



# The Hydrogeologist

Newsletter of the  
GSA Hydrogeology Division

June 1999  
Issue No. 50

## Message from the Chair

The Hydrogeology Division is 40 years old this year, and it is appropriate to reflect on changes that have occurred in the discipline. The shift of emphasis from water-quantity to water-quality issues that began in the 1970's is shifting again toward an intermediate position. Although surface- and ground-water withdrawals have decreased since 1980 to 1995 (Solley and others, 1998) water resource issues are an increasing concern to planners and water managers. The decrease in withdrawals is largely attributed to regulatory changes, improved irrigation techniques, and more efficient use of water by industry. The population, however, continues to grow in large cities that have limited freshwater, in arid or semi-arid coastal cities, and in large inland cities, such as Las Vegas. The demand for freshwater calls for focusing investigations on the linkages between surface water and ground water and the influence of atmospheric changes and modifications of landscapes.

In the past 40 years, the hydrogeology discipline has become more interdisciplinary in the way that scientists approach solving problems. Water-quality issues are intertwined with water-supply issues and to understand complex problems, predictive flow and transport equations must be coupled with consideration of the geochemical and microbiological reactions. The uncertainty associated with modeling is not well documented and is of great concern to water managers and legislators who develop policies and laws. Issues of contamination of water by organic and inorganic constituents continue to be of great interest to consumers. The list of contaminants continues to grow, as we become more aware of different types of substances in our environment and improve analytical methods for measuring trace concentrations of them in water. For example, we are now aware of the possibility of finding trace concentrations of pharmaceuticals, plasticizers, and forms of metals, such as mercury and arsenic in water. Whereas in the past, cleaning up the environment to a previous pristine condition was the goal, today determining the impact and risk to humans and ecosystems is an additional concern in establishing cleanup goals. Another example of the need for interdisciplinary science is the assessment of water-quantity and -quality issues in coastal regions. The population continues to move to coastal environments where the impact from climate variability and saltwater

intrusion is likely to be greatest. Getting answers to these complex questions continues to lead scientists to consider the whole system, the geology, hydrology, geochemistry, and biology, rather than investigate components of the system.

This interdisciplinary nature of hydrogeology is reflected in our sessions sponsored by the Division that are proposed for the 1999 annual meeting in Denver. Sessions are being announced that include microbial ecology, the fate of agricultural chemicals, issues related to the hypoxia problem, effects of urbanization, remediation at reclaimed mine sites, and the hydrochemistry of springs and karst systems. The latest efforts in basic hydrogeology are being offered in sessions on flow and transport, hydraulic conductivity measurements, uncertainty in modeling, ground-water recharge measurements, and transport in fractured rock and clay. A session is offered on ground-water resources in sedimentary basins.

GSA started a new type of symposia this year with funding from a trust left by Joseph T. Pardee. Pardee Keynote Symposia (the only type of symposia offered by GSA) are competitive nationally rather than being assigned to Divisions or Associated Societies and are designed to be interdisciplinary, at the leading edge of a scientific discipline, or of broad interest to the geoscience community. The Hydrogeology Division is the sponsor of the Pardee

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Mary Jo Baedecker  
Chair  
Hydrogeology Division

Symposium "Geoscientists in the Legal System- The Challenge for the Next Century." This is a timely topic with great interest generated by the case in Woburn, Massachusetts that was the basis for the book "A Civil Action" by Jonathan Haar and the movie released this year by the same name.

In regard to the health and well being of the Division, the membership has been stable from 1995 to 1998 at about 1,342  $\pm$  0.7% after showing a decline of 29% from 1993 to 1995. The decline in the mid-nineties was consistent with the decline in job opportunities in the field of hydrogeology and the earth sciences in general. The Hydrogeology Division is one of the three largest of the 12 Divisions in GSA: Quaternary Geology and Structural Geology are the other two Divisions with more than 1000 members. Of the total membership in the Hydrogeology Division, 19% are graduate or undergraduate students. It is important that we continue to interest students in the Division and that we offer benefits to help them develop their careers. The Division is sound financially with an operating budget of \$9,350 as of December 31, 1998. As in previous years, more than half of our resources support activities that are of great benefit to students, such as support for the Birdsall-Dreiss lecturer, student grants, and the student reception at the annual meeting. The policy, which was started last year, of sending copies of the newsletter by email has resulted in significant savings to the Division.

Please visit our revised web site at the address <http://www.uakron.edu/geology/gshydro>. David Diodato is the new webmaster and he has updated the site and added new features. One of the links that is now available is "The

Hydrogeologist's Home Page," which is also managed by David and has lists of possible jobs in the field of hydrogeology. In 1998, Darryll Pederson formed an ad-hoc Committee, chaired by Robert Ritzi, to assess the Division's service to young professionals. The report from that Committee is in this issue of the newsletter. One of their recommendations was a listing of opportunities in the field to help young professionals know of the latest job possibilities. We hope this link will make more information available to our members.

I welcome your thoughts about the Division. For those of you who are not members, I invite you to become a member of the Division. Your annual dues make a difference in our ability to support student research, the Birdsall-Dreiss Lecture, and to sponsor special events at the national meeting.

#### Reference

Solley, W.B., Pierce, R.R., and Perlman, H.A., 1998, Estimated use of water in the United States, 1995, U.S. Geological Survey Circular 1200, 79p.

### 1998 Annual Business Meeting Minutes


John Van Brahana  
Secretary-Treasurer

The 1998 Annual Business Meeting of the Hydrogeology Division, Geological Society of America was held on Tuesday, October 27, 1998 in the Sheraton Hotel in Toronto, Ontario, Canada, following an awards ceremony and luncheon. Chairman Darryll Pederson introduced the Division officers, awardees, and special guests.

Chunmiao Zheng made the citation for the O. E. Meinzer Award to Mary P. Anderson who then gave her response. The chairman presented her with the Meinzer bowl and certificate. Darryll Pederson announced that the Distinguished Award Committee selected John Cherry as the awardee and John was given a plaque in recognition of his service to hydrogeology. The 1998 and 1999 Birdsall-Dreiss Distinguished Lecturers, Jeff Hanor and Stuart Rojstaczer, respectively, were recognized.

The following students were recognized for having the best Student Grant Proposals: Robert Andress, Iowa State University; Sunil Mehta, University of Kentucky; Remo Nardini, George Washington University; and Matthew M. Uliana, University of Texas at Austin.

The Secretary-Treasurer's Report was given by Darryll Pederson and the results of the balloting for the Division Officers were: Mary Jo Baedecker, Chair; Steven Wheatcraft, First Vice-Chair; Jean Bahr, Second Vice-Chair; and John Van



## 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://www.uakron.edu/geology/gshydro/>. 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 of material are most welcome, and should be directed to the Editor. Submission via ASCII (text) is most expedient.

Ira D. Sasowsky, Editor  
The Hydrogeologist  
University of Akron  
Akron, OH 44325-4101

**Deadline, Fall Issue:  
August 27, 1999**

voice (330) 972-5389  
fax (330) 972-7611  
email [ids@uakron.edu](mailto:ids@uakron.edu)

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Brahana as Secretary-Treasurer. The Division's 1998 Financial Summary is given below

Financial Summary for 1998

INCOME

Dues \$8379.00

EXPENSES

Ann. Mtg.-Catering \$15.00

Ann. Mtg.-Luncheon \$253.00

Ann. Mtg.-Misc. \$1051.29

Newsletter and Labels \$2817.03

Other Printing \$19.75

Postage \$58.96

Awards \$8.25

Birdsall Lecturer \$5552.72

Total Expenses \$9806.00

NET LOSS \$1427.00

NET ASSETS, START of '98 \$10778.36

NET ASSETS, END of '98 \$9351.36

Darryll Pederson summarized the major actions and activities of the Division during the past year. Ira Sasowsky was recognized for his efforts as editor of the Hydrogeology Newsletter and the fact that he successfully sent the newsletter by email to most members, saving the Division the cost of mailing. Ralph Davis reported on the 1998 Program for the Division and he received recognition for the excellent program in Toronto. Bill Simpkins gave an overview of the planned sessions for the 1999 Program for the Denver Meeting. He announced that the Division would suggest a Pardee Symposium on hydrogeology and the legal system based on the attention legal issues are receiving partly because of the publicity about the Woburn, MA, case.

Bob Ritzi, Chair of the Ad-hoc Young Professional Committee, reported the recommendations of the Committee. The Committee deliberated this year to examine how young professionals can receive more support and recognition in the Division. The report will appear in the upcoming Spring Hydrogeology Newsletter. Other reports were from the Section Representatives; Liaisons to other organizations; Mary Jo Baedecker, news from the Division Chairs' Breakfast; and Jack Sharp on a new technical session by videoconference with scientists in Australia held at the Toronto meeting. A proposal by Michael Campana for joint NGWA-AGWSE and GSA programming at GSA Section Meetings was discussed.

The meeting was adjourned after the transfer of authority

to the new Chairman, Mary Jo Baedecker. Mary Jo reminded members to attend the Birdsall-Dreiss Distinguished Lecture and the Student Reception sponsored by the Division following the lecture.

### 1999 GSA Annual Meeting

Denver, Colorado - October 25-28

Bill Simpkins, Division Program Chair

Proposals for Topical Sessions, Pardee Symposia, Field Trips, and Short Courses have all been reviewed and approved. A full listing was published in the April issue of *GSA Today*. Final approval is dependent upon adequate participation, and actual scheduling of various events will be done late in the Summer. The Fall 1999 issue of *The Hydrogeologist* will contain updated information on events of interest to Division members. A very strong and diverse hydrogeology program has been proposed, and we hope that you can make the trip to Denver this Fall to participate.

#### Oral and Poster Sessions

The following sessions may be of interest to members of the Division. See the GSA website, or *GSA Today* for details. **Remember, the deadline for volunteered abstracts is July 12.** As was the case last year, abstracts may be submitted electronically at the GSA website.

K04 Geoscientists in the Legal System: The Challenge for the Next Century

T77 The Geology of Geomicrobiology: The Links Between Mineralogy and Microbial Ecology

T78 Calibration, Inversion, and Uncertainty of Groundwater Models

T79 Dynamics of Mass Transport in Fractured Rocks and Fine-Grained Sediments: Contributions from Laboratory and Field Analyses to Conceptual and Mathematical Modeling

T80 Measurement and Description of Flow and Transport in Highly Heterogeneous Aquifers

T81 Investigations into the Effect of Measurement Scale on Determining Hydraulic Conductivity: Field and Modeling Studies

T82 Field Scale Hydrodynamic and Geochemical Interactions at the Interface of Groundwater and Surface Water

T83 From Atrazine to Antibiotics: The Occurrence and Fate of Agricultural Chemicals in the Hydrologic System

T84 Gulf of Mexico Hypoxia: A Multi-Disciplinary, Multi-Scale Problem

T85 From Atrazine to Hypoxia to Antibiotics: Occurrence and Fate of Agrichemicals in the Hydrologic System

- T86 Hydrochemistry of Springs
- T87 Measurement Techniques and Modeling of Spatial and Temporal Variability in Groundwater Recharge in Response to Past, Present, and Future Climates
- T88 Role of Groundwater Models in Water Rights Disputes: An Evolution in the Understanding of Large Scale Hydrologic Systems in the Western United States
- T89 Sustainability of Water Resources in the High Plains
- T90 Hydrologic Resources of Synorogenic Strata
- T91 Low Recharge Groundwater Systems
- T92 Sediments in Karst Systems: Processes, Mechanisms, Interpretation
- T93 Impacts of Urbanization on Groundwater Quantity and Quality
- T94 Source Protection Planning for Springs and Tunnels: Problems and Solutions
- T95 Wetland Hydrology and Geochemistry: The State of the Science
- T96 Subsurface Transport, Fate, and Remediation of Nonaqueous Phase Liquid Contaminants in Multicomponent Biogeochemical Systems
- T97 Evolution and Remediation of Acid-Sulfate Groundwater Systems at Reclaimed Mine Sites

#### Field Trips

Two premeeting one-day field trips of interest to hydrogeologists will occur. The first field trip is "Hydrogeology and Wetlands of the Mountains and Foothills near Denver, Colorado", led by Ken Kolm, Colorado School of Mines, Saturday, October 23. This trip will include some excellent short loop hikes to examine slope and riverine wetlands. The second trip, to be held Sunday, October 24, is "Cave of the Winds and Springs of Manitou: Geology and Hydrology", led by Fred Luiszer, University of Colorado. This trip is a companion activity for T93 - Sediments in Karst Systems, and will examine speleothems and a 4.5 Ma record of clastic sediments in Cave of the Winds. The trip will return in time for the Welcome Reception Sunday night.

#### Pardee Symposium Information

E. Scott Bair

On Tuesday morning, October 26<sup>th</sup>, the Hydrogeology Division will host one of the first Pardee Keynote Symposia. The title of the symposium is "Geoscientists in the Legal System: The Challenge for the Next Century." The keynote speaker is Jerome Facher, a senior partner in the law firm Hale & Dorr in Boston,

Massachusetts. Those of you who read the book **A Civil Action** will recognize Facher as the crafty defense attorney hired by Beatrice Foods. If you saw the movie, Facher was played by Robert Duvall. Facher's opening comments will focus on the challenge expert witnesses face in court. He will use his examples from the Woburn trial to exemplify his arguments. Following Facher's comments will be presentations by a federal judge, environmental attorneys, and hydrogeologists, who will examine issues of use and abuse of scientific testimony, attributes of effective and ineffective expert testimony, ethical dilemmas faced by attorneys and experts, and tricks of the trade. Please plan to attend the symposium and to meet the speakers at the Hydrogeology Division luncheon, which follows it. Other scheduled speakers include Duane Miller, George Pinder, Jack Guswa, Tom Prickett, and federal judge Lynn Hughes.

#### Select Topical Session Information

Submitted by Advocates

"Hydrochemistry of Springs," (T86) focuses on research that incorporates biogeochemical, hydrologic, and geophysical methods used to characterize the processes that affect the quality of spring waters. We are particularly interested in studies that use environmental tracers (such as naturally occurring isotopes and added compounds), methods used to age-date spring waters, and those studies that use hydrologic and geochemical methods to delineate ground-water flow patterns in areas contributing to springs. We encourage you to submit an abstract and participate in what is shaping up to be an interesting and provocative session on springs in many varied hydrologic settings. The session will offer an unique opportunity to exchange information on important concepts regarding geochemical and hydrologic processes in ground-water and springs systems. Brian G. Katz, U.S. Geological Survey; 227 N. Bronough St., Ste. 3015; Tallahassee, FL 32301; (850) 942-9500 ext. 3018; bkatz@usgs.gov or Carol M. Wicks, geosccw@showme.missouri.edu.

T93 "Sediments in Karst Systems: Processes, Mechanisms, Interpretation" focuses on speleothems and clastic deposits preserved in caves. Papers on such topics as sedimentary processes, paleoclimatology, contaminant transport, hydrogeology, mineralogy, paleomagnetism, geomorphology, and paleontology are appropriate. A morning oral session will be followed by an afternoon poster session. Contact Theme Advocates Ira D. Sasowsky (ids@uakron.edu), University of Akron; Victor J. Polyak

(polyak@rt66.com), University of New Mexico; or John Mylroie (Mylroie@Geosci.MsState.edu), Mississippi State, for further information. The activities start with a companion field trip on the Sunday before the conference. Contact Fred Luiszer (luiszer@spot.colorado.edu), University of Colorado for field trip information.

T 97 "Evolution and remediation of acid-sulfate groundwater systems at reclaimed mine sites" examines mining-related oxidation of sulfide-rich rocks that result in the production and transport of sulfate, acid, and metals in the vadose and phreatic zones. Climate, hydrology, transport, and reactions influence the chemistry of resulting flow systems. Innovative lab, field, and modeling approaches are solicited that show promise for prediction and/or control of rates of acid generation and/or neutralization. For info or abstract forms contact Advocates David Atkins, Exponent Environmental (atkinsd@exponent.com) or Joe Donovan, West Virginia University (donovan@geo.wvu.edu).

### **Call for Donations**

Darryll Pederson is collecting donations of books, software, or other items for the door-prize raffle at the student reception. This is a popular event both for the students and professional members, and donations by you or your organization make it possible. Items may be sent to Darryll or brought to the meeting. In the latter case, please inform him, so that he has an idea of total number of items. Darryll T. Pederson, 304 Bessey Hall, UNL, Lincoln, NE 68588-0340; (402)472-7563, Fax (402) 472-4917, pederson@unlinfo.unl.edu

### **GSA Section Hydrogeology News** North-Central

Bill Simpkins, Section Representative

The 33rd Annual Meeting of the North-Central Section of GSA was held on April 22-23, 1999, at the Clarion Hotel and Convention Center in Champaign, Illinois. The meeting was attended by 654 registrants. Forty-six papers in Hydrogeology were presented in 4 Hydrogeology Symposia, part of a General Session, and a Poster Session. In addition, the field trip "Geology, Hydrology and Water Quality of the Karst Regions of South-Western Illinois and Southeastern Missouri" was led by Sam Panno, C. Pius Weibel, Carol Wicks, and James Vandike.

The Geology Department at the University of Illinois presented two student paper awards. Two student award recipients gave papers in hydrogeology

sessions: Angie M. Cook and Steven J. Fritz, *Impact of acid leachate from coal-storage piles upon groundwater*. Dwaine H. Edington, Eileen Poeter, Tim Cross, *Fluvsim: designing an invertible, process-based, fuzzy-logic, forward model of fluvial system*.

Preliminary discussions were held with Dennis Goldman of National Ground Water Association (NGWA) about the possibility of bringing a strong NGWA presence into the GSA Section meetings. This would provide a forum for the academic community to interface with those in the industry and regulatory arenas, and presumably strengthen the offerings in hydrogeology sessions. The Management Board was generally in favor of this suggestion, and decided that the concept should be implemented when the meeting comes to Illinois State University in Normal, Illinois, in 2001 (April 23-24).

### **Possible Hydrogeology Division - AGWSE Collaboration**

Bill Simpkins & Michael Campana

A dialog between the GSA Hydrogeology Division and AGWSE (The Association of Ground Water Scientists and Engineers - National Ground Water Association) is being conducted to determine ways in which members in both organizations may benefit. At present, a collaboration involving the 2 groups at the GSA Regional Meetings is being investigated. AGWSE member Michael Campana stated: *My main reasons for proposing this partnering concept were twofold: 1) strengthen the ground-water offerings at GSA section meetings; 2) get NGWA (mainly AGWSE) members involved in the organization by promoting local/regional involvement.*"

As progress occurs on this interesting concept, updates will be published in *The Hydrogeologist*.

### **Bair to Serve as 2000 Birdsall-Driess Lecturer**

E. Scott Bair has been selected as the Year 2000 Birdsall-Driess Lecturer. The titles of the two talks he will present are

*Contamination of Woburn Wells G & H: What the Experts Said at Trial, What We Know Now*

*Variable-Density Flow in the Midcontinent Basins and Arches Region: Applications to Sustainable Freshwater Resources and Hazardous Waste Injection*

The first title relates to research he is doing with Maura Metheny, a current Ph.D. student, on the ground-

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water flow system in the buried valley aquifer in east Woburn, Massachusetts, which was the focus of the awarding winning book *A Civil Action* and the recent movie of the same name. Scott also uses this subject to teach an interdisciplinary course called "Science in the Courtroom" in which his students serve as expert witnesses in a mock trial and law students serve as the attorneys. The second title relates to research he has done with former Ph.D. students Terry Lahm and Neeraj Gupta on regional flow patterns in the western part of the Appalachian Basin.

Scott received his B.A. degree in geology from the College of Wooster, and his M.S. and Ph.D. degrees, specializing in hydrogeology, from Pennsylvania State University. He joined the faculty in the Department of Geological Sciences at Ohio State University in 1985, after working six years in the Geotechnical Engineering Division of Stone & Webster Engineering Corporation. He has published papers on regional hydrodynamics in variable-density flow systems, transport of atrazine and alachlor from different crop management practices, transport of BTX from brine spreading operations, delineation of capture zones of wells, induced stream infiltration, and design of dewatering and depressurizing systems. Scott is one of four faculty in the Hydrogeology Program and teaches courses in water resources, hydrogeology, hydrogeologic field methods, and numerical modeling. In 1991, he received Ohio State's highest teaching award.

### **Call For Papers - Proposed Reviews in Engineering Geology volume**

Robert A. Larson

Chair-Elect of the Engineering Geology Division

A proposed GSA-EGD Reviews in Engineering Geology volume is in the preliminary stages. The tentative title is "Hydrologic Processes of Mass Movement", and the editors are Robert A. Larson and Scott F. Burns

We would like to receive papers on the relationship of hillslope hydrology to mass movement, or the lack thereof. The infiltration of water into and percolation of water through landslides of all types will be discussed, including modeling, theoretical aspects, dewatering, monitoring, affect on activation and rate of movement, and case histories. Papers on debris flow generation and rainfall thresholds for failure initiation of previously stable and unstable slopes are appropriate.

Data sets of pore water pressure are especially welcome, as are papers on obtaining the measurements. We would like papers on all types of hydrologic systems, slopes and mass movements. Deadline for submittal of papers is August 1, 1999. All papers will be peer reviewed per Geological Society of America requirements. Please contact the editors and discuss your ideas. Information on formatting requirements will be sent to you. Robert A. Larson, ralarson@ecom.net. Scott F. Burns, SCOTT@ch1.ch.pdx.edu.

### **Committee Report: The Young Professional Committee**

In February 1998, the Chairman of the Hydrogeology Division, Darryll Pederson, established an Ad Hoc committee entitled "The Young Professional Committee" to explore ways the Division might better serve young professionals in the field of hydrogeology. The Committee was composed of Robert Ritzi (Chair), Ken Bradbury, Matthew Davis, Joe Donovan, and Doug Gouzie. Their report was submitted to the Division October 19, 1998 and was discussed at the Management Board Meeting at the annual GSA meeting in Toronto. Below is the charge to the Committee, the report, and a response from the Board:

#### Charge To The Committee From Darryll Pederson, Division Chair 1998:

I am interested in what ways the Division might better serve the young professional working in education, government, consulting, etc. Are there ways that the Division could assist in networking? Are there better programs and/or activities to offer at national meetings? Are there special recognitions? Are there features needed on our web site? These are but some of the questions that should be asked. I am leaving this open so all avenues might be considered. My charge to the committee is to ask these and other questions and if answers are evident, come up with specific recommendations that the Management Board can consider at the Toronto meeting. Also suggest means by which these recommendations might be implemented and carried out.

#### Committee Report:

Since February, working by e-mail, the committee has considered the questions posed, as well as exploring others. Input from outside the committee was solicited through the Spring and Fall 1998 Hydrogeologist newsletter.

It is helpful to first define some categories of young professionals, and discuss how they are currently being served.

The committee was in agreement, as brought out early in the discussion, that among academicians, graduate students, and government research scientists, young professionals are currently being served well by GSA and the Hydrogeology

Division. The conferences are working well as a forum for presenting research. We have young professionals not only attending and presenting at the meetings, but also serving as technical program chairs, and organizing the theme sessions and symposia that they feel are important. We have the perception that the young professionals are actively participating in the Division luncheons, and using them as an opportunity to connect with the professional hydrogeology community at large. There is a special Division sponsored mixer for the students. We have the impression that at these conferences, the young professionals and the "old guard" are interacting in beneficial ways. However, the committee considered that certainly more can be done for this group, and it received some outside concerns from a young professional falling within this group. Both have led to some of the recommendations made below.

The young professional geoscientists/engineers in industry, consulting and government regulatory agencies do not have as strong of a connection to GSA conferences or the Hydrogeology Division. It is important to point out that this is true not only with the young professionals in these career categories, but is true across age and rank, as has been discussed at prior Hydrogeology Division management board meetings. Some of the recommendations made below to try and connect with this career group include more than just the young professionals.

Upon compiling the ideas generated, the committee members voted on whether or not they agreed that an idea should be carried forward as a recommendation to the management board. The ideas that the majority of the committee members agreed should be recommended are given below.

Recommendations:

1 Add a hydrogeology/environmental "employment" bulletin board to the Hydrogeology Division web page. Young professionals can post positions sought, and employers can post open hydrogeology positions. To implement, the Division could devote some resources to help the webmaster get this going. We found out after a draft of this report had already been written that Dave Diodato at Penn State has such a bulletin board on his "Hydrogeologist" web page, and we certainly wouldn't want to undermine his efforts. Perhaps Dave would want to link with the Hydrogeology Division in this effort. GSA already has internet submission forms that could perhaps be modified for this purpose, as was done in creating the form for requesting the Birdsall-Dreiss Lecturer. There would have to be a way to keep it current. Perhaps this could be offered at no charge for a couple

of years, and if it gets hot, restrict it to Division members in the future as an incentive to join. A key to success is to make employers feel that this is a primary site at which to post available positions. This can potentially help the Division and GSA connect with professionals in industry/consulting and government regulatory agencies, and not only the younger ones.

- 2) Add a web page to the Division web page where finishing students (or recent graduates) can post the title (and perhaps abstract) of their M.S. or Ph.D. thesis. While Ph.D. dissertation titles are currently published in EOS, M.S. theses are not and are no longer published in Ground Water. Therefore, this web page would seem to fill a void. Perhaps this could be linked to young professionals seeking employment through the employment web page proposed above.
- 3) Student involvement is perhaps greater at the sectional meetings than at the annual meetings. They can more often drive to these meetings, and there are more opportunities for presenting papers. There may be an opportunity for the division to connect with the student population of young professionals through presence at sectional meetings, perhaps implementing initiatives through the Section Representatives. One idea is to have an award from the Division for the best student paper given on a hydrogeology subject. Perhaps the Section Representatives for the Division could serve as judges, or appoint judges from the host institution. Perhaps the Section Representatives could organize a hydrogeology student mixer at the sectional meetings. Perhaps the Division can raffle away some student memberships at these functions. Can the Division get gratis exhibitor tables to display general information about the benefits of Division membership at section meetings? An idea related to the above is that if the Birdsall-Dreiss lecturer is invited at host institutions to meet with groups of students, have them raffle off some free student memberships. It would create an opportunity to talk about the Division.
- 4) To attract consultants and government employees, concentrate attractive sessions into a short time window to minimize time at meeting and loss of billable hours. Get the schedule out earlier.
- 5) To make a better link with young professionals in industry/consulting and regulatory agencies, continue to sponsor consultants/innovative

theme sessions, and forums and panel discussions on hydrogeology issues that impact the public. As per (4) above, have these scheduled close to the main division activities. Increase advertising for these sessions to reach non-members. Solicit input on attractive short course topics from professionals in these career areas.

- 6) Another idea to link with professionals in industry/consulting and regulatory agencies, young or old, is to create an award to recognize a hydrogeologist who has "made a difference" through hydrogeology. Examples include: convincing governmental agencies of the value of protecting key hydrogeological resources like springs and wetlands; successes in major ground-water remediation efforts, successes in developing new water supplies, successes in incorporating hydrogeology into land use planning efforts, or successes in public education programs in hydrogeology. This would be a complement to the current awards; the Meinzer is tied into research, and the Service Awards are more for lifetime achievements, whereas the proposed award could be received by practitioners and younger professionals. This could be implemented by establishing an awards committee made up of division members more aware of activities in professional practice.
- 7) Foster involvement of younger members in proposing and chairing sessions, field trips and short courses. Perhaps the key to implementing is to recruit some senior Division members who have a talent for this sort of thing to "work" the meetings and Division luncheon.

FOLLOW-UP TO THE REPORT FROM MARY JO BAEDECKER, DIVISION CHAIR 1999:

The Hydrogeology Division Board is appreciative of the Committee members for providing an excellent report. Some of these recommendations are being implemented and other recommendations are open to the membership at large to provide input to the Board. It is recognized that young professionals, especially those not affiliated with academic institutions, may fail to see the benefit of connections to GSA and the Hydrogeology Division. It is the intent of the Division to provide a program that serves all professionals in our discipline and provides the best available technical information on topics of great importance to advance science and serve society. Our program for 1999, coordinated by Bill Simpkins (see Newsletter article), has a variety of topics that are of interest to all hydrogeologists. The Pardee Symposium, in

particular, will attract interest from academic, consulting, and government scientists. Bill is trying to organize the program this year so that those sessions of most interest to professionals in industry/consulting and regulatory agencies will be at the beginning of the week. However, this is difficult to achieve year after year because the Division does not have the final say for program organization; the final scheduling is done by the GSA program chair. Also, we can recommend but not choose the slot for Pardee Symposia. Planning our sessions earlier in the week will become easier in a few years, when GSA moves to an official meeting schedule of Sunday through Wednesday rather than Monday through Thursday.

The Division has a new web site and we have incorporated connections to the "Hydrogeologist" web page that is supported by Dave Diodato and lists open positions for employment. In fact, Dave is now our web master so we are assured of maintaining that link for awhile. We are considering ways to post recent M.S. and Ph.D. titles or abstracts on our web as suggested by the Committee.

In regard to new awards, the Board likes the idea of a "best student paper in hydrogeology" award at the section meetings. This would require that the section representatives select attendees to evaluate the hydrogeology papers and select the student to receive an award. The award can be membership to GSA and/or the Division for a year. Regarding the idea of an award for a hydrogeologist who has "made a difference" by working with government agencies, protecting environmental resources, obtaining success in remediation, developing water supplies, or in public education, the Board concluded that it would be difficult to evaluate contributions. These activities are difficult to document and success may be difficult to determine. If criteria can be established for determining success and evaluating contributions, the Board is willing to consider such an award to be presented at the annual meeting.

The Board would like to hear from the general membership on the report. Please respond to a member of the Committee or a Board member if you have opinions or comments. We will revisit the report at the annual GSA meeting *in Denver*.

### **Update - Division Web Site**

David M. Diodato has been appointed as Division Web Master by Division Chair Mary Jo Baedecker. The homepage has been redesigned and relocated. Please direct your browsers to: <http://www.uakron.edu/geology/gsahydro>.

## Biographies of Officer Candidates

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**Jean M. Bahr.** Born June 1, 1954, New York, NY. Education: B.A. 1976, Geology and Geophysics, Yale University; M.S. 1985 and Ph.D. 1987, Applied Earth Sciences (Hydrogeology), Stanford University. Member of GSA since 1976, elected Fellow in 1996. GSA service: Continuing Education Committee (1996-98), Committee on Committees (1997), Hydrogeology Division 2nd Vice Chair (1999), Hydrogeology Division Meinzer Award Committee (1994-96). Employment: 1998-present Professor, University of Wisconsin - Madison; 1987-1998 Assistant to Associate Professor, University of Wisconsin -Madison; 1980-1986 Research Assistant and Teaching Assistant, Stanford University; 1976-1980 Staff Geologist, Wahler Associates, Palo Alto, CA. Concurrent positions: 1995-present Chair Water Resources Management Graduate Program, University of Wisconsin-Madison; 1984-1986 Hydrologist USGS, Menlo Park, CA; 1982-1983 Hydrogeologist, GTC Ltd., Ottawa, Canada. Service: Associate Editor Water Resources Research (1996-present), Editorial Board Ground Water (1993-95), Books Editor Ground Water (1997-present), Editorial Board Geotimes (1995-1998), Natl. Res. Council (NRC) Board on Radioactive Waste Management (1992-97), NRC Panel on Fluid Infiltration in Fractured Media (1998-1999), NRC Committee on Technical Bases for Yucca Mtn. Standards (1993-94), Vice-chair NRC Committee on Yucca Mountain Peer Review (1995), Ocean Drilling Program (ODP) Sedimentary and Geochemical Processes Panel (1992-94), Editorial Board ODP Leg 156 Scientific Results Volume (1995-97). Awards: Yale College Samuel Lewis Penfield Prize (1976), elected to Sigma Xi (1983), AGU Editors Citation for Excellence in Refereeing (1991). Publications: author or co-author of over 30 refereed articles and over 50 abstracts, contributor to 6 monographs, co-editor of one book. Research interests: Interactions between physical and biogeochemical processes in groundwater; effects of heterogeneity on solute transport; paleohydrogeology.

**William W. Simpkins.** William W. Simpkins, born in Granite City, Illinois, on December 15, 1954, has been a GSA member since 1979. Education: Augustana College (Rock Island, IL), B.A. in Geology, 1976; University of Wisconsin-Madison, M.S. degrees in Geology and Geophysics and in Water Resources Management, 1979; University of Wisconsin-Madison, Ph.D. in Geology and Geophysics, 1989. He was a Research Associate with the University of Texas at Austin, Bureau of Economic Geology (BEG), 1979-1985. Research Liaison for BEG to the Salt Repository Project Office at Battelle Memorial Laboratories in Columbus, Ohio, 1982-1983. An Assistant Professor (1989-1995) and Associate Professor (1995-present) of Geology at Iowa State University in Ames, IA, and faculty member of the Water Resources Program. Author or co-author of more than 90 journal articles, conference proceedings, field trip guidebooks, and technical reports. Service to GSA and the Hydrogeology Division includes North-Central Section Representative for the Hydrogeology Division, 1990-present; Hydrogeology Liaison to the Management Board, North-Central Section, 1992-present; Penrose Conference Co-Convenor with John Cherry and Dave Mickelson, 1994; Session Co-Chair, 1992 (2); Theme Session Co-Convenor, 1996 (2);

Chair, Hydrogeology Division Penrose Conference Committee, 1994-1998; Field Trip Chair and Trip Leader, 1996 North-Central Section GSA Meeting in Ames, IA; Hydrogeology Program Chair for Annual Meeting in Denver (1999); host for 7 Birdsall-Dreiss Distinguished Lecturers; member of GSA Boston (1993) and Denver Mile-High Chorales (1996). Other professional activities: Associate Editor of Ground Water (1996-present); Member of NAS-NRC Board on Agriculture Committee to evaluate the USDA National Research Initiative, 1998-present; Chair and Field Trip Leader for Tri-State Geological Field Conference in Ames, IA, 1993; Geology Alumni Advisory Board, Augustana College, 1990-1992. Member of AGU, NWGA-AGWSE, NAGT, AMQUA, Iowa Groundwater Association, Iowa Academy of Science, and Geological Society of Iowa. Professional interests include the hydrogeology of till, water-quality problems related to agriculture, the hydrogeology of re-established riparian buffers, application of isotopes to hydrogeology, and field methods in hydrogeology.

**Stephen W. Wheatcraft.** Born in Fort Riley, Kansas, on August 4, 1950. Member since 1978. Education: University of Missouri at Kansas City, B.S., 1972; University of Hawaii, M.S. in 1975 and Ph.D. in 1979. Professional experience: Assistant / Associate / Full Research Professor, Water Resources Center, Desert Research Institute, University of Nevada System, 1978-1992 (with joint appointment in the Department of Geological Sciences, University of Nevada, Reno); Professor of Hydrogeology, University of Nevada, Reno, 1993-Present; Associate Director, Interdisciplinary Graduate Program in Hydrologic Sciences, University of Nevada, Reno, 1993-Present. Publications include more than 40 technical reports, book chapters and journal articles on hydrogeology and contaminant transport. Fellow of the GSA and member of AGU, AGWSE/NGWA and IAH. Service to GSA and the Hydrogeology Division includes being Chairman, Publications, Committee, 1986-88, Program Chairman in 1994, member, Distinguished Service Award Committee, 1996-present, Second Vice-Chair of the Division in 1998; and currently serving as First Vice-Chair. Associate Editor, Water Resources Research, 1988-93, Associate Editor, GSA Bulletin, 1994-95, Associate Editor, Groundwater, 1996-Present. Peer reviewer for the following journals: Water Resources Research, Advances in Water Resources, Transport in Porous Media, Journal of Hydrology, Journal of Hydraulic Engineering, Ground Water, Geological Society of America Bulletin, Geophysical Research Letters. Peer reviewer for the following granting agencies: NSF, DOE Subsurface Science Program, EPA Exploratory Research Program, and the Natural Sciences and Engineering Research Council of Canada. 1990/91 Henry Darcy Distinguished Lecturer (AGWSE). Cited twice by the University of Nevada System Board of Regents for outstanding achievement as a faculty member, in 1990. Professional interests include developing methods and theories for improved characterization of geologic heterogeneity for flow and transport modeling; density-coupled flow and transport processes, especially sea water intrusion; unsaturated fracture flow; use of geophysics in groundwater investigations; field and laboratory verification of hydrogeologic processes.

### Ballot for Election of Officers for 2000 GSA Hydrogeology Division

Chair	Stephen W. Wheatcraft <input type="checkbox"/>	
	(Write in _____) <input type="checkbox"/>	
First Vice Chair	Jean Bahr <input type="checkbox"/>	
	(Write in _____) <input type="checkbox"/>	
Second Vice Chair	William W. (Bill) Simpkins <input type="checkbox"/>	
	(Write in _____) <input type="checkbox"/>	
Secretary -Treasurer	John Van Brahana	Serving 2nd year of 2-year term No vote needed.

**Instructions:**

1. Vote for no more than one officer for each of the positions.
2. Sign, address, and date the opposite side of this form.
3. Fold, staple or tape, and First Class stamp the form.
4. Form must be received at GSA headquarters no later than July 31, 1999.

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For a legal vote, this sheet must bear the signature of the voter.

From

Signature

Address

Date

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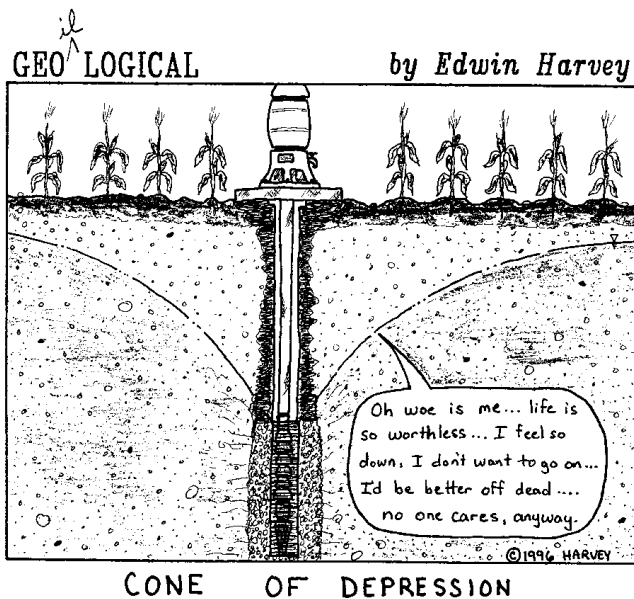
BALLOT

Hydrogeology Division  
Geological Society of America  
P.O. Box 9140  
Boulder, CO 80301-9140

*Fold here, and staple or tape*

Place  
stamp  
here

*Fold here, and staple or tape*



## Note from the Editor

Many thanks to those who contributed material to this issue. Additionally, I would like to encourage Division members and Committee Chairs to submit material for the next issue. Many important activities are going unreported, and the readers would like to hear about them.

Ira D. Sasowsky, Editor  
*The Hydrogeologist*



## Hydrogeology Division Contacts

### 1998 Management Board

**Chair:** Mary Jo Baedecker [mjbaedec@usgs.gov]  
**First Vice-Chair:** Steve Wheatcraft [steve@hydro.unr.edu]  
**Second Vice-Chair:** Jean Bahr [jmbahr@geology.wisc.edu]  
**Secretary-Treasurer:** John Van Brahana [jbrahana@usgs.gov]  
**Past Chair:** Darryll Pederson [pederson@unlinfo.unl.edu]

### Section Representatives

**Cordilleran:** Kevin Johannesson (khj@nevada.edu)  
**North Central:** Bill Simpkins (bsimp@pop-2.iastate.edu)  
**Northeastern:** Grover Emrich (emrich@aol.com)  
**Rocky Mountain:** Bill Woessner (gl\_www@selway.umn.edu)  
**South Central:** Joe Yelderman (joe\_yelderman@baylor.edu)  
**Southeastern:** David Evans (dave\_evans@ncsu.edu)

### Standing Committees

**Technical Program Committee:**  
 Bill Simpkins (Chair; bsimp@pop-2.iastate.edu), Mark Person  
**Nominating Committee:**  
 Don Siegel (Chair; disiegel@mailbox.syr.edu), Jack Hess, Warren Wood  
**Meinzer Award Committee:**  
 Ward E. Sanford (Chair; wsanford@usgs.gov), Tom Corbett, Lenny Konikow, E. Scott Bair, Barbara Sherwood Lollar  
**Birdsall-Dreiss Lecturer Committee:**  
 Mark Person (Chair; mperson@darcy.geo.umn.edu), Jefferey Hanor, Stuart Rojstaczer (Lecturer)  
**Distinguished Service Award Committee:**  
 Grover Emrich (Chair; emrich@aol.com), John Harsh, Stanley N. Davis

### Ad Hoc Committees

**Historical Committee:**  
 Steve Wheatcraft (Chair; steve@hydro.unr.edu), Paul Seaber  
**Past Chair's Long-range Planning Committee:**  
 Warren Wood (Chair; wwwood@usgs.gov)  
**Penrose Conference Committee:**  
 Les Smith (Chair; leslie@geology.ubc.ca), Don Siegel  
**Technical Program (Environmental Science)**  
 Carol Wicks (geosccw@showme.missouri.edu, coordinated with Engineering Geology)  
**GSA Committee on External Awards**  
 George M. Hornberger (gmh3k@virginia.edu)  
**Representatives to Other Societies**  
**American Geophysical Union (AGU) Hydrology Section:**  
 Mary Anderson (andy@geology.wisc.edu)  
**Assoc. of Ground-Water Scientists and Engineers (NGWA):**  
 Warren Wood (wwwood@usgs.gov)  
**American Institute of Hydrology (AIH):** Joe Rosenshein  
**GSA Engineering Geology:** Tom Holzer (tholzer@usgs.gov)  
**GSA History of Geology:** Paul Seaber (seaber@dri.edu)  
**GSA Quaternary Geology and Geomorphology:** Karen Prestegaard (kp3b@umail.umd.edu)  
**International Association of Hydrogeologists (IAH):** Jack Sharp (jsharp@maestro.geo.utexas.edu)  
**SEPM:** Matt Davis (matt.davis@unh.edu)  
**Webmaster:** David M. Diodato (ddiodato@usgs.gov)  
**Newsletter Editor:** Ira D. Sasowsky (ids@uakron.edu)  
**GSA Council:** Les Smith (leslie@geology.ubc.ca)

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THE PROXIMITY OF THE 1999 GSA ANNUAL MEETING BOTH IN SPACE TO THE CONTINENTAL DIVIDE AND IN TIME TO THE END OF THE 20TH CENTURY INSPIRED THE THEME "CROSSING DIVIDES." THE INTENT IS TO CELEBRATE THE CROSS-DISCIPLINARY NATURE OF THE GEOSCIENCES AND TO ENCOURAGE A SCIENTIFIC PROGRAM THAT CROSSES DIVIDES AMONG THE VARIOUS CHEMICAL, BIOLOGICAL, AND PHYSICAL DISCIPLINES OF OUR SCIENCE.

**FOR MORE INFORMATION:**

GSA Meetings Department,

P.O. Box 9140, Boulder, CO 80301-9140,

(303) 447-2020, (800) 472-1988, [meetings@geosociety.org](mailto:meetings@geosociety.org)

For more detailed and up-to-date information, check out the 1999 GSA Annual Meeting

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**October 25–28, 1999**