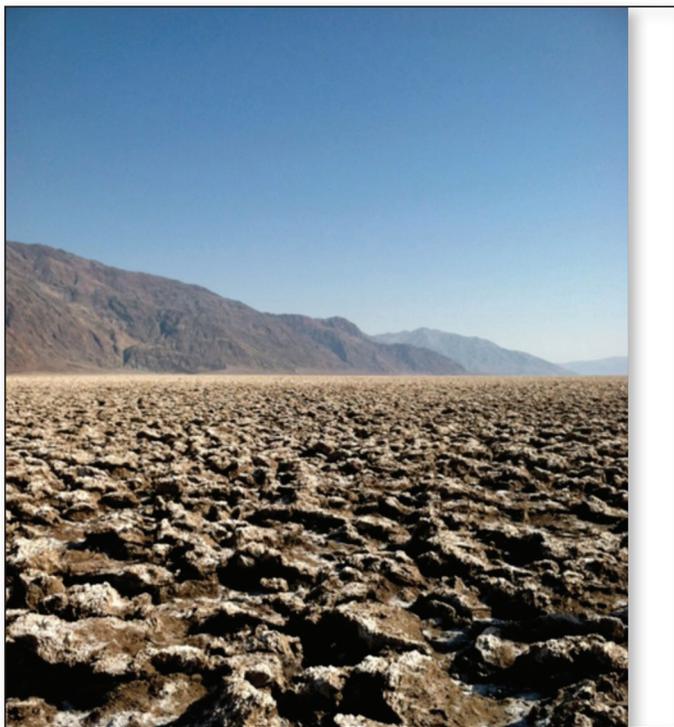
## The Polish Geological Institute Visits Pennsylvania

The commonwealth of Pennsylvania recently welcomed petroleum geologists from the Polish Geological Institute (PGI; Warsaw, Poland), who had traveled to the U.S. for training workshops and meetings on shale gas development in the Appalachian basin. During their trip, Hubert Kiersnowski, Ireneusz Dyrka and Marcin Janas attended the Field Conference of Pennsylvania Geologists (headquartered in Williamsport, PA) and visited Antes and Marcellus outcrops with Department of Conservation and Natural Resources representatives. Prior to their departure back to Poland, the group met with Pennsylvania Geological Survey geologists in Pittsburgh. Among the topics of discussion at this meeting were the similarities in the regional geology of Pennsylvania and Poland, technical approaches to assess shale gas reservoir quality and reserves, water resource issues (from private water supplies, water sourcing and management for drilling activities, to contamination potential), and how to deal with public opposition to drilling through education and outreach.



*DEG Pictured left to right: Marcin Janas (PGI), Kristin Carter (Pennsylvania Geological Survey), Ireneusz Dyrka (PGI), and Hubert Kiersnowski (PGI).*

## Beauty in Geology



This evaporate basin, situated within Death Valley National Park and just north of Badwater basin, is aptly named the Devil's Golf Course. Evaporate basins are common in Death Valley and form as water evaporates from confined lakes, causing "salt" minerals to precipitate out as wispy looking crystals (seen in the picture on the right). As these "salt" minerals precipitate, they grow above the flat muddy spots, creating the strange moonscape topography. These photographs were taken by an Allegheny College Geology student during a seminar field trip in March 2013.

DEG Leaders in Action:

## Kris Carter Participates in AAPG's Editorial Board's Work on Open Access Policy

In an effort to further the goal of AAPG to advance the science of Petroleum Geology to the international geological community and the public at large, AAPG's Editorial Board is working on an Open Access Policy for all AAPG publications. Kris Carter, our Journal's Editor-In-Chief, is participating in this policy work. Open Access publishing provides easier access to government-funded research for the public. For more information, please visit [www.aapg.org/pubs/policy\\_openaccess.cfm](http://www.aapg.org/pubs/policy_openaccess.cfm).



*We welcome your articles, comments and feedback for this quarterly Newsletter publication.*

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