



# The Hydrogeologist

Newsletter of the  
GSA Hydrogeology Division

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**T**he Annual meeting held in Denver from October 31 - November 4, 2010 was a success for both the entire GSA organization and for the Hydrogeology Division. The meeting itself drew over 6500 registrants, with almost 400 of them being Hydrogeology Division members. That means that over 1/3 of the Division's 1089 members attended the meeting. The 29 technical sessions and 9 poster sessions sponsored by the Hydrogeology Division were also a success.

As outlined in the previous newsletter, the Hydrogeology Division held several events throughout the conference as well. An article detailing the Hydrogeology Division's luncheon and awards and the student reception are included

in this edition of the newsletter. In addition, the 2010 Birdsall-Dreiss lecturer, Susan Hubbard, describes her year on the lecture tour. All in all, the 2010 Annual Meeting was a terrific place to meet up with old colleagues, meet new ones, and perhaps even discuss a little bit of hydrogeology. Next year the GSA Annual Meeting will be held in Minneapolis, Minnesota from October 9 - 11. We hope to see you there!

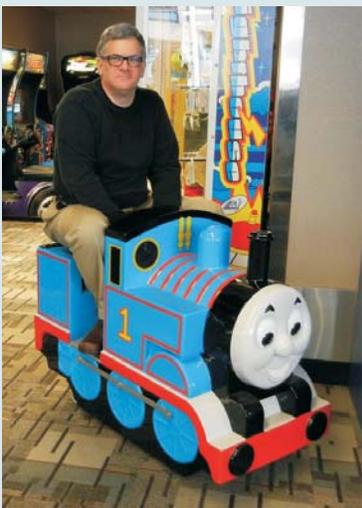


**The new Hydrogeology Division Chair Ed Harvey (left), his wife Carol Rogers and colleague (and former newsletter editor) Carl Mendoza enjoying the student reception.**



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**Ed Harvey, Chair  
GSA Hydrogeology  
Division**

A few weeks ago, I had the opportunity to travel to the Netherlands as part of a faculty team collaborating with professors at UNESCO-IHE. While walking the streets of Amsterdam (yes, I avoided the Red Light District) and taking the train through the countryside on my journey to Delft, I was continually struck by the hydrologic contrast between the Dutch drainage canals, constructed to remove excess and unwanted water from the region, and the irrigation canals of my own home state of Nebraska which are used to

bring much needed water to arid cropland. This new experience with a different use of canals to remove water rather than deliver it prompted me to think about all of the different ways we interact with water (both good and bad), how we all see our particular water problem from a different perspective, and thus how we have developed many different research approaches that aim to better allocate water use, control the flow of water, predict water behavior, protect water quality, and to understand water's role in ecosystem health and the history of human development and civilization, for example. Coincidentally, on the flight home I was working on a GSA related project and thinking about the diversity of technical sessions we've had in recent years at GSA Annual Meetings and about how much I've learned about new areas of research and benefited from my exposure to different perspectives as a result of my Division membership and meeting attendance. I haven't seen the final list, but having worked with Maddy Schreiber (our Division's Technical Program Chair) to finalize a few of the proposed sessions, I'm

certain that this year's meeting will be no different in its breath of topics and wealth of learning opportunities.



**Delft Canal (Photo by Carol Rogers).**

So, what's the connection between GSA Annual Meeting and Holland? Well, admittedly it might be a stretch, but for me it was recognizing that we often tend to focus in on one particular way of thinking about a water situation or problem, or we master one particular area of water expertise and we sometimes forget that there are many ways in which humanity and the earth's ecosystems interact with water that may

Please see **Chair** on page 6

## The Hydrogeologist

The Hydrogeologist is a publication of the Hydrogeology Division of the Geological Society of America. It is issued twice a year, to communicate news of interest to members of the Hydrogeology Division. During 1998, the publication moved from paper-based to electronic media. The electronic version may be accessed at: <http://gsahydro.fiu.edu>. Members of the Hydrogeology Division who have electronic mail will receive notification of all new issues. Other members will continue to receive paper copies.

Contributions are material are most welcome, and should be directed to the Editor. Submission as a Word or WordPerfect document is most expedient. **The deadline for the summer issue is May 15, 2011.**

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# Hydrogeology Division Luncheon and Awards Reception

By Andrea Brookfield



**The 2010 Hydrogeology Division Luncheon and Awards Reception was a sold out event.**

The Hydrogeology Division Luncheon and Awards Reception was a well-attended event, selling out days in advance with 185 attendees. In addition to the wonderful meal, all attendees got an opportunity to network and to watch as several colleagues and students were recognized by the Division.

The student research grants are awarded by GSA, not only the Hydrogeology Division, and this year 4 Hydrogeology students received this grant. Marcie Occhi from the University of Maryland (supervisor: Dr. Prestegaard), Kuldeep Chaudhary from the University of Texas at Austin (supervisor: Dr. Cardenas), Jennifer Dierauer from Southern Illinois University (supervisor: Dr. Pinter) and Emily Eastridge from the University of Kentucky (supervisor: Dr. Fryar) were the awardees.



**Student Research Grant Awardee Emily Eastridge receiving her award from Scott Bair.**

The Division also recognized several colleagues for various contributions. This included the outgoing and incoming Birdsall-Dreiss lecturers. Susan Hubbard was in attendance to describe her year as the Birdsall-Dreiss lecturer and to receive the award commemorating her time as the distinguished lecturer. Jeffrey McDonnell was introduced as the Birdsall-Dreiss lecturer for 2011.



**2010 Birdsall-Dreiss lecturer Susan Hubbard and Scott Bair.**

This year the Division recognized two individuals for the Distinguished Service Award. Both Van Brahana and Scott Tyler were present to receive their awards. Both awardees were introduced by their citationists, although Van Brahana's

Please see [Luncheon](#) on Page 6

# Student Reception

By Andrea Brookfield with Stephen Van der Hoven

No GSA Annual meeting would be complete without the Hydrogeology Division's Student Reception. This reception gives students, faculty and professionals a chance to mix and mingle in an informal setting, and gives the students a chance to win great prizes.

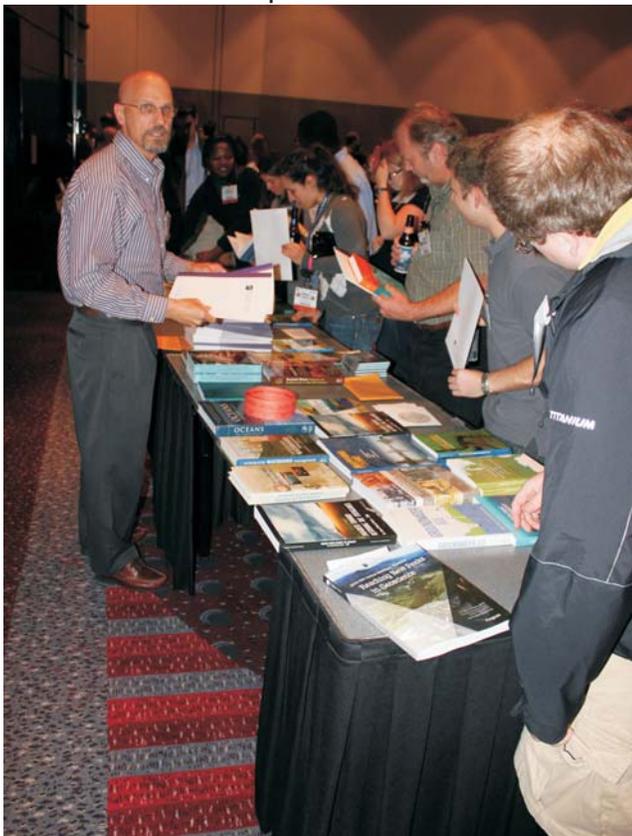
This year over 110 students attended the reception. Despite the economy, each of these students walked away with at least one fantastic prize donated by individuals, entities and corporations. These prizes included software, reference texts, laboratory analyses and professional memberships. Winning these prizes was not easy though!

Todd Halihan continued in his role of MC for the trivia contest, with outgoing GSA Hydrogeology Division Chair Scott Bair acting as contest judge. In addition to the usual Hydrogeology-related trivia, Todd added musical trivia (guessing the name of the water-themed song) to the contest. Another new feature were the water level indicators that students had to use to 'buzz in' their answers to the trivia questions.



Students had to 'buzz in' to answer trivia questions.

Next year's student reception at the annual meeting in Minnesota promises to be just as fun and fruitful for students, faculty and professionals alike. Without the support of the prize donors the student reception would not have the same success. We would like to thank all of 2010's donors, and encourage repeat and new donors to contribute to next year's event. Stephen Van der Hoven ([sjvande2@ilstu.edu](mailto:sjvande2@ilstu.edu)) can be contacted for more information regarding this event and to make a donation to next year's reception. 

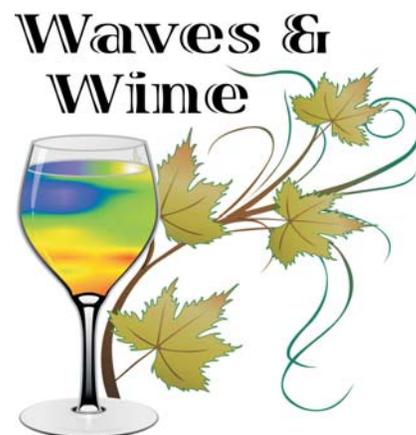


Students picking out their prize after winning the trivia contest.

## 2010 Student Reception Donors included:

Steve Ingebritsen (USGS)  
Geological Society of America  
John Wiley & Sons Inc.  
Cambridge University Press  
National Research Council  
Academic Press  
Aquaveo  
Schlumberger Water Services  
Haitjema Software  
International Ground Water Modeling Center  
American Geological Institute  
Golden Software Inc  
CUASHI  
Karst Waters Institute  
Rockware Inc.  
National Ground Water Association  
International Association of Hydrogeologists  
University of Miami, Rosentiel School of Marine  
Science

# Reflections on the 2010 Birdsall-Dreiss Lecture Tour



By Susan S. Hubbard  
Lawrence Berkeley National Laboratory

I was honored to serve as the 32<sup>nd</sup> GSA Birdsall-Dreiss Lecturer, the first from a National Laboratory. It was an eventful year that I'm grateful to have had the opportunity to experience. I'd very much like to thank everyone who made this Lectureship possible, including the GSA Hydrogeology Division and the numerous faculty and students who graciously hosted my visits. I'd also like to thank the Earth Sciences Division of Lawrence Berkeley National Laboratory and the Department of Energy for providing me with additional support that enabled me to undertake this adventure.

I offered two presentations during my lectureship, which were intended to highlight different aspects of hydrogeology and reach different audiences. The first and most requested lecture, entitled 'Toward X-Ray Vision: Geophysical Signatures of Complex Subsurface Processes', described recent advances in using geophysical methods to quantify hydrological and biogeochemical subsurface processes relevant to contaminant flow and transport across a hierarchy of spatial scales. The intended audience for this lecture was one that had familiarity with subsurface transport and heterogeneity issues. The second lecture, entitled 'Waves and Wine', discussed advances that have been realized through experimentation at several California vineyards through interpretation of geophysical attributes in terms of soil and canopy properties, and the use of such data within statistical and water-balance numerical models to increase winegrape quality and water savings. This was the less technical of the two

lectures, and tended to attract a broader spectrum of attendees, including those interested in soils, agriculture, viticulture, irrigation as well as students considering declaring hydrogeology as a degree. The forty-three lectures that comprised my tour took me across the United States, to Canada, and to Europe. Although I was sorry not to be able to accept all of the invitations that I received, I was able to lecture in all key geographic regions in the United States and to travel to many institutions where I had not previously visited.

There were three things that I found most enjoyable about my Birdsall-Dreiss tour. Visiting with colleagues, hearing about their research, and especially meeting with students were real highlights. My overwhelming impression is that the ongoing hydrogeological research is extremely impressive in terms of both breadth and depth; I was especially impressed that so many students have been attracted to hydrogeology with the desire to 'make a difference'. Secondly, it was interesting for me to understand the leanings of different hydrogeology departments around the nation, some of which stand alone and others that are part of, and take on a flavor of, the geology, environmental science, earth sciences, or engineering departments where they reside. Probably most enjoyable was getting acquainted with the local environments, including both culture and food. For this I am very indebted to my hosts, who spent many hours touring me around town and often inviting me into their homes. In this capacity, I visited local museums and wineries, saw alligators and many surprisingly large football stadiums, and (over) sampled the local cuisine!

Please see [Hubbard](#) on page 6

### Luncheon from page 3

citation reading by Todd Halihan was by far the most original.



**Distinguished Service Awardee Van Brahana and his wife Rosemary enjoying Todd Halihan's citation for Van's award.**



**Scott Tyler receiving his Distinguished Service Award from Scott Bair.**

The Meinzer Award is also given out during the annual luncheon. This year the Meinzer Award was given to Mary Jo Baedecker.



**Mary Jo Baedecker receiving her Meinzer Award from Scott Bair.**

### Hubbard from page 5

Through the tour I developed a strong impression that our field is flourishing. It is clearly a very exciting time to be active in hydrogeology research, as hydrogeological processes play such a critical role in most earth-life functions. Developing a predictive understanding of hydrogeological phenomena in the presence of varied environmental and anthropogenic forces is necessary for the optimal management of our natural resources and indeed, for our sustained existence. It represents a major challenge facing the earth and environmental sciences and is a critical need for many water-scarce, climate-threatened, and polluted regions. The intersections of hydrogeology with ecology, climate science, engineering, biosciences, and energy are intricate and fascinating. In spite of the economic recession, many departments seemed to be maintaining, and in some cases, growing. My impression was that this is in part to the growing awareness of the central role of hydrogeology in man's activities and sustainability. In this vein, I applaud the GSA Hydrogeology Division for supporting the Birdsall-Dreiss award. Together with the Darcy Lecture, these two lectureships provide an opportunity to continue to heighten the awareness of our discipline to those both in and outside of the field.



### Chair from page 2

differ from our own understanding or familiarity. Just as I saw this on my journey through the Netherlands, I also see it each year when hydrogeologists from across the globe, from a wide variety of hydrogeological sub-disciplines, and from a vast array of experiences come together to share their research, tell their unique stories, and to interact with each other in what, for me, is always a very positive learning experience. Such an experience would not be possible without the Geological Society of America, nor without its Hydrogeology Division. So, as your current Management Board Chair, I want to offer the membership my thanks for the opportunity to serve, and also for the opportunity to interact with you and to learn from you in order to expand my own understanding of my discipline and to broaden my own experience with the diversity of hydrogeologic issues, problems, and solutions. We have a great Division, doing great work and making a real difference worldwide and I'm very proud and quite humbled to be a member and a part of its leadership team. Thank you.



# Where in the World?



**This edition's photo:**

This edition's photo was pulled from the archives. Any guess which research site this is?

Think you know where this site is? Send your guess to [andrea@kgs.ku.edu](mailto:andrea@kgs.ku.edu)

See Page 8 for an article describing last edition's photo.



Do you have an interesting idea for a short scientific article? Perhaps an opinion on a new policy or technique? Any exciting news in your professional life? Upcoming conference? An announcement of interest to the hydrogeological community? If so, why not publish it in *The Hydrogeologist*? Send your submission ideas to [andrea@kgs.ku.edu](mailto:andrea@kgs.ku.edu)

**STUDENTS, WE WANT TO HEAR FROM YOU TOO!**

# Where in the World?

## 'The Rise' - Sinks Canyon State Park

Previous edition's photo:



'The Rise' - Sinks Canyon State Park, Wyoming

To begin, congratulations to **Ken Bradbury** of the Wisconsin Geological and Natural History Survey for correctly identifying the location of the above photo.

This photo was taken while Ed Harvey was visiting the Sinks Canyon State Park in Wyoming. This park contains the Middle Fork of Popo Agie River, a mountain river that flows out of the Wind River Mountains. Halfway down the canyon, this river disappears into a large limestone cavern, only to emerge 1/4 mile later in a large calm pool called "The Rise" (pictured above).

Dye tests have proven that water that disappears at The Sink is indeed the water that emerges at The Rise, however the path of the water between

the recharge and discharge points remain a mystery. It is thought that the water circulates up and down through many interconnected fractures and conduits in the limestone; it is the location of these fractures and conduits is unknown. What is known is that the amount of water discharging into The Rise is greater than that recharging at The Sinks. It is speculated that the additional water is coming from underground springs or other sinks in the area. The average amount of water flowing into The Sinks is 150

cubic feet per second, with a maximum of over 500 cubic feet per second during the spring run-off.

The hint for the photo in last edition's newsletter is that this location has some of the largest trout in the world. While these fish have not been weighed or measured, the larger ones are suspected to weigh up to 12 pounds. There is no fishing in The Rise, however you can feed the fish from the Park's observation platform (where this picture was taken). These trout are not stocked, they arrive naturally and remain at The Rise because the area is protected and there is an extensive food supply.

For more information about The Rise and Sinks Canyon State Park see the Park's website at: <http://wyoparks.state.wy.us/Site/SiteInfo.asp?siteID=12>.



Want to know what's going on within the GSA Hydrogeology Division?

Then visit our website at <http://gsahydro.fiu.edu>  
OR

Join the GSA Hydrogeology Division [facebook](#) group

to catch up on the latest events or find out how you can become more involved with our activities

# BULLETIN BOARD

## 2011 GSA Annual Meeting & Exposition

October 9-12  
Minneapolis, MN

<http://www.geosociety.org/meetings/2011/>

## Rocky Mountain & Cordilleran Joint Meeting

May 18-20  
Logan, UT

<http://www.geosociety.org/Sections/rm/2011mtg/>

## Practical Models Supporting Remediation of Chlorinated Solvents

2 Day Training  
July 26-27, 2011  
No Fee

<http://srnl.doe.gov/csgss/>

## Northeastern & North-Central Joint Meeting

March 20-22  
Pittsburgh, PA

<http://www.geosociety.org/Sections/ne/2011mtg/>

## Southeastern Section Meeting

March 23-25  
Wilmington, NC

<http://www.geosociety.org/Sections/se/2011mtg/>

## South-Central Section Meeting

March 28-29  
New Orleans, LA

<http://www.geosociety.org/Sections/sc/2011mtg/>

## From the Editor....

For those of you keeping track, this newsletter is a little late, and the picture to the right is the reason why. This should be no surprise to those of you who saw me waddling my way around the annual meeting in Denver while 8 months pregnant. I had my first child, Nikolaus, on December 2nd and as all of you parents know, nothing in my life has been the same! I strive to make the next newsletter come out on time, no excuses!

As per usual, if you have any comments, suggestions or an idea for a column or article please let me know at [<andrea@kgs.ku.edu>](mailto:andrea@kgs.ku.edu).

Andrea Brookfield, Editor  
[The Hydrogeologist](#)



# Hydrogeology Division Contacts

## **2011 Management Board**

**Chair:** Ed Harvey ([feharvey1@unl.edu](mailto:feharvey1@unl.edu))

**First Vice-Chair:** Steve Ingebritsen  
([seingebr@usgs.gov](mailto:seingebr@usgs.gov))

**Second Vice-Chair:** Todd Halihan  
([todd.halihan@okstate.edu](mailto:todd.halihan@okstate.edu))

**Secretary-Treasurer:** Brian Katz  
([bkatz@usgs.gov](mailto:bkatz@usgs.gov))

**Past Chair:** Scott Bair ([bair.1@osu.edu](mailto:bair.1@osu.edu))

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### **Technical Program Committee:**

Maddy Schreiber - 2011 (Minneapolis)

Alicia Wilson - 2012 (Charlotte)

### **Nominating Committee:**

Scott Tyler (Chair), Carol Wicks, Scott Bair

### **Meinzer Award Committee:**

Mike Edmunds (Chair), Mary Jo Baedecker, Niel Plummer, Don Rosenberry, Bayani Cardenas

### **Birdsall-Dreiss Lecturer Committee:**

Susan Hubbard (Chair), Jeffrey McDonnell, Chunmiao Zheng

### **Distinguished Service Award Committee:**

Ralph Davis (Chair), Ira Sasowsky, Laura Lautz

## **Ad Hoc Committees**

### **Historical Committee:**

Alan Fryar (Chair)

### **Section Representatives:**

Cordilleran - TBD

Northeastern - Todd Rayne

North Central - Maureen Muldoon

South Central - Marcia Schulmeister

Rocky Mountain - Victor Heilweil

Southeastern - Joe Donovan

### **Representatives to other Societies:**

American Geophysical Union - TBD

American Geological Institute - Dave Stephenson

National Ground Water Association - Dave Wunsch

International Assoc. of Hydrogeologists - Jack

Sharp & Vicky Kretsinger

Society for Sedimentary Geology - Gary

Weissman

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### **Web Administrator:** Mike Sukop

**GSA:** Jean Bahr (Past President)

Hydrogeology Division Website: <<http://gsahydro.fiu.edu/>>

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