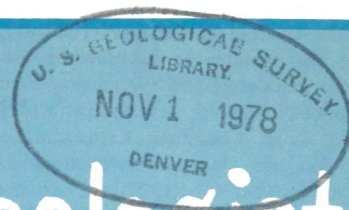


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# The Hydrogeologist

NEWSLETTER OF THE HYDROGEOLOGY DIVISION OF THE GEOLOGICAL SOCIETY OF AMERICA, SEPTEMBER, 1978

## 1978 MEINZER AWARD GOES TO R. W. NELSON

R. W. Nelson has been awarded the 1978 Meinzer Award by the 1978 Meinzer Award Panel for his paper "Evaluating the environmental consequences of groundwater contamination": BSC Richland report 6/UC-11, December 1976, Atlantic Richfield Hanford Co., Richland, Washington. The report has been reprinted as a four-part paper in *Water Resources Research*, v. 14, no. 3, p. 409-450. The award is to be presented at the division's business meeting on October 23, 1978, in the Upper Canada Room of the Royal York Hotel.

## REPLICAS OF MEINZER BOWL TO BE AWARDED

Miniature engraved replicas of the Meinzer Bowl are to be awarded to all past Meinzer Award winners. The bowls will provide awardees a tangible memento in recognition of their scientific achievement. Past Meinzer Award recipients receiving the bowls are William Back, J. D. Bredehoeft, H. H. Cooper, Jr., G. H. Davis, R. A. Freeze, B. B. Hanshaw, M. S. Hantush, R. V. James, S. P. Neuman, G. F. Pinder, Joseph Poland, Jacob Rubin, V. T. Stringfield, Joseph Toth, and P. A. Witherspoon. Mrs. Jane Maxey, Mrs. Helen Louise McGuinness, and Mrs. Robert Stallman will receive bowls for their deceased husbands.

## 1978 MEETING AT TORONTO

There will be several sessions of major interest to hydrogeologists at the 1978 Annual Meeting to be held in Toronto, Canada, October 23-26, 1978. The division will sponsor a general session consisting of 15 papers, 15 minutes each, on Monday, October 23, 0800-1200 hours. It will also sponsor two symposia. The first one, "Dispersion in Groundwater Flow Systems," will be held on Wednesday, October 25, 1300-1700 hours, and will consist of 9 papers, 25 minutes each. The second, "Geochemical Models in Groundwater Evolution," will convene on Thursday, October 26, 0800-1200 hours, and will also consist of 9 papers, 25 minutes each.

On Friday, October 27, there will be a hydrogeology field trip "Hydrogeology and Subsurface Waste Disposal in the Toronto Area" led by R. C. Hore, George Hughes, U. Sibul, and R. Ostry. Preregistration is strongly recommended as participants are selected on a first-come, first-served basis. On-site registration at the Sheraton Centre will be possible if the trip is not fully subscribed beforehand. The trip will depart from the Sheraton Centre Hotel and will cost \$US27 or \$C30.

In addition to division-sponsored events, there will be several other technical sessions sponsored by other divisions or organizations that should interest hydrogeologists. These include the Environmental Geology general session and symposia on "Environmental Geochemistry of Radionuclides" and "Disposal of High-Level Radioactive Waste: The Canadian Program."

The division luncheon and business meeting will be held on Monday, October 23, at 1200 hours, in the Upper Canada Room, Royal York Hotel. Admission is by ticket only, and tickets will be sold prior to the annual meeting through preregistration and during the meeting at the registration desk. Ticket sales will be stopped 24 hours prior to the business meeting.

## 1979 ANNUAL MEETING

The 1979 Annual Meeting is planned for November 5-8 in San Diego, California. John F. Mann, Jr., of La Habra, California, has consented to serve as Program Chairman for the Hydrogeology Division, and Darwin Knochenmus of Laguna Niguel, California, has agreed to serve as Field Trip Chairman.

## HIGHLIGHTS OF THE 1977 ANNUAL MEETING AT SEATTLE

The division's active participation in the 1977 Annual Meeting included a field trip, a general session, and two half-day symposia: "Geologic Disposal of High-Level Radioactive Wastes" and "Geochemistry and Hydrology of Continental Geothermal Systems," the latter of which was co-sponsored with the Geochemical Society. Participants of the field trip examined glaciers and associated features of the North Cascades from a DC-3. Good weather permitted excellent observation.

The annual luncheon and business meeting was attended by approximately 80 members. The minutes of the meeting follow.

The meeting was brought to order at 12:40 p.m. by John D. Bredehoeft, Chairman of the Management Board. He then introduced the people seated at the head table: Jacob Rubin, Mr. and Mrs. Ronald V. James, Stephen M. Born, Mr. and Mrs. Keros Cartwright, and Richard L. Cooley.

The Meinzer Award was presented to Jacob Rubin and Ronald V. James for their paper, "Dispersion-affected transport of reacting solutes in saturated porous media," which appeared in *Water Resources Research*, v. 9, 1973. Each coauthor then gave a short acceptance speech that included influences on the background of the paper and the philosophy of material in the paper.



Richard L. Cooley, Secretary-Treasurer, gave a brief report that referenced the minutes as published in the August 1977 newsletter, items in the newsletter and the current financial state of the division. It was reported that the new members of the management board are Stephen M. Born, Chairman; Keros Cartwright, First Vice-chairman; Robert J. Dingman, Second Vice-chairman. A total of 169 votes were cast. As of October 31, 1977, the division had a fund balance of \$2,965.71, which did not include \$10,000 Birdsall Bequest principal.

Bredehoeft asked that Cooley read the necrology list for 1976-1977. It included the following four names: Thomas P. Arhens, Wendall B. Gealy, Donald F. Hewitt, and George B. Maxey. A minute of silence was observed.

Bredehoeft suggested, and subsequently made a motion, that the division make a contribution of \$100 to the Dr. George B. Maxey Scholarship for Graduate Studies in Hydrology and Hydrogeology at the Mackay School of Mines, University of Nevada at Reno, in honor of Maxey's contributions to the founding and activities of the division. Richard Parizek seconded the motion. Dave Stephenson amended the motion to increase the contribution to \$225 and mentioned that Gilbert Cochran of the Desert Research Institute, University of Nevada System, Reno, was in charge of the fund. The vote on the amended motion was unanimous.

Bredehoeft discussed the tour made by Jacob Bear, the first Birdsall Distinguished Lecturer, and stated that the tour was very successful. Dave Stephenson, the organizer for Dr. Bear's talks given at the University of Wisconsin, stated that there was a good turnout of an interdisciplinary group for the formal presentation and considerable discussion afterward. An open seminar where graduate students could talk to him was also held. Stephenson hoped that the tour could be continued in subsequent years. Gerald Meyer, the organizer at Reston, Virginia, made similar comments as to the success of the presentation and added that 80 to 90 people attended. He also hoped that the tour could be continued.

As 1977 Program Chairman, Bredehoeft summarized the division's program at the 1977 Annual Meeting. There were eight papers to be given at the general session. As a general rule, 40 percent of the uninvited papers are rejected. This resulted in a cutback from the normal half-day session to less than this. Thus, in the future if few papers are submitted, and only 60 percent of these are given, very little program space will be allotted to the division for a general session. John Cherry, 1978 Program Chairman, commented that a symposium on dispersion in groundwater flow systems was set and another on geochemical models in groundwater evolution was proposed to the Geochemical Society for the 1978 Annual Meeting to be held at Toronto, Canada. He commented that the program chairman had to be very aggressive to secure adequate space for symposia.

Bredehoeft commented that the small replica Meinzer bowls to be given to all former Meinzer Award winners were not purchased this year because the finances were not adequate. Purchase of the bowls is deferred to next year.

The chairman also reported that the bylaws, which were written in the early 1960s, had not been revised to include the Meinzer Award, the award committee, or the Birdsall Bequest. He proposed that he draft a set of appropriate revisions to be published in the newsletter, to be discussed and voted on during the next scheduled business meeting. This idea was then opened to discussion. Parizek suggested that the Birdsall principal be protected, and this idea was endorsed by several others.

James Mercer reported on the Penrose Conference proposed by him and Charles Faust. The conference is to be on the topic of energy transport in porous media, and a principal objective is to bring the several disciplines working in the field together. Dave Stephenson, who is a member of the Penrose Conference Committee, explained that the proposal was officially approved by the committee and went on to explain that the 1978 schedule of Penrose Conferences was now filled with eleven conferences and that 1979 proposals should be submitted soon. He also explained that conferences were not closed to non-GSA members and urged that more graduate students attend. Some graduate students could be paid attendants. Bob Schneider suggested that a significant amount of time in the energy transport conference be devoted to the collection of field data. The tentative date for the conference is November 1978, and the location would be in the central U.S.

Bredehoeft summarized a complaint by Joe Rosenshein that division support at sectional meetings is not good enough. Dave Stephenson suggested direct mailing to campuses and water agencies by division section representatives to solicit papers to be given at section meetings. Stephen Born moved that a committee be established to examine the role and duties of section representatives. The motion was seconded and passed with a unanimous vote.

R. Allen Freeze reported that the Penrose Conference on geostatistical methods in hydrogeology held at Harrison Hot Springs, Canada, last summer was a success. He then briefly summarized the topics discussed at the conference. There were 66 participants with a wide sampling by profession as well as geographical location.

Philip LaMoreaux acknowledged Jacob Rubin's assertions concerning the importance of soils in solute transport processes and then commented further on Maxey's efforts to establish the division. He also indicated that the International Association of Hydrogeologists (IAH) is selecting officers and members of an advisory committee, solicited suggestions, mentioned upcoming meetings, and urged people to attend.

Bredehoeft opened the meeting to new business from the floor. Meyer reported that a new organization concerning ground water was in the planning stages. The idea had been brought up at the First South-eastern Ground-water Conference. In response to a question as to intent of the organization, he commented that the point had not been fully decided yet.

Bredehoeft turned the meeting over to Stephen Born, the incoming chairman, who indicated that he welcomed suggestions as to the Birdsall tour as well as other topics. Joseph Poland asked about the annual expense of the Birdsall lecture tour. It was reported that it was too early to tell.

Parizek expressed thanks to Bredehoeft and the staff for the year's work. A motion for adjournment was then accepted.

## BIRDSALL DISTINGUISHED LECTURER IN HYDROLOGY

The second Birdsall Distinguished Lecturer is Dr. William Back of the U.S. Geological Survey, Reston, Virginia. A firm itinerary for Dr. Back's lectures has not yet been established. However, the schools where he is slated to speak, together with the organizer at each institution, are as follows: University of Alabama (co-sponsor, Alabama Geological Survey; Thomas J. Joiner), University of South Florida (Richard A. Davis, Jr.), University of Illinois (Patrick A. Domenico), University of Missouri (John M. Sharp, Jr.), University of New Hampshire (Francis R. Hall), Texas Tech University (Warren W. Wood), University of Waterloo, Canada (John A. Cherry), and a five-school consortium composed of the University of Massachusetts, Amherst, Holyoke, Smith, and Hampshire (Ward S. Motts).

Dr. Back plans to give between two and four lectures and spend two or three days at each school. His lectures will center on the geochemistry of ground water and will include environmental problems related to the chemistry of ground water in limestone areas with emphasis on Yucatan peninsula of Mexico and a seminar to meet with hydrogeology students and others interested in discussing recent developments in the geochemistry of ground water. He also plans to lecture on hydrology and mythology in ancient America.

## TIMING OF BIRDSALL DISTINGUISHED LECTURES

A problem concerning the recently established Birdsall Distinguished Lecture tour relates to the timing of the appointment of the lecturer and his actual tour. William Back has suggested that the lecturer be appointed in January or February and that his tour start in the following August or September to conform to the academic year of the various universities. Time between his appointment and the start of his tour would then

be devoted to establishment of the tour. This topic will be discussed at the October 23, 1978, business meeting, so please be prepared to offer suggestions.

## PENROSE CONFERENCE TO BE HELD

A Penrose Conference on Heat Transport Processes in the Earth is to be convened by Charles R. Faust and James W. Mercer in Vail, Colorado, on November 13-17, 1978. The conference will cover both convective and conductive processes, including (1) geological applications such as heat flow problems associated with magmatic intrusions and mantle convection, (2) geothermal problems including geological and hydrologic field description under both natural conditions and exploitation, (3) heat storage and waste heat injection where aquifers are used for receptacles for heated fluid, (4) heat transport associated with the disposal of high-level radioactive waste in the earth, and (5) coal gasification and petroleum enhanced recovery methods such as steam flood, water flood, and in situ combustion. Common problems will be emphasized including data collection, process description (both physical and mathematical), process simulation, and interpretation of results.

The conference will consist of morning and evening sessions, with afternoons free. Penrose Conferences are designed to promote discussions, both formal (during the sessions) and informal (during the afternoons). Talks during sessions will be limited to approximately 20 minutes. The short introductory talks will leave time for pertinent discussions by the participants who may wish to bring a few slides for either the organized sessions or during the informal afternoon discussions.

## PROPOSAL TO AMEND BYLAWS OF THE DIVISION

As discussed at the 1977 business meeting, the bylaws of the Hydrogeology Division contain neither procedures for the selection of the annual O. E. Meinzer Award nor policy regarding expenditure of the Birdsall Bequest. The bylaws provide that the management board may propose amendments but that they must be accepted or rejected by a majority vote of the voting affiliates of the division. If the amendments are approved by the division, they are then reported to the Executive Director and become effective upon ratification by the council of the Society.

John Bredehoeft, as 1977 Division Chairman, has drafted the following amendments to the bylaws. It was originally thought that the proposed amendments could be published in the newsletter and voted on at the 1978 business meeting. However, in order to give more members a chance to vote, the management board decided to include the ballot with the 1978 newsletter.

### Proposed Amendment to Article V of the Bylaws (Committee)

A new paragraph 3 entitled "O. E. Meinzer Award Committee" shall be inserted in Article V and present paragraphs 3, 4, 5, and 6 shall be renumbered 4, 5, 6, and 7 respectively. Paragraph 3 shall read as follows:

3. *O. E. Meinzer Award Committee.* The O. E. Meinzer Award will be considered annually in accordance with the bylaws of the Society. The award will be made to the author or authors of a published paper of distinction advancing the science of hydrogeology or some related field such as ground-water hydraulics or geochemistry. There are no restrictions as to the publishing agency of such a paper. The author or authors need not be a member or members of the Hydrogeology Division or of the Society, and

need not be residents or citizens of the United States.

- a. *Selection Committee.* The recipient of the award will be selected by a committee appointed by the chairman of the division. The committee will consist of five members, each with a tenure of three years. Members will have overlapping terms to provide continuity to the committee. One or two members—as appropriate—will be appointed each year. The chairman of the committee will be selected by the chairman of the division from among the second or third year members of the committee.
- b. *Frequency.* The award generally will be made annually, but in any particular year may be withheld if no suitable paper is decided upon. The award can be given only once in each calendar year.
- c. *Qualifying paper.* The paper constituting the basis for the award must:

1. Deal with hydrogeology or a closely related field.
2. Have been published not more than 5 years prior to its selection.

A single paper may be considered more than once any time within the 5-year period. A paper prepared by a member of the committee is not eligible for the award.

- d. *The Award.* The award to the author or authors will be a printed or inscribed certificate of such design as is deemed suitable by the division and by the Society, and will include the words "O. E. Meinzer Award." Custody of the silver Revere-style bowl, a gift of John Birdsall, will be presented to the recipient, or recipients, of the award. The awardee(s) will have the privilege, should they so desire, to have possession of the Birdsall Bowl during the following year, but the Birdsall Bowl will remain in the property of the Society. The name(s) of the awardee(s) will be engraved on the Birdsall Bowl. Each winner of the O. E. Meinzer Award will be presented with a miniature silver Revere-style bowl (a replica of the Birdsall Bowl) engraved with his or her name for their permanent possession.
- e. *Selection procedure.* Nominations for the award will be made in accordance with the following procedures:

1. The secretary of the division shall, at his earliest convenience, but not later than December 15, mail to each member of the committee and to any other member of the division requesting such material: The names and addresses of the committee members, a copy of the rules of procedures, a list of past award recipients, three report forms in quintuplicate, to be used in recommending one to three papers, and instructions for submitting names and noting the deadline.
2. Each member of the committee, and any other members of the division who wish to submit authors and titles for consideration, shall send to the committee chairman one to three names of authors and titles of papers numbered in order of preference on the recommendation forms in quintuplicate. A committee member may state that he is in favor of not giving the award in the current year.
3. The committee chairman shall compile a list of all names and titles received for consideration (including his list) and shall mail one copy of the list to each committee member, together with one copy of the recommendation form received from each member and a record of the members voting for no award with instructions that each committee member mail to the committee chairman a copy of the ballot showing preferred ranking of all authors and titles under consideration. (Best paper is number 1.)
4. Upon receipt of the preferential ballot, the committee chairman shall total the numbers given each author and title. The chairman will vote only to break ties if there are more than six nominees having the six lowest scores. He will send a list of names and titles of the six lowest scores to the committee members.
5. Each committee member shall again rank the six papers by number (best is number 1), or vote for no award, and mail to the committee chairman.
6. The committee chairman shall total the numbers given to each paper. He will vote only to break ties if more





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- than three papers have the three lowest scores. He will then send a list of the papers having the three lowest scores to the chairman of the Hydrogeology Division, not later than June 1, and will include all supporting letters and recommendation forms.
7. The chairman of the Hydrogeology Division, either alone or with the help of the other officers, shall select the winning paper. Normally this will be the paper with the lowest score, unless there is a strong reason to select one of the other two. The division chairman shall then notify the author(s) of the paper selected and present the award to the author(s) or their representative(s) at the annual meeting of the division. If the winner(s) or their representative(s) are not present at the annual meeting, the division chairman will present the award in absentia, and mail the certificate(s) and miniature silver (Revere-style) bowl(s) to the author(s).
  8. All letters and correspondence shall be held confidential, but all biographies, votes, and pertinent correspondence shall be preserved by the secretary of the division, who will make them available to the succeeding chairman upon request.
  9. A time schedule for the steps between 3.e.1. and 3.e.6. shall be at the discretion of the current management board of the division and the award committee.

#### Proposed Amendment to Article III of the Bylaws (Finances)

A new paragraph 4 shall be added to Article III as follows:

4. The \$10,000 bequest from the estate of John Birdsall to the Hydrogeology Division is to be kept intact and only the proceeds will be used, except that: the management board will have the power to utilize portions of the principal only in the case of a clear emergency, or by amendment of the bylaws in accordance with established procedure.

#### INTERNATIONAL HYDROLOGIC PROGRAM

David A. Stephenson has been named as the new GSA designee to the U.S. Committee on Scientific Hydrology, which coordinates U.S. activity in the International Hydrologic Program (IHP). He replaces Stanley N. Davis. The new alternate designee is Paul A. Witherspoon.

The committee is currently working on program plans and identification of high priority areas for UNESCO funding for the second phase of the IHP which is to emphasize education, especially training programs for developing countries, although the scientific programs are to be maintained also. A meeting of the Intergovernmental Council of IHD is to be held around January of 1979 to finalize the plans. Stephenson plans to summarize activities of the U.S. National Committee at the Toronto business meeting.

#### HYDROGEOLOGY DIVISION REGIONAL REPRESENTATIVES

There have been Hydrogeology Division representatives named within each of the six GSA regional sections for a number of years. Their primary function has been to assist sectional program chairmen in developing a hydrogeology technical program for the spring meetings. There have been varying degrees of success.

Many divisional members suggest that the sectional hydrogeological technical sessions are too low-key, too topically diverse, or too provincial. Part of this is by design—these meet-

ings provide many with a needed and valued opportunity to speak before peers. However, there is always room for improvement. All too frequently, program announcements do not give our division much exposure. Program chairmen, who rarely are divisional members, may not give much emphasis to hydrogeological technical sessions. As a result, regional representatives find it necessary to solicit papers at the eleventh hour in order to have a session at all.

The liaison function was originally developed to give more exposure to our division at the sectional meetings. Should that function be eliminated, or maintained and strengthened? If maintained, how frequently should the representatives be rotated? What mechanism could be developed to strengthen the liaison activity? It is time to re-evaluate the role of the regional representatives.

Present representatives are: R. Dingman, Northeastern; J. Moore, Southeastern; J. Poland, Cordilleran; J. Rosenshein, Rocky Mountain; D. Stephenson, North-Central; and A. Winslow, South-Central. Please give this matter some thought. Come to the Toronto Hydrogeology Division business meeting prepared to discuss alternatives. If you cannot attend the Toronto meetings, pass along your comments to one of the representatives. We need to reach a decision as to whether or not the division should have regional representatives, and if so, to do what!

#### TREASURER'S REPORT

As of June 30, the division had a balance of \$367.59 in the treasury.

##### Income:

Dues	\$1,300.00
Earnings on Birdsall bequest	805.77

##### Expenses:

Owed to National from 1977	\$1,411.56
Owed to National from 1978	326.62

Balance . . . . . \$ 367.59

#### HYDROGEOLOGY DIVISION OFFICERS

##### Management Board

###### Chairman

Stephen M. Born, Madison, Wisconsin

###### First Vice-Chairman

Keros Cartwright, Urbana, Illinois

###### Second Vice-Chairman

Robert J. Dingman, Albany, New York

###### Secretary-Treasurer

Richard L. Cooley, Denver, Colorado

##### 1978 Meinzer Award Panel

John A. Cherry  
Martin Mifflin

R. Allen Freeze  
Isaac J. Winograd

Eugene S. Simpson, Chairman

##### 1978 JTPC Representative

John A. Cherry