

## GSA NEWS & INFORMATION

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The Geological Society of America

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## Cloos to Receive First Young Scientist Award

Mark P. Cloos, University of Texas at Austin, will receive the first GSA Young Scientist Award, the Donath Medal. The award will be presented to Cloos at the GSA 1989 Annual Meeting in St. Louis.

The Young Scientist Award, established in 1988, recognizes a scientist 35 years old or younger for outstanding achievement in contributing to geologic knowledge through original research that marks a major advance in the earth sciences.

### 1989 Awardee

Mark Cloos earned a B.S. degree in geology at the University of Illinois at Urbana-Champaign in 1976 and his Ph.D. at the University of California, Los Angeles, in 1981. He is currently an associate professor at the University of Texas at Austin and a research associate at the UT Institute of Geophysics. His research on the processes that affect the structural, metamorphic, and sedimentological evolution of modern and ancient convergent plate margins has produced new understanding of how the same processes can produce different kinds of margins. His interest in blueschist facies metamorphism and thermal history, melanges, and fluid-inclusion and isotopic analysis of mineralized veins in accreted sediments has produced several significant contributions and new ideas on these subjects.



Mark Cloos

receives complimentary lifetime membership in GSA and complimentary lifetime affiliation in the GSA division(s) of the medalist's choice. The awardee is selected from nominations screened by the GSA Committee on the Young Scientist Award. The committee currently consists of Chairman Brian J. Skinner, Paul F. Hoffman, George A. Thompson, M. Gordon Wolman, Robert S. Yeats, and W. Gary Ernst.

### Donath Medal

The award consists of a gold medal—the Donath Medal—and a cash prize, endowed by Fred and Mavis Donath. The awardee also



Donath Medal, GSA's new Young Scientist Award

## Earthwatch Offers Grants for Labor-intensive Field Research

Earthwatch, a private nonprofit organization, fosters work by postdoctoral scholars by offering capital, labor, and greater visibility for their ideas. The Earthwatch Research Corps consists of individuals who want to learn more about scientific problems and to share in the excitement of solving them. The Center for Field Research receives, reviews, and recommends research proposals for Earthwatch support. The Center is launching an initiative to develop a program of physical and ecological science research, particularly in the earth sciences.

In 1990, Earthwatch will award grants of \$10,000 to \$100,000. Funds are primarily derived from the contributions of participating volunteers selected from the Earthwatch membership; therefore, nonspecialist volunteers *must* be integrated into the research design. The Research Corps comprises well-educated people who can be trained for a variety of tasks in a relatively short time. The labor-intensive field research that Earthwatch supports spans many of the physical and biological sciences.

Successful projects have been fielded in geophysics (magnetics, gravity, and seismology), volcanology, paleoclimatology, paleontology, sedimentary petrology, structural geology, glaciology, hydrology, economic geology, dendrochronology, marine ecology (fully certified scuba teams), and oceanography.

Preliminary proposals can be made by telephone or by a detailed letter to the Center. Upon favorable review, full proposals will be invited for submittal 12 months before the proposed fielding date of the project. Full proposals will be peer-reviewed. Proposals

will be considered from scholars of any nationality, covering any geographical region.

For further information, contact David S. Silverberg, Associate Director, Physical and Ecological Sciences, The Center for Field Research, 680 Mount Auburn Street, P.O. Box 403, Watertown, MA 02272; (617) 926-8200.

### Help Direct GSA's Future

The GSA Committee on Nominations requests your help in compiling a list of GSA members qualified for service as officers and councilors of the Society. The committee requests that each nomination be accompanied by basic data and a description of the qualifications of the individual for the position recommended (vice-president, treasurer, councilor).

Nominations for 1991 officers and councilors must be received at GSA headquarters no later than **FEBRUARY 15, 1990**.

Please send nominations and backup material to  
Administrative Department  
Geological Society of America  
P.O. Box 9140  
Boulder, CO 80301

## Call for Nominations for Distinguished Service Award

The GSA Distinguished Service Award was established by Council in 1988 to recognize individuals for their exceptional service to the Society. GSA Members, Fellows, Student Associates, or, in exceptional circumstances, GSA employees may be nominated for consideration. Any GSA member or employee may make a nomination for the award. Awardees will be selected by the Executive Committee, and all selections must be ratified by the Council. Awards may be made annually, or less frequently, at the discretion of Council. This award will be presented during the Annual Meeting of the Society. Nominations and any supporting information may be addressed to

Executive Director  
Geological Society of America  
P.O. Box 9140  
Boulder, CO 80301

*Deadline for nominations for 1990 is March 1.*

## Fellowships in Water Science

Colorado State University will award three USDA National Needs Fellowships in Water Science. Each fellowship will support a Ph.D. candidate for three years with an annual stipend of \$15,000.

Fellows will conduct research on some aspect of agricultural chemical transport and may be located in any of four academic departments: Agricultural and Chemical Engineering, Agronomy, Civil Engineering, or Earth Resources.

Fellows must be U.S. Citizens who have completed an M.S. degree and must have an interest in pursuing a career in an agriculturally related field. Programs of study must begin by the fall of 1990. Applications must be received by *February 15, 1990*.

Additional information and applications may be obtained from  
Jim C. Loftis  
Department of Agricultural and Chemical Engineering  
Room 100 Engineering South  
Colorado State University  
Fort Collins, CO 80523  
(303) 491-5252.

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**Subscriptions** for 1989 calendar year: **Society Members:** GSA News & Information is provided as part of membership dues. Contact the Membership Department at (303) 447-2020 for membership requirements. **Nonmembers:** \$24.00

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Prepared from contributions from the staff and membership. Executive Director: F. Michael Wahl; Managing Editor: Faith Rogers; Associate Editor: Lee Gladish; Production and Advertising Manager: James R. Clark; Marketing/Advertising Assistant: Ann H. Crawford; Production Assistants: Mona T. Gonzales and Joan E. Manly.

\***Advertising:** Contact James R. Clark or Ann H. Crawford (303) 447-2020.



# DNAG NEWS

by Allison R. (Pete) Palmer

## Business Is Booming

Transect C-1 was printed at the end of July and is now available. This transect, across the Pacific continental margin at the latitude of San Francisco, completes the western U.S. and Canadian west-coast transect set. Two transects across the Mexican margin are in production, and I am told that the last Alaskan transect is about to enter the mill. These will complete the North American west-coast set. We expect to have color proofs for the two sheets of stacked transects, at 1:1,000,000 (west and east coasts of North America), this month. Barring major problems, these stacked transect sheets should be available before the end of the year.

DNAG Volume N, *The Eastern Pacific Region*, is at the printer! Barring unforeseen complications with the plates, which are in the final production stages, this book should be available for the 1989 GSA Annual Meeting in St. Louis.

Volume F-2, *Appalachian-Ouachita Orogen in the United States*, is now being paged. We hope to have the last of the plates through production in time for this to be a Christmas present.

Volume L, *The Arctic Region*, is still waiting for Art Grantz's chapter, but everything else is in-house, and the last of the plates is in final proof stages; thus, this also can be a Christmas present.

Volume O-1, *Surface Water Hydrology*, is ready for paging as soon as Reds Wolman gets that last chapter to me.

He has checked the galleys on all of the rest of the book, and the plates are all printed, so this will be in your hands 3-4 months after I have that last text.

Volume H, *The Caribbean Region*, is right behind Volume O-1. The editors, Jim Case and Gabriel Dengo, were here September 15-19 to wrap it up. Completion of the plates will control whether this actually gets out in 1989, but it is essentially done.

The Centennial Special volume by the Archaeological Geology Division has 29 of its 36 chapters now in-house. The rest are expected soon, so this should be at the printer before the end of the year.

## Kudos to the Appalachian-Ouachita Orogen Troops

A real bargain for those who bought prepaid sets of DNAG publications is soon to be available. Despite the admonitions to heed agreed-upon length targets in preparing final chapter revisions, the meat of Volume F-2 came in about 50% above target on text and 20% above target on plates. There is a lot of excellent information coming your way. Listed below are the 71 authors who made this possible. Give them a pat on the back at least. They bring the total list of published DNAG authors to 1256, and we still have 10 more volumes of *The Geology of North America* to come from GSA and nine from Canada, as well as four more special volumes, four wall maps, and 10 transects! This has been a BIG project!

J. K. Arbenz  
J. R. Butler  
P. A. Chenoweth  
C. Çoruh  
T. M. Chowms  
J. K. Costain  
R. D. Dallmeyer  
D. L. Daniels  
J. DeBoer  
R. E. Denison  
W. deWitt, Jr.  
A. A. Drake, Jr.  
J. T. Dutro, Jr.  
R. L. Ethington  
P. G. Feiss  
S. C. Finney  
A. J. Froelich  
P. A. Geiser

R. J. Gleason  
L. Glover III  
R. Goldsmith  
R. E. Guy  
J. T. Hack  
L. M. Hall  
R. D. Hatcher, Jr.  
R. Hon  
G. R. Keller  
J. M. Kruger  
J. Laird  
J. J. Litehiser  
D. R. Lowe  
W. Manspeizer  
E. F. McBride  
G. J. McHone  
R. C. Milici  
R. C. Morris

S. Mosher  
W. R. Muehlberger  
D. P. Murray  
T. L. Neathery  
R. B. Neuman  
R. L. Nicholas  
K. C. Nielsen  
P. E. Olsen  
P. H. Osberg  
A. R. Palmer  
T. L. Pratt  
D. C. Prowell  
J. H. Puffer  
D. W. Rankin  
N. M. Ratcliffe  
J. F. Read  
J. E. Repetski  
P. Robinson

D. T. Secor, Jr.  
K. L. Shelton  
A. K. Sinha  
J. F. Slack  
K. J. Smith  
A. W. Snoko  
R. S. Stanley  
P. R. Tauvers  
S. R. Taylor  
W. A. Thomas  
J. F. Tull  
G. W. Viele  
W. M. Voight  
D. E. Waddell  
D. V. Wiltschko  
I. Zietz  
J. Zimmerman

**Preliminary Announcement and Call for Papers**  
**SOUTHEASTERN SECTION, GSA, 39th Annual Meeting**  
**Tuscaloosa, Alabama**  
**April 5-6, 1990**

The Southeastern Section of the Geological Society of America will meet at the Paul W. Bryant Conference Center and Sheraton Capstone Inn in Tuscaloosa on the campus of the University of Alabama. The meeting is sponsored by the University of Alabama with the cooperation of the Geological Survey of Alabama, the University of Alabama at Birmingham, Tom Joiner and Associates, P. E. LaMoreaux and Associates, and Thornton L. Neathery and Associates.

#### **CALL FOR PAPERS AND SYMPOSIA**

Papers are invited for presentation at oral technical sessions, poster sessions, and symposia. Technical sessions will allow 15 minutes for presentation and 5 minutes for discussion of each paper. Papers of regional interest to geologists in the southeastern United States, as well as those of general geological interest, will be considered for the program. Abstracts not accepted for symposia may be considered for regular technical sessions. The program committee also solicits suggestions for additional symposia.

#### **ABSTRACTS**

Abstracts must be submitted camera-ready on official 1990 GSA abstract forms in accordance with instructions on the forms. Abstract forms are available from Abstracts Coordinator, Geological Society of America, P.O. Box 9140, Boulder, CO 80301, (303) 447-8850.

#### **ABSTRACTS MUST BE RECEIVED BY DECEMBER 15, 1989.**

All abstracts for symposia, oral technical sessions, and poster sessions should be sent to

Charles W. Copeland, Jr.  
Program and Abstracts Coordinator  
Geological Survey of Alabama  
P.O. Drawer O  
Tuscaloosa, AL 35486

#### **SYMPOSIA**

The following symposia have been organized. Authors are encouraged to contact the individual symposium organizers for information.

- 1. Applied Geology and Hydrogeology.** L. T. Gregg, Atlanta Testing and Engineering, Inc., 11420 Johns Creek Parkway, Duluth, GA 30136.
- 2. Ground Water Protection—Are Geologists Needed?** Tola B. Moffett, P. E. LaMoreaux and Associates, P.O. Box 2310, Tuscaloosa, AL 35403.
- 3. Timing, Nature, and Tectonic Significance of Felsic Magmatism in the Southern Appalachians.** Mark S. Drummond and Michael J. Neilson, Dept. of Geology, University of Alabama, Birmingham, AL 35294.
- 4. Metallic Ore Deposits of the Southeast.** Jerry M. German, Georgia Geologic Survey, 19 Martin Luther King, Jr., Drive, Atlanta, GA 30334.
- 5. North American Paleozoic Paleobiogeography.** Carl W. Stock, Dept. of Geology, University of Alabama, Tuscaloosa, AL 35487; Patricia H. Kelley, Dept. of Geology and Geological Engineering, University of Mississippi, University, MS 38677.
- 6. Coalbed Methane.** Lawrence J. Rheams, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486; Philip G. Malone, Geomet, Inc., 6200 Flint Ridge Road, Fairfield, AL 35064.

**7. Second Annual Symposium on Industrial Minerals.** Guerry H. McClellan, Dept. of Geology, University of Florida, Gainesville, FL 32611; Karen F. Rheams, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486.

**8. Maps and Cross Sections in Thrust-Faulted Terranes: Poster Symposium.** William M. Dunne, Dept. of Geological Sciences, University of Tennessee, Knoxville, TN 37996-1410; Richard H. Groshong, Jr., Dept. of Geology, University of Alabama, Tuscaloosa, AL 35487.

**9. Modern Coastal Sediments and Processes, and the Geologic Record: Ninth Symposium on Coastal Sedimentology.** William F. Tanner, Dept. of Geology, Florida State University, Tallahassee, FL 32306; Richard L. Hummell, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486.

#### **FIELD TRIPS**

A program of premeeting and postmeeting field trips is planned. For details, contact the field trip leaders or members of the field trip committee: Nathan L. Green, Dept. of Geology, University of Alabama, Tuscaloosa, AL 35487, (205) 348-1878; Gregory M. Guthrie and W. Edward Osborne, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486, (205) 349-2852.

#### **Premeeting**

- 1. Paleocene and Eocene Sequence Stratigraphy of Southwestern Alabama.** Two days. Berry H. Tew and Ernest A. Mancini, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486, (205) 349-2852.
- 2. Contrasts in Structural Style and Mechanisms in a Foreland-Hinterland Transition Zone, Central Alabama Appalachians.** Two days. Gregory M. Guthrie and W. Edward Osborne, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486, (205) 349-2852.
- 3. Industrial Minerals of Central and West-Central Alabama.** One day. Karen F. Rheams, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486, (205) 349-2852; Guerry H. McClellan, Dept. of Geology, University of Florida, Gainesville, FL 32611, (904) 392-2231.
- 4. Geological Setting of Coalbed Methane in the Mary Lee Coal Group, Oak Grove Area, Alabama.** One day. Jack C. Pashin and Robert M. Mink, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486, (205) 349-2852.

#### **Postmeeting**

- 5. Hazardous Chemical Waste Disposal: The Emelle Facility, Sumter County, Alabama.** One day. Rona J. Donahoe and Richard H. Groshong, Jr., Dept. of Geology, University of Alabama, Tuscaloosa, AL 35487, (205) 348-5095.
- 6. Carboniferous Coastal Environments and Paleocommunities**

*(continued on p. 277)*

### **Southeastern Section** (continued from p. 276)

of the Mary Lee Coal Zone, Marion and Walker Counties, Alabama. Two days. Co-sponsored by the Southeastern Section of the Paleontological Society. R. A. Gastaldo, T. M. Demko, and Y. Liu, Dept. of Geology, Auburn University, Auburn, AL 36849, (205) 826-4282.

**7. Geology of the Southern and Inner Piedmont, Alabama and Southwest Georgia.** Two days. Mark G. Steltenpohl, Geological Survey of Alabama, P.O. Drawer O, Tuscaloosa, AL 35486-9780, (205) 349-2852; Steven A. Kish, Dept. of Geology, Florida State University, Tallahassee, FL 32306, (904) 644-5860; Michael J. Neilson, Dept. of Geology, University of Alabama, Birmingham, AL 35294, (205) 934-2439.

### **PROJECTION EQUIPMENT**

All slides must be 2" x 2" and fit a standard 35-mm carousel tray. Please bring your own loaded carousel trays. Two 35-mm slide projectors will be available in each meeting room. Other types of projection equipment will be available only on special request in advance.

### **POSTER SESSIONS**

Poster sessions will be scheduled in the Convention Center adjacent to the exhibits. Each poster booth will provide three boards of approximately 4' x 6' dimensions.

### **EXHIBITS**

Exhibits representing education, research, and industry will be on display in the Convention Center. For information about exhibits, contact Thomas J. Joiner, Tom Joiner and Associates, P.O. Box 5894, Tuscaloosa, AL 35405, (205) 345-2311.

### **GUEST AND SPOUSE ACTIVITIES**

A hospitality room will be our focal gathering place. The program will include tours of attractions in Birmingham and Tuscaloosa, and shopping to suit a variety of interests. For additional information, contact Rona Donahoe, Dept. of Geology, University of Alabama, Tuscaloosa, AL 35487, (205) 348-1879.

### **SOCIAL EVENT**

A welcoming reception will be held on the evening of Wednesday, April 4, 1990.

### **TRAVEL TO TUSCALOOSA**

Tuscaloosa is on Interstate 59-20, 55 miles southwest of Birmingham, in western Alabama. Exits for the University of Alabama are posted on the interstate. Tuscaloosa Airport is served by Atlantic Southeast Airlines to and from Atlanta, and by American Eagle to and from Nashville. Several airlines serve Birmingham to and from a variety of destinations, and rental car driving to Tuscaloosa is convenient. Amtrak serves Tuscaloosa with daily trains in both directions on the Washington-New Orleans route.

### **STUDENT ASSISTANCE**

Support for travel expenses of students presenting papers at the meeting is available from the Southeastern Section. For information, contact:

Michael J. Neilson  
Department of Geology  
University of Alabama  
Birmingham, AL 35294  
(205) 934-5102

### **ADDITIONAL INFORMATION**

Information concerning registration, hotel accommodations, and other activities will appear in a future issue of *GSA News & Information*. Symposia and field trips listed in this announcement are tentative; additional suggestions are always appreciated. Inquiries or suggestions should be directed to

William A. Thomas  
SEGSA Local Committee  
Chairman  
Department of Geology  
University of Alabama  
Tuscaloosa, AL 35487

or  
C. Michael Leshner  
SEGSA Local Committee  
Vice-Chairman  
Department of Geology  
University of Alabama  
Tuscaloosa, AL 35487

## **Preliminary Announcement and Call for Papers**

# **NORTH-CENTRAL SECTION, GSA, 24th Annual Meeting**

**Macomb, Illinois  
April 26-27, 1990**

The North-Central Section of the Geological Society of America will meet at the University Union, Western Illinois University. The meeting will be hosted by the Departments of Geology at Augustana College, Monmouth College, and Western Illinois University. Several societies will be associated with the GSA North-Central Section either by meeting jointly—North-Central Section of the Paleontological Society and Great Lakes Section of SEPM; or by cosponsoring a special session on geoscience education—American Institute of Professional Geologists, Association for Women Geoscientists, Central Section of the National Association of Geology Teachers, National Earth Science Teachers Association, and Sigma Gamma Epsilon.

### **CALL FOR PAPERS**

Technical sessions will include all topics listed on the GSA abstract form. Papers, poster sessions, and symposia on these and other subject areas (including symposia listed below) are solicited. Special sessions focused on specific themes or subjects will be arranged by the local program committee after review of the abstracts. The time allotted for the oral presentations will be 15 minutes, followed by 5 minutes for discussion.

There will be a special symposium of interest to everyone

involved in geoscience education. Elementary, junior high, high school, junior college, college, and university teachers of geoscience or general science are encouraged to participate. This session is organized in response to GSA's focus on geoscience education.

### **REGISTRATION**

Preregistration will be by mail. On-site registration will take place on Wednesday, April 25, from 4 to 7 p.m. at the Western Illinois

(continued on p. 278)

### North-Central Section (continued from p. 277)

University Union and will continue there daily from 7:30 a.m. to 5 p.m. for the duration of the meeting. Preregistration fees will be \$35 for professional GSA members or members of associated societies and \$10 for GSA Student Associates. For those not affiliated with GSA, preregistration fees will be \$45 for professionals and \$15 for students. On-site registration will be \$10 additional for professionals and \$5 additional for students. Please take advantage of the lower preregistration fees.

### PREREGISTER BY MARCH 31, 1990

#### SYMPOSIA

1. **Quaternary History of the Mississippi River.** Howard Hobbs, Minnesota Geological Survey, 2642 University Avenue, St. Paul, MN 55114-1507.
2. **Paleoecology and Taphonomy of Fossil Communities.** North-Central Section, Paleontology Society. William Hammer, Geology Department, Augustana College, Rock Island, IL 61201.
3. **Cambro-Ordovician Geology of the Northern Midcontinent.** Great Lakes Section, SEPM; Dennis Kolata, Illinois Geological Survey, Natural Resources Building, 615 E. Peabody Drive, Champaign, IL 61820.
4. **Geoscience Education for the 1990s.** Central Section, National Association of Geology Teachers. Lawrence A. Wiedman, Monmouth College, Monmouth, IL 61462.

#### FIELD TRIPS

1. **Freeman Coal Company, Crown II Coal Mine, Virden, Macoupin County, Illinois.** Premeeting. Philip DeMaris and W. John Nelson, Illinois State Geological Survey, Champaign, IL 61820.
2. **Structural Geology of Shawnee Hills, Illinois.** Postmeeting. W. John Nelson, Illinois State Geological Survey, Champaign, IL 61820, and Stephen Marshak, Dept. of Geology, University of Illinois, Champaign, IL 61820.
3. **Erosional Processes along Lake Michigan Shoreline, Illinois.** Premeeting. Charles Collinson, Illinois State Geological Survey, Champaign, IL 61320.
4. **Limestone Quarry Operations, West-Central Illinois-Northeast Missouri.** Premeeting. Peter Calengas, Dept. of Geology, Western Illinois University, Macomb, IL 61455.
5. **Mazon Creek Faunas and Floras, Illinois.** Premeeting. Gordon Baird, Dept. of Geosciences, State University of New York, College at Fredonia, Fredonia, NY 14063, and Steve Siroka, Dept. of Geology, University of Illinois, Champaign, IL 61820.
6. **Quaternary History of the Mississippi River** (see symposium #1). Postmeeting. Howard Hobbs, Minnesota State Geological Survey, 2642 University Avenue, St. Paul, MN 55114-1507.

#### POSTER SESSIONS

Ample space will be provided for poster sessions; we strongly encourage student and professional members to take advantage of this highly effective means of communication. Please indicate "poster session" on the GSA abstract form. The program committee may assign presentations to a poster session. Poster sessions will be available for viewing for one-half day.

#### ABSTRACTS

GSA abstracts for oral and poster sessions are limited to approximately 250 words and MUST be submitted camera-ready on the official 1990 GSA abstract form, available from

Abstracts Coordinator  
Geological Society of America  
P.O. Box 9140  
Boulder, CO 80301  
(303) 447-2020

and from the GSA Campus Representatives at all college and university campuses.

### ABSTRACTS ARE DUE JANUARY 5, 1990

Send one original and five copies to

Richard C. Anderson  
NCGSA Program Chairman  
Department of Geology  
Augustana College  
Rock Island, IL 60201

All abstracts will be reviewed for informative content, correct structure, reliability of data, appropriate geographic coverage, and originality. Authors will be notified of acceptance well in advance of the meeting.

### STUDENT PAPERS AND TRAVEL ASSISTANCE

The North-Central Section of GSA will award \$100 to each of the four best papers written and presented solely by graduate or undergraduate students. Abstracts submitted for these awards must be clearly indicated. In addition, awards for travel assistance will be made to students who are members of the GSA North-Central Section as of January 1, 1990. To receive a travel grant, the student must present a paper at the meeting (can be a co-author). Applications for awards may be obtained by writing to the General Chairman. Applications must be submitted before *February 15, 1990*.

### PROJECTION EQUIPMENT

Projection equipment will be provided for 2" x 2" slides only. Please bring your own loaded carousel trays identified with your name, session, and speaker number. A speaker ready room equipped with projectors will be available for review and practice.

### BUSINESS MEETING

The GSA North-Central Section Management Board will hold its business meeting with breakfast at the University Union on Thursday, April 26, 1990, at 7 a.m.

### EXHIBITS

Exhibits of educational and commercial organizations will be on display at the University Union in proximity to the area for poster sessions. Exhibit space must be reserved by *February 1, 1990*. For exhibitor information, contact:

Peter Calengas  
NCGSA Exhibitor Coordinator  
Dept. of Geology  
Western Illinois University  
Macomb, IL 61455

### SOCIAL EVENTS

A reception will be held in the evening of Wednesday, April 26, 1990, at the University Union from 7 to 9 p.m. On Thursday evening the annual banquet of the North-Central Section will be held at 7:15 p.m., also in the Union. Allison R. (Pete) Palmer, Chairman of the Geological Society of America Committee on Education, will be the featured speaker.

(continued on p. 279)

## North-Central Section (continued from p. 278)

### HOUSING

Inexpensive housing will be available at the Conference Center in Olson Hall, Western Illinois University. Single and double rooms, with shared bathroom facilities, are available. Olson Hall is only a short distance from the University Union, where the meetings will be held. Accommodations are also available at hotels and motels. Shuttle buses providing transportation from most of the motels will run from 7 to 9:30 p.m. Wednesday evening and from 7 to 9 a.m., 11:30 a.m. to 1:30 p.m., and 3:30 to 5:30 p.m. Thursday and Friday. Bus service will also be available for transportation to and from the banquet on Thursday evening.

### TRAVEL ARRANGEMENTS

Western Illinois University is located in Macomb near the geographic center of the North-Central Section. Illinois highways 67 and 136 intersect in Macomb. Macomb lies about 80 miles south of Rock Island, Illinois; 80 miles west of Peoria, Illinois; 150 miles north of St. Louis, Missouri; and 50 miles southeast of Burlington, Iowa. Shuttle service will be available for a nominal fee from the Quad

Cities airport in Moline, Illinois, which is located about 80 miles north of Macomb. Moline airport is serviced by regular flights from Chicago, Minneapolis, and St. Louis.

### DETAILED INFORMATION

All sessions, registration, and the banquet will be held at the Western Illinois University Union. Special arrangements can be made for luncheons and/or special meetings by contacting the GSA North-Central Section meeting General Chairman.

Information concerning registration, hotel accommodations, and other activities will appear in a future issue of *GSA News & Information* and as part of *Abstracts with Programs* for 1990.

Symposia and field trips listed for this meeting are tentative; further suggestions are always appreciated. Inquiries, additional information, requests, or suggestions should be directed to

John Klasner, GSA General Chairman  
Department of Geology  
Western Illinois University  
Macomb, IL 61455

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## GSA in Education

by Allison R. (Pete) Palmer

### The Role of GSA

The perceived crisis in public understanding of the scientific components of many key societal issues includes the geosciences. GSA now has a functioning Committee on Education and is developing programs designed to address this problem. At its May meeting, the GSA Council approved the following statement, which articulates the Society's recommended role in precollege and informal science education.

"Some basic knowledge about the physical and biological nature of the universe we live in, and about the nature of the scientific reasoning leading to this knowledge, is important for all literate citizens as the world enters the 21st century. The attitude of inquiry, and the stimulation of interest in acquisition of basic knowledge must be cultivated, particularly in precollege (K-12) levels of education.

"The earth sciences (geology, oceanography, meteorology, hydrology, astronomy) are important components of any program of education leading to literate citizenship because they deal with a world that a child can readily observe and use to develop the skills to make fruitful inquiries. The earth sciences are important in precollege science education also because all of our human activities are related to interactions with the earth. As responsible citizens, we must know how our actions affect the quality of the earth as a living place (for example, think of the effects of water pollution, acid rain, ozone depletion, loss of genetic diversity, and global climatic change). We must learn how to use our natural resources with prudence and how to mitigate the natural hazards of the earth with knowledge. We must emphasize the need to treat the earth as a system in which mankind is an increasingly important component, and to recognize the interdependence of all the earth sciences in understanding the workings of this system.

"Precollege earth science education can be carried out only in the context of a balanced curriculum of education in

all the sciences, both physical and biological. Education in science, in turn, cannot ignore the humanities and the social sciences. These are large challenges, and all scientists must work toward these common educational goals.

"The Geological Society of America represents 17,000 professional earth scientists from a wide spectrum of disciplinary fields. At its spring 1988 Council meeting, the Society recognized precollege education in the earth sciences as an important additional focus for the Society as it enters its second century. An Education Committee has been established by the Society Council to work with other interested scientific and educational organizations in the development of precollege and informal earth science education objectives and initiatives. Headquarters of the Society is to carry out efforts toward implementing these objectives and initiatives as approved by the Council.

"The society strongly encourages its Sections and Divisions to undertake their own efforts in this area, and pledges to work with these groups and with other professional organizations in both the earth sciences and other related sciences to achieve a maximum extent of mutually beneficial cooperation in this common undertaking."

### "Partners for Excellence": Watch for It!

One of the powerful possibilities that the Education Committee is developing is a program called Partners for Excellence. We will be encouraging all Society members to get involved in the improvement of geoscience knowledge at the K-12 level by identifying a specific elementary school teacher, or a teacher or department of science in the middle or high schools, as a partner and helping, in whatever way most desired by the teacher, to stimulate awareness of geoscientific ideas that should belong to all Americans. Special packets of information and guidance for partnership participants are being prepared and will be available in draft form by the St. Louis meeting. We hope to get the program started by spring.

**Preliminary Announcement and Call for Papers**  
**ROCKY MOUNTAIN SECTION, GSA, 43rd Annual Meeting**  
**Jackson, Wyoming**  
**May 21-23, 1990**

The Rocky Mountain Section of the Geological Society of America and the Rocky Mountain Section of the Paleontological Society of America will meet jointly at the Snow King Resort in Jackson, Wyoming. The meeting is sponsored by the University of Wyoming Department of Geology and Geophysics, assisted by the Geological Survey of Wyoming.

### ENVIRONMENT

Lying amid magnificent scenery at the southern end of Jackson Hole, Wyoming, the town of Jackson is an extraordinary community and resort area. The traditional western atmosphere, abundant wildlife, and more than 30 art galleries and museums generate a vitality and international flavor that attracts visitors from all over the world. Jackson Lake and Yellowstone Park to the north are easily accessible by car from the meeting area. Geology of the area is varied and strikingly exposed. To the south and southeast are the Utah-Wyoming thrust belt and classic foreland terranes of the Wind River Mountains and the Wind River and Green River basins. To the north and east are the Yellowstone and Absaroka volcanic areas, and to the west are the Teton Mountains and the Snake River plain.

### CALL FOR PAPERS

Papers are invited for technical sessions, symposia, and poster presentations. The technical sessions will provide 15 minutes for presentation and 5 minutes for discussion. Papers of regional interest to geologists in the Rocky Mountain area as well as those of general geological interest will be considered for the program. Poster presentations are encouraged. Abstracts for symposia should be submitted directly to the appropriate convener.

### FIELD TRIPS

Both premeeting and postmeeting field trips will be offered. Several are arranged to facilitate travel to and from Jackson from regional air-travel centers in Salt Lake City and Denver. For details about particular field trips, contact the field trip leaders listed below or the Field Trips Coordinator, Jim Case, at the Geological Survey of Wyoming, P.O. Box 3008, University Station, Laramie, WY 82071, (307) 766-2286.

#### Premeeting

- 1. Early Tertiary Paleontology and Environments of Wyoming—Jackson to Fossil Butte National Monument.** Sponsored by the Rocky Mountain Section of the Paleontological Society. Brent Breithaupt, Dept. of Geology and Geophysics, University of Wyoming, P.O. Box 3006, Laramie, WY 82071-3006, (307) 766-3386; Thomas Bown, U.S. Geological Survey, Denver.
- 2. Geology and History of the Teton Fault.** Bob Smith, University of Utah.

#### During the meeting

- 1. Ecology and Geothermal Features of Yellowstone National Park.** (Leaders to be determined.)

#### Postmeeting

- 1. The Teton Fault Zone and Quaternary Evolution of the Teton Range.** Robert B. Smith, Dept. of Geology and Geophysics, University of Utah, Salt Lake City, UT 84112-1183, (801) 581-7129;

John O.D. Byrd, University of Utah; David Sussong, U.S. Geological Survey, Cheyenne.

**2. Overview of New Developments in Thrust Belt Interpretations.** James Coogan, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071-3006, (307) 766-3386; Frank Royse, 6984 Urban Street, Arvada, CO 80004, (303) 422-3839.

**3. Late Tertiary and Quaternary Faulting North and South of the Eastern Snake River Plain.** Mark H. Anders, Lamont-Doherty Geological Observatory of Columbia University, Palisades, NY 10964, (914) 359-2900, ext. 361; David W. Rodgers, Idaho State University; James P. McCalpin, Utah State University.

**4. Rocky Mountain Foreland Structure, Stratigraphy, and Related Mineralization in Northwestern Wyoming.**

**4A. Rattlesnake Mountain Segment.** Eric Erslev, Dept. of Earth Resources, 322 Natural Resources Building, Colorado State University, Fort Collins, CO 80533, (303) 491-1101.

**4B. Owl Creek Mountains Segment.** Earnest Paylor, Jet Propulsion Laboratory, M.S. 183501, 4800 Oak Grove Drive, Pasadena, CA 91109, (818) 354-2867.

**4C. South Pass City Segment.** W. Dan Hausel, Geological Survey of Wyoming, P.O. Box 3008, Laramie, WY 82071-3008, (307) 766-2286.

**4D. Wind River Range Segment.** James Steidtmann, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071-3006, (307) 766-3386.

**5. Investigation of Geothermal Connections, Mercury Anomaly Mapping, Northern Boundary of Yellowstone National Park.** Wayne Hamilton, Research Office, National Park Service, Box 168, Yellowstone National Park, WY 82190, (307) 344-7381, ext. 2248.

**6. Depositional Environments of the Green River Formation.** Ronald C. Surdam, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071-3006, (307) 766-4200.

### SYMPOSIA

The following symposia are planned for this meeting. Abstracts for symposia should be submitted directly to individual chairpersons.

**1. Geology of Wyoming.** This is a special full-day symposium in honor of David Love and D. L. Blackstone. Conveners are Arthur W. Snoke and James R. Steidtmann, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071.

**2. Rocky Mountain Foreland Structure.** Christopher Schmidt, Eric Erslev, and Ron Chase. Send abstracts to Christopher Schmidt, Dept. of Geology, Western Michigan University Kalamazoo, MI 49008-5150.

**3. Early Tertiary Paleontology and Environments of Wyoming** Sponsored by the Rocky Mountain Section of the Paleontological Society. Brent Breithaupt and Tom Bown. Send abstracts to Bren:

*(continued on p. 281)*



## Rocky Mountain Section (continued from p. 280)

Breithaupt, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071.

**4. Late Pleistocene Climate Changes in the Rocky Mountain Region.** Eric Leonard, Dept. of Geology, Colorado College, Colorado Springs, CO 80903.

**5. Alpine Hydrology and Hydrochemistry.** James Drever, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071.

**6. Mathematical Geology.** Leon Borgman, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071.

## ABSTRACTS

Abstracts are limited to 250 words and must be submitted camera-ready on the official 1990 GSA abstract form available from the Abstracts Coordinator, Geological Society of America, P.O. Box 9140, Boulder, CO 80301, (303) 447-2020.

Send one original and five copies of abstracts to be considered for technical sessions and poster sessions to

B. Ronald Frost, GSA Technical Program Chair  
Dept. of Geology and Geophysics  
University of Wyoming  
Laramie, WY 82071  
(307) 766-4290

Send one original and five copies of abstracts for symposia directly to the convener of that symposium. Acceptance or rejection of all abstracts will be based on review by the Technical Program Committee. Abstracts will be judged on the basis of scientific merit, information content, readability, and relevance to geologic problems of the Rocky Mountain region. Although there is no limit to the number of abstracts that may be submitted, no more than two abstracts bearing an individual's name as first author will be accepted for the program, and no author may give more than one oral presentation. Authors will be notified of acceptance during March 1990.

## ABSTRACT DEADLINE: JANUARY 31, 1990

## PROJECTION EQUIPMENT

Projection equipment will be provided for 2" x 2" slides and a standard 35-mm carousel tray. Please bring your own carousel tray if possible. One projector and one screen will be provided for each session.

## EXHIBITS

Exhibits representing education, research, and industry will be displayed at the meeting site. For further information contact

RM Section GSA Exhibits Coordinator  
Dept. of Geology and Geophysics  
University of Wyoming  
Laramie, WY 82071

## STUDENT SUPPORT

The GSA Rocky Mountain Section has funds available for grants to GSA Student Associates who are contributing to the meeting. Students are encouraged to apply for these grants. Most students who qualify will be funded to some degree. Send applications to Rocky Mountain Section Secretary

Kenneth E. Kolm  
Dept. of Geology and Geological Sciences  
Colorado School of Mines  
Golden, CO 80401

Application letters must be sent by April 15, 1990. Letters should

include certification that the student is a GSA Student Associate in the Rocky Mountain Section and is presenting a paper or poster at the Jackson meeting.

## SPECIAL EVENTS AND ACTIVITIES

Everyone is invited to whoop it up at Sunday evening's get-acquainted party. Tuesday features an authentic chuckwagon dinner, available by advance registration, under the gaze of the three Grand Tetons in Moose, Wyoming. Bus tours of Grand Teton and Yellowstone Parks will be available also by advance registration. Jackson is a lively western resort town located in one of the most scenic parts of the world. In town, you can play tennis and golf, or enjoy the swimming pool, jacuzzi, and scenic chairlift ride located at Snow King Resort. Trail rides, hiking, and float trips are all available within a few minutes of Jackson.

## DETAILED INFORMATION

Information concerning registration, accommodations, and activities will appear in a future issue of *GSA News & Information* and as a part of *Abstracts with Programs* for 1990. Requests for additional information or suggestions should be addressed to the General Chair:

Ronald W. Marrs  
Dept. of Geology and Geophysics  
University of Wyoming  
Laramie, WY 82071  
(307) 766-2330

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## AAAS Publishes Science Education Directory

The *AAAS Science Education Directory 1989*, a resource for anyone who is involved in science, mathematics, or technology education, is now available. The *Directory* lists key persons in the nation who are responsible for science, mathematics, and technology education. It contains addresses and telephone numbers of principal executives, directors, administrators, and policy-makers who are leaders in associations, scientific academies, museums, educational research centers, educational laboratories, and state and federal government agencies. The *Directory* also provides information about the major science and mathematics education activities of these organizations. Some 1700 individuals, programs, and organizations are included.

The 1989 edition has been revised and expanded. A new section has been added that lists more than 30 national educational organizations with interests in science, mathematics, and technology education. The "Resources" section includes many new listings of programs and activities for students and teachers. This section contains a variety of information that should be useful to teachers, university educators, community organizations, and others who work on specific programs to strengthen science, mathematics, and technology education. In addition to the state supervisors of mathematics and science, the 1989 edition includes the names and addresses of the specialists in social studies. Key Congressional committees responsible for science education funding and their members, reflecting the latest changes in the new administration, are listed too.

A detailed table of contents and four indices help readers find information quickly.

For a free copy of the 180-page *AAAS Science Education Directory 1989*, write to Barbara Walthall, AAAS, Office of Science and Technology Education, 1333 H Street, NW, Room 1139, Washington, DC 20005.

### New Society Formed

A new society—the Society for Luminescent Microscopy and Spectroscopy—devoted to the application of various forms of luminescence to microscopy and spectroscopy has been formed. Otto Kopp (University of Tennessee) and Charles Barker (USGS, Denver) are co-editors of a newsletter that will be published twice a year.

For more information concerning goals and for a copy of the newsletter, write to:

Otto C. Kopp  
Department of Geological Sciences  
University of Tennessee  
Knoxville, TN 37996-1410

### 1989 GSA ANNUAL MEETING & EXPOSITION St. Louis November 6-9

Detailed descriptions of field trips, short courses, theme sessions, and other meeting events can be found in the August issue of *GSA News & Information*. The August issue also contains registration and housing forms. For additional information you are welcome to call the GSA Meetings Department, (303) 447-2020.

PREREGISTRATION IS DUE BY OCTOBER 6.  
HOUSING DEADLINE IS OCTOBER 13.

## Call for Nominations for 1990 Young Scientist Award (Donath Medal)

The Young Scientist Award was established in 1988 to be awarded to a young scientist (35 or younger during the year in which the award is to be presented) for outstanding achievement in contributing to geologic knowledge through original research that marks a major advance in the earth sciences. The award, consisting of a gold medal called the Donath Medal and a cash prize of \$10,000, was endowed by Dr. and Mrs. Fred A. Donath.

For the year 1990, only those candidates born on or after January 1, 1955, are eligible for consideration. In choosing candidates for the Young Scientist Award, scientific achievement and age will be the sole criteria. Nominations for the 1990 award must include

- biographical information,
- a summary of the candidate's scientific contributions to geology (200 words or less),
- a selected bibliography (no more than 10 titles),
- supporting letters from five GSA Fellows or Members.

Nominations for the 1990 Young Scientist Award must be received at GSA headquarters by February 1, 1990. The form for submitting the name of a candidate for the Young Scientist Award is on p. 283-284.



## The Blues Cruise

**Wednesday, November 8, 7:30 to 11:15 p.m. • The President Riverboat**

Feel like a good time? Join the party on the Blues Cruise Wednesday night! This special event will be devoted exclusively to your evening's entertainment. After a day in sessions, clean up, enjoy a good meal, and head to the riverfront and board the *President* for a three-hour cruise down the Mississippi River. You will be entertained by two of the best local blues bands: the Leroy Pierson Band and the Souldard Blues Band. The bands will play the current version of the music that made St. Louis famous—a mix of traditional blues, rhythm and blues, early rock, and reggae. You will see and hear that the blues are alive and well in St. Louis.

Shuttle buses will transport you from the hotels to the riverfront and back again, but it's a short walk from downtown to the *President*, docked by the Gateway Arch. The doors of the riverboat will open at 7:30 p.m., and the ship will leave promptly at 8:00 p.m. The bands will start and the place should be jumping in no time. Although we will probably be tempted to keep the party going right on down to New Orleans, the *President* will be back at the dock by about 11:00 p.m.

Tickets (includes 2 drink coupons and dry snacks): \$11.

For information: GSA Meetings Department, (303) 447-2020

THE GEOLOGICAL SOCIETY OF AMERICA

**Nomination for 1990 Donath Medal (Young Scientist Award)**

DEADLINE: Please return this form to headquarters by **February 1**.

NAME OF CANDIDATE:

ADDRESS:

BIOGRAPHICAL INFORMATION: (similar to that found in *American Men and Women of Science, Who's Who in America*)

Date of birth: \_\_\_\_\_

*(For the year 1990, only those candidates born on or after January 1, 1955, are eligible for consideration.)*

SUMMARY OF SCIENTIFIC CONTRIBUTIONS TO GEOLOGY:

(not more than 200 words)



# FOUNDATION NEWS

by Robert L. Fuchs

## 1989 Giving—What's the Story?

The news from the charitable giving front is good. After a period of change and confusion, the Congress of the United States has come down squarely in support of favored tax treatment to charities and nonprofit institutions. Congress, in its zeal to reform and simplify the tax laws, eliminated many of the tax shelter, tax minimization, and outright tax avoidance tools and schemes that have preoccupied armies of lawyers and accountants in recent years. Left standing as one of the few remaining deductions available to the taxpayer is the charitable contribution, in its several forms.

Widely utilized deductions such as sales taxes and consumer interest have been eliminated or are being phased out. Only 20% of an individual's consumer interest can be deducted in 1989. This reduces to 10% in 1990 and disappears entirely in 1991. Still largely exempted from tax reform is the deduction for mortgage interest and property taxes on a person's principal residence and also on a second home.

Beyond these interest and tax deductions, the means to lower one's tax bill are very limited. The charitable donation is almost the only discretionary method available to those who itemize deductions on their tax returns. Timing can be important, particularly when an individual's tax bracket is changing. If a lower tax bracket is expected in the following year, it could be expeditious to bunch contributions for two years into the current year, thereby taking advantage of the itemizing process. In the succeeding lower tax bracket year, the ability to itemize could be lost, and with it the tax benefit of that year's contributions.

Gifts of property continue to afford a double whammy as discussed in this column in the April 1988 issue of *GSA News & Information*. The value of property such as stocks, bonds, real estate, and personal effects at the time of contribution is the deductible value for tax purposes. Never mind that the donor's cost basis may be only a fraction of this. Thus, the double whammy effect on property of appreciated value is a deduction equal to current market value and no capital gains tax to pay on the gain, or—phrasing it differently—a large deduction with no cash out of pocket.

As of this writing in early August, the stock market is flirting with its all-time high that was reached in 1987. (It is always wise to add a time qualification to statements about the stock market.) In a strong market, many people will hold securities that have risen in value, and this is a most opportune time to make a gift of appreciated property.

The 1990 dues statement that is sent to each GSA member in August provides a convenient means of making a 1989 contribution to the Foundation. Gifts to GEOSTAR and any of the Foundation's special funds may be designated directly on the statement and included in your dues check. Gifts of property are handled through the Foundation office. Call (303) 447-2020 or write to headquarters for specific instructions on executing a property contribution.

## Re: St. Louis—Don't Forget

Contributors to the GSA Foundation in 1989 are eligible to win a special gift from the Foundation at the GSA Annual Meeting in St. Louis. Don't forget to visit the Foundation's booth #435 in the Exhibit Hall, to learn about the issues facing our science and the answers GSA can help provide, and, if you are not already a contributor, to make your 1989 gift to the GSA Foundation. Winners will be chosen at the close of the Exhibit Hall on November 8.

Second Century Club members (\$100 contribution or more) will receive a special gift of appreciation when they visit the booth.

**GSA Foundation**  
3300 Penrose Place, P.O. Box 9140  
Boulder, CO 80301  
(303) 447-2020

**GEO STAR**  
*Supporting The Advancement of Research*

\_\_\_\_\_ Enclosed is my 1989 contribution to the GSA Foundation, making me eligible to win the St. Louis award.

\_\_\_\_\_ I enclose a contribution to the Foundation's memorial fund in memory of \_\_\_\_\_

Please print:

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State/ZIP \_\_\_\_\_

Phone \_\_\_\_\_

## Donors to the Foundation, July 1989

### Century Challenge

Mark W. Allen  
Gregory A. Davis  
Norma Del Giudice  
Richard L. Nielsen  
Phyllis J. Snow

David M. Miller  
E. F. Osborn  
Lloyd C. Pray  
Joseph L. Weitz

### Hydrogeology Division Award Fund

Este F. Hollyday (in memory of Vic Stringfield)

### GEOSTAR Funds

#### GEOSTAR

Zena H. Andrews  
Paul A. Bailly  
Harmon Craig  
James F. Davis  
William R. Hackett  
B. F. Howell, Jr.  
Dr. and Mrs. Fred T. Mackenzie

#### Memorial Fund

Robert L. Fuchs (in memory of W Storrs Cole)

#### Research

Howard Burack  
Kirt A. Kempter

# 1989 Honorary Fellows Named

by Rick R. Nelson

The work of two internationally known geologists will be recognized at the 1989 GSA Annual Meeting next month in St. Louis. Rushdi Said and Gabriel Dengo will be named GSA Honorary Fellows, following action last May by the GSA Council.

Honorary Fellowship in GSA is conferred upon foreign geologists who have distinguished themselves through their geological work or have rendered special service to the Society.

## Rushdi Said

Lauded by many as the outstanding authority on the geology of Egypt, Rushdi Said has achieved much in both scientific and administrative pursuits. In a career spanning nearly 40 years, Said has published numerous papers and is the author of two classic books on Egyptian geology. He is also credited with almost single-handedly building the Egyptian Geological Survey and Mining Authority from obscurity into a recognized scientific institution.

Said studied at Cairo, Zurich, and Harvard universities before returning in 1951 to teach at Cairo. While teaching he embarked on a study of the micropaleontology and stratigraphy of Egypt. Ten years later he began to interpret the results of his work in terms of the effects of tectonics on the distribution of rocks and biotas. His hypothesis was later developed into a conceptual framework that he used to integrate the disorganized mass of information on the geology of his homeland. The result, *The Geology of Egypt*, was published in 1962. It has been translated into Russian and Arabic and was revised for a second edition, due out this year. About 1962, Said's interest turned to studies of the Quaternary, leading to numerous publications, including the classic *The Geological Evolution of the River Nile*, published in 1981.

In 1968, Said was named head of the Egyptian Geological Survey and Mining Authority. In a region that lacked focus for geological study, Said built the Egyptian Survey into a respected institution of advanced research. He modernized its laboratories and library, strengthened the mining and drilling sections, and placed field parties in all corners of the deserts of Egypt. For much of this, he used the U.S. Geological Survey as a model and with its cooperation, strengthened the scientific ties between the United States and the Middle East. Said retired from the Egyptian Survey in 1978. His name is associated with nearly all the recent mineral discoveries in Egypt, and he trained many of the people who are running that Survey today. Thus, his considerable influence on the course of geological study in Egypt and the Middle East continues.

Said's professional affiliations and honors are legion. He was a founding member and served as president of the Geological Society of Egypt. He is a member of the Institut d'Egypte and the Egyptian Academy of Sciences. He is a Fellow of the Society of Economic Paleontologists and Mineralogists and the Royal Geographical Society of London, as well as of the Geological Society of America. He has served on the board of the International Geological Correlation Program, and on the boards of scientific agencies in Egypt and worldwide.

Since his retirement in 1978, Said has worked as a consultant and lecturer, including a residence at the Institute for the Study of Earth and Man at Southern Methodist University in Dallas, where he continues to hold the position of Senior Research Scientist and Adjunct Professor of Geology. He lives in Annandale, Virginia.

## Gabriel Dengo

Gabriel Dengo is one of the most influential geologists working



Rushdi Said



Gabriel Dengo

in Latin America today. His contributions to applied geology in Central America and northern South America extend well beyond pure science to benefit all the citizens of the area. He has been instrumental in coordinating scientific activities among Central American countries and in synthesizing the geology of the region for interested outsiders. He was the driving force behind the series of Central American Geological Conferences, and he recently conducted a study aimed at increasing the hydroelectric generating capacities of southern Mexico and adjoining Guatemala.

Dengo received his education at the University of Costa Rica, the University of Wyoming, and Princeton University. He now lives in Guatemala City, Guatemala. Reknowned as a statesman and scholar, he has held positions with the Ministry of Mines and Energy in Venezuela, the Secretariat of Central American Economic Integration, the Central American Research Institute for Industry, and the Guatemalan Electrification Institute. His field work has spanned the region from southeastern Mexico to northern South America, as well as the Caribbean. His publications include several maps of previously poorly known regions of this geologically complex area.

Several international geological organizations owe much to Dengo's participation. These include the International Geological Correlation Program and the Inter-Governmental Oceanographic Commission, as well as the International Union of Geological Sciences, the Council of Directors of Latin American Geological Surveys (Permanent Advisor), the North American Metallogenic Map Committee, and the American Association of Petroleum Geologists. He continues to work with the Center for Geological Studies of Central America.

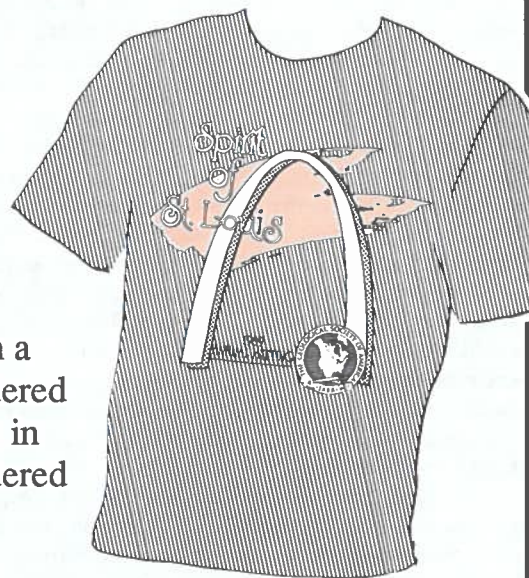
Dengo has also served GSA over the years as a Councilor, Associate Editor of the *Bulletin*, member of the Centennial Planning Committee and the Steering Committee for the Decade of North American Geology (DNAG) project, and as a DNAG project leader. With J. E. Case, he is volume editor for Volume H of the DNAG series, *The Caribbean Region*, which is now nearing completion.

As one of the few Fellows of the Society working in Latin America, Dengo has been called upon repeatedly to facilitate the work of other geologists in the area and has always been generous with his time and expertise. The high regard held for him by his colleagues in the region is reflected in the number of awards and honors conferred upon him, including the Medal of Merit of the Circum-Pacific Council for Energy and Mineral Resources. He continues to be active, convening and participating in conferences addressing the geologic history and problems of the region.

# ANNOUNCING THE ALL-NEW 1989 ST. LOUIS T-SHIRT ... AND THE EVEN NEWER GSA HAT

The 1989 St. Louis T-Shirt and the new GSA hat will be on sale at the GSA Annual Meeting in St. Louis in the registration area. But if you want to save time and avoid the on-site stop, you can place your order now on the form below and GSA will be happy to mail your order.

The St. Louis T-Shirt is jade green, 50% cotton/50% polyester. This year's design includes "Spirit of St. Louis" and the famous St. Louis Arch.



The new GSA hat comes in both a light blue cotton twill, embroidered with the GSA logo, and also in dark blue corduroy, embroidered with the Society's name.

*Limited quantities available. Allow three weeks for delivery. Please, no phone orders.*



**Clip and Mail to**

**GSA Meetings Dept., P.O. Box 9140, Boulder, CO 80301**

Name \_\_\_\_\_

Here is my order for the ST. LOUIS T-SHIRT: \$10.00 ea.

Indicate quantity: \_\_\_\_\_

Address \_\_\_\_\_

Size: M \_\_\_\_\_ L \_\_\_\_\_ XL \_\_\_\_\_

Total shirts @ \$10.00 ea. \$ \_\_\_\_\_

Address \_\_\_\_\_

Here is my order for the new GSA HATS: \$8.50 ea.

One size fits all

City \_\_\_\_\_

Light blue cotton twill with GSA logo      Quantity \_\_\_\_\_

Dark blue corduroy with Society's name      Quantity \_\_\_\_\_

State/ZIP \_\_\_\_\_

Total hats @ \$9.50 ea. \$ \_\_\_\_\_

Phone \_\_\_\_\_

Add shipping & handling \$ 1.50

TOTAL AMOUNT DUE: \$ \_\_\_\_\_

*Make checks payable to: Geological Society of America*

Remit in U.S. funds only

Allow three weeks for delivery

**NO PHONE ORDERS ACCEPTED**

# Call for Nominations for 1990 Penrose and Day Medals and Honorary Fellows

Nominations for GSA's Penrose and Day Medals and for Honorary Fellowships of the Society are due at headquarters by *February 1, 1990*. Members and Fellows of the Society are encouraged to participate in this important process by nominating candidates for these high honors.

## Penrose Medal

The Penrose Medal was established in 1927 by R.A.F. Penrose, Jr., to be awarded in recognition of eminent research in pure geology, for outstanding original contributions or achievements that mark a major advance in the science of geology. The award is made only at the discretion of the Council. Nominees are selected by the Council, may or may not be members of the Society, and may be from any nation. Penrose's sole objective in making the gift was to encourage original work in purely scientific geology.

## Day Medal

The Day Medal was established in 1948 by Arthur L. Day to be awarded annually, or less frequently, at the discretion of the Council, for outstanding distinction in contributing to geologic knowledge through the application of physics and chemistry to the solution of geologic problems. Day's intent was to recognize outstanding achievement and inspire further effort, rather than reward a distinguished career.

## Honorary Fellows

Geologists who have distinguished themselves in geological investigations or in signal service to the Society may be elected as Honorary Fellows. In practice, nearly all candidates have lived and worked elsewhere than North America. The most noteworthy exceptions were astronauts.

Most Honorary Fellows have been elected toward the evenings of their careers, after lifetimes of outstanding and internationally recognized contributions to the science.

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## Alternates Receive GSA Research Grants

Each year the Committee on Research Grants selects recipients for grants up to the maximum amount of funding available for that year. An alternate group of recipients is also selected in the event that some of the grantees return part or all of their funds because they have received funding elsewhere or their research plans change. As the returned funds become available they are re-awarded by the Research Grants Administrator to the alternates named by the committee. This year all alternates named by the committee received grants.

In 1989 ten alternates received funding following the initial awarding of grants:

Olufemi Oladapo Babalola, University of South Carolina  
Sheila Ellen Daniel, McMaster University  
Julie K. Friez, University of Maine  
Katherine A. Goebel, University of Arizona  
Scott J. Johnson, Northern Arizona University  
David L. LePain, University of Alaska—Fairbanks  
Dru R. Nielson, University of California—Davis  
Lenore P. Tedesco, University of Miami  
Maria Uhle, University of Massachusetts  
Yingping Yang, Miami University

## How To Nominate

To ensure thorough consideration by the respective committees, please submit for each candidate a brief biographical sketch, such as used in *American Men and Women of Science* and *Who's Who in America*, a summary of the candidate's scientific contributions to geology that qualify the individual for the award, and a selected bibliography of no more than 20 titles. In choosing candidates for the Penrose and Day Medals, scientific achievements should be considered rather than contributions in administration and service.

A nomination for any one of these three awards **MUST BE SUPPORTED** by signed letters from each of five (5) GSA Fellows or Members. The letters may be attached to this form or may be sent to the Executive Director separately. For Honorary Fellow nominations, please verify degrees received, publications, positions held, etc.

The names of unsuccessful candidates proposed to the Council by the respective committees will remain for consideration by those committees for three years. For those still under consideration, an updated letter of renomination should be sent to the Executive Director.

The deadline for receipt of nominations at the office of the Executive Director is **FEBRUARY 1, 1990**.

The form for submitting the name of a candidate for any one of the awards is on pages 291-292.

Recipients of the awards to date are listed on p. 290.

(continued on p. 290)

## About the Honorary Fellow Program

In this issue of *GSA News & Information* you will find a form to be used in nominating candidates for Honorary Fellowship in the Geological Society of America. Each year this honor is bestowed on those individuals who have lived and worked elsewhere than North America, and have distinguished themselves in geological investigations or in notable service to the Society. Under exceptional circumstances, North Americans have been named Honorary Fellows. This amendment to the bylaws was made in 1969 when the Apollo II astronauts who first walked on the moon—Neil Armstrong, Edwin A. Aldrin, Jr., and Michael Collins—were elected.

The program was established by the GSA Council in 1909, and since then, except during a few war years, one or more Honorary Fellows have been elected annually. Most Honorary Fellows have been elected after many years of outstanding and internationally recognized contributions to the science. At present there are 55 living geologists who have received this honor.

The Council of the Society encourages the membership to submit the names of qualified candidates for this honor. In preparing a nomination, it is imperative that the original research and scientific advances of the candidate be stressed. All supporting data, especially degrees received, publications, positions, etc., should also be verified by the nominator. The form for nominating a candidate for Honorary Fellow is on p. 291-292.

Call for Nominations (continued from p. 289)

**R.A.F. Penrose, Jr., Medalists**

1927	Thomas Chrowder Chamberlin	1947	Arthur Louis Day	1969	Francis Birch
1928	Jakob Johannes Sederholm	1948	Hans Cloos	1970	Ralph Alger Bagnold
1929	No award given	1949	Wendell P. Woodring	1971	Marshall Kay
1930	François Alfred Antoine Lacroix	1950	Morley Evans Wilson	1972	Wilmot H. Bradley
1931	William Morris Davis	1951	Pentti Eskola	1973	M. King Hubbert
1932	Edward Oscar Ulrich	1952	George Gaylord Simpson	1974	William Maurice Ewing
1933	Waldemar Lindgren	1953	Esper S. Larsen, Jr.	1975	Francis J. Pettijohn
1934	Charles Schuchert	1954	Arthur Francis Buddington	1976	Preston Cloud
1935	Reginald Aldworth Daly	1955	Maurice Gignoux	1977	Robert P. Sharp
1936	Arthur Philemon Coleman	1956	Arthur Holmes	1978	Robert M. Garrels
1937	No award given	1957	Bruno Sander	1979	J Harlen Bretz
1938	Andrew Cowper Lawson	1958	James Gilluly	1980	Hollis D. Hedberg
1939	William Berryman Scott	1959	Adolph Knopf	1981	John Rodgers
1940	Nelson Horatio Darton	1960	Walter Herman Bucher	1982	Aaron C. Waters
1941	Norman Levi Bowen	1961	Philip Henry Kuenen	1983	G. Arthur Cooper
1942	Charles Kenneth Leith	1962	Alfred Sherwood Romer	1984	Donald E. White
1943	No award given	1963	William Walden Rubey	1985	Rudolf Trümpy
1944	Bailey Willis	1964	Donnel Foster Hewett	1986	Laurence L. Sloss
1945	Felix Andries Vening-Meinesz	1965	Philip Burke King	1987	Marland P. Billings
1946	T. Wayland Vaughan	1966	Harry H. Hess	1988	Robert S. Dietz
		1967	Herbert Harold Read	1989	Warren B. Hamilton
		1968	J. Tuzo Wilson		

**Arthur L. Day Medalists**

1948	George W. Morey	1961	Willard F. Libby	1976	Hans Ramberg
1949	William Maurice Ewing	1962	Hatten Schuyler Yoder	1977	Akiho Miyashiro
1950	Francis Birch	1963	Keith Edward Bullen	1978	Samuel Epstein
1951	Martin J. Buerger	1964	James Burleigh Thompson, Jr.	1979	Walter M. Elsasser
1952	Sterling Hendricks	1965	Walter H. Munk	1980	Henry G. Thode
1953	John F. Schairer	1966	Robert M. Garrels	1981	Donald L. Turcotte
1954	M. King Hubbert	1967	O. Frank Tuttle	1982	Eugene M. Shoemaker
1955	Earl Ingerson	1968	Frederick J. Vine	1983	Harmon Craig
1956	Alfred O.C. Nier	1969	Harold C. Urey	1984	Wallace S. Broecker
1957	Hugo Benioff	1970	Gerald J. Wasserburg	1985	Freeman Gilbert
1958	John Verhoogen	1971	Hans P. Eugster	1986	E-an Zen
1959	Sir Edward C. Bullard	1972	Frank Press	1987	Don L. Anderson
1960	Konrad B. Krauskopf	1973	David T. Griggs	1988	Claude J. Allègre
		1974	A. E. Ringwood	1989	Dan McKenzie
		1975	Allan Cox		

**Honorary Fellows**

Neil Armstrong	David Headley Green	Alexander B. Ronov
Jean A. Aubouin	Dorothy Hill	Rupert W.R. Rutland
Ralph A. Bagnold	Kenneth J. Hsü	Rushdi Said
V. V. Belousov	Jiqing Huang	Hitoshi Sakai
Krzysztof Ludwik Birkenmajer	Emilie Jager	Mircea Sandulescu
Roland Brinkmann	Ihsan Ketin	Harrison Hagan Schmitt
S. Warren Carey	Teiichi Kobayashi	Eugen Seibold
Maria Bianca Cita	Dmitri S. Korzhinskii	Ahti J. Simonen
Michael Collins	Henno Martin	Boris Sergeevich Sokolov
William Compston	Michael W. McElhinny	John Sutton
Douglas Saxon Coombs	Mervyn Silas Paterson	Rashid A. Khan Tahirkeheli
Gabriel Dengo	Leo Y. Picard	Bernard P. Tissot
Kingsley C. Dunham	Wallace S. Pitcher	Livio Trevisan
Stanislaw Dzulynski	Jean Piveteau	Rudolf Trümpy
William S. Fyfe	Isabella Premoli-Silva	Guangzhi Tu
Augusto Gansser	Desmond A. Pretorius	Harry B. Whittington
Martin F. Glaessner	Hans Ramberg	Alwyn Williams
	John G. Ramsay	Quido Zaruba
	Alfred Rittmann	



THE GEOLOGICAL SOCIETY OF AMERICA

**Nomination for Penrose Medal, Day Medal, or Honorary Fellowship**  
(please circle one)

DEADLINE: Please return this form to headquarters by **February 1, 1990.**

NAME OF CANDIDATE:

ADDRESS:

BIOGRAPHICAL INFORMATION: (suggested sources)

American Men and Women of Science

Who's Who in America

GSA Service Record (obtainable from headquarters)

Other

SUMMARY OF SCIENTIFIC CONTRIBUTIONS TO GEOLOGY:

(not more than 200 words)

**SELECTED BIBLIOGRAPHY:**

(no more than 20 titles)

A nomination for any one of these three awards **MUST BE SUPPORTED** by signed letters from each of five (5) GSA Fellows or Members. The letters may be attached to this form or may be sent to the Executive Director separately. Supporting letters must discuss the original research and scientific advances of the candidates. Please also verify all other supporting data.

Name of person making the nomination: \_\_\_\_\_

Address: \_\_\_\_\_

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

**LETTERS OF SUPPORT WILL BE SUBMITTED BY:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**RETURN TO:** Executive Director  
The Geological Society of America  
P.O. Box 9140  
Boulder, CO 80301  
(303) 447-2020

**DEADLINE:** Please return this form to headquarters by February 1, 1990.

## Information Explosion Is 1990 Theme

In the past decade computers have been woven into the fabric of our daily lives. The processing power of microcomputers has grown rapidly and now exceeds that of room-sized mainframes of a generation ago. Increasingly, from data collection to manuscript preparation, geosciences research resides in electronic files.

The theme for the 1990 GSA Annual Meeting in Dallas recognizes the role that computers are playing in geology today and are certain to play in the future. Special sessions will focus on the importance of computers in geosciences research, and local field trips will provide outstanding examples.

The 1990 Annual Meeting program will be built around symposia and theme and discipline sessions.

- Symposia (invited or open) are organized only by GSA divisions and associated societies.
- Theme sessions serve to focus volunteered presentations, frequently from a variety of disciplines, on a topic of broad interest.
- Discipline sessions consist of volunteered papers submitted to scientific (rather than topical) classifications.

Theme topics may be proposed by any individual or group. Proposed topic titles and a short explanatory paragraph should be submitted to either co-chairman. Submission of theme topics is due by *January 2, 1990*.

Organizations or groups of individuals submitting theme topics should designate one person as official theme advocate. The theme advocate participates in the review process and may solicit contributions, although no abstract is guaranteed acceptance. Abstracts contributed to theme sessions are entirely volunteered and are reviewed by three independent reviewers appointed by the Joint Technical Program Committee (JTPC). The advocate may serve as a fourth reviewer.

Abstracts submitted to a theme session but not deemed relevant to the topic by the official advocate will be reviewed and considered for presentation in a discipline session.

The following ideas have been compiled by the 1990 Annual Meeting Local Committee. They are not intended to be comprehensive nor exclusive. Neither are they necessarily the ones that will emerge as the final titles of theme sessions to which abstracts will be submitted.

### 1990 Candidate Themes

1. Computers in Geology—modeling geologic processes; 3-D seismology; instructional uses
2. Plate Margins and Tectonic Evolution—Proterozoic crustal evolution of North and South America; tectonic setting and magma genesis at extensional centers; transpression
3. Geochemical Cycles and Global Stratigraphy—biotic, chemical, and isotopic changes at boundary intervals; rhythmic bedding and paleoclimatology; sequence stratigraphy
4. Environmental Problems—water supplies, hazardous wastes; neotectonics
5. Paleobiology—extinctions and recoveries; taphonomy; cladistics
6. Mapping and Technology—in situ stress maps; Global Positioning System; crustal imaging; deep crustal drilling

### Preliminary List of Theme Topics

- T1. Application of Sr isotopes in sedimentary geology
- T2. Mesozoic tectonic evolution of Mexico and the Gulf of Mexico
- T3. Case studies in environmental hydrogeology
- T4. K/T boundary intervals in the southern United States
- T5. Hydrogeology of arid regions



## 1990 Annual Meeting—Dallas, Texas

October 29–November 1  
Dallas Convention Center

*General Chairman:* **David E. Dunn**  
Geosciences, MS FN 3.2  
University of Texas at Dallas  
P.O. Box 830688  
Richardson, TX 75083-0688

### Short Course Proposals Due . . . . . December 15, 1989

Proposals are encouraged from GSA members and nonmembers. Proposals will be in review by GSA's Short Course Committee through January 31, 1990.

To request short course proposal guidelines or to submit proposals contact:

*Short Course Coordinator*  
Edna Collis, GSA, P.O. Box 9140, Boulder, CO 80301,  
(303) 447-2020

### Theme Session and Symposia Proposals Due . . . . . January 2, 1990

For 1990 program specifics contact:

*Technical Program Chairmen*  
Richard M. Mitterer  
Program in Geosciences  
University of Texas at Dallas  
Richardson, TX 75083-6088  
(214) 690-2401 (dept.), (214) 690-2462 (direct)

or temporarily at:  
Division of Engineering and Geoscience  
Basic Energy Sciences, ER-15, GTN  
Office of Energy Research  
U.S. Dept. of Energy (D.O.E.)  
Washington, DC 20545  
(301) 353-5822

Roger E. (Tim) Denison  
Mobil Research & Development Corp.  
P.O. Box 819047  
Dallas, TX 75381  
(214) 851-8172

For general information on program participation (1990 and future years) contact:

*GSA Meetings Manager*  
Sue Beggs, GSA, P.O. Box 9140, Boulder, CO 80301,  
(303) 447-2020

## 1989 Annual Meeting Symposia Highlights

This is the last in a series of four articles highlighting symposia to be presented in St. Louis at the 1989 GSA Annual Meeting. The first, second, and third of the series appeared in the June, July, and September issues of *GSA News & Information*. Please refer to the August registration issue of *GSA News & Information* for a complete listing of symposia titles and authors.

### S3. Molecular Approaches to Paleoclimatic and Paleoenvironmental Reconstruction

Sponsored by the Geochemical Society.

Conveners: Simon C. Brassell, Stanford University; John M. Hayes, Indiana University.

Speakers: R. Akes, J. A. Beier, D. F. Bensley, S. C. Brassell, J. C. Crelling, J. W. Farrington, K. H. Freeman, J. M. Hayes, J. F. Hubert, J. A. Kennedy, M. A. Kruge, M. A. McCaffrey, P. E. Meriney, P. A. Meyers, R. P. Philp, B. N. Popp, D. J. Repeta, T. E. Ruble, B. R. T. Simoneit, R. E. Summons.

The last few years have seen major advances in the use of organic molecules as tools in paleoenvironmental and paleoclimatic assessment. This progress in organic geochemistry stems partly from improvements in analytical methodology, but more significantly from the better understanding of the ways in which the occurrences, abundances, and distributions of the molecular components of sedimentary organic matter reflect those of contributing organisms and their variation with environmental factors such as climate, salinity, and oxicity.

Several new approaches have accompanied and contributed to these developments. They include the recognition of molecular compositions that are diagnostic of specific depositional environments and their exploitation in a stratigraphic sense. Another significant novel molecular tool is the potential to employ the compositional changes in specific constituents of prymnesiophyte algae which reflect sea surface-water temperatures in the assessment of climatic fluctuations. Similarly, the newly developed capability for carbon isotopic determinations of individual components adds a further dimension to the capability to distinguish and differentiate the biological sources of specific molecules in sediments and petroleum.

The symposium encompasses and draws on these new molecular approaches, exploring molecular information from the records preserved in surface sediments to those that survive in thermally altered ancient sediments and solid bitumens. It also covers the molecular elucidation of climatic events, notably El Niño signals, and the value of such constituents in the characterization and differentiation of lacustrine and marine environments. It extends to the use of organic constituents in the evaluation of sedimentary depositional environments ranging from the present day to the Paleozoic and includes studies focused on critical periods of Earth history, such as major stratigraphic boundaries. The symposium also encompasses research on the carbon isotopic composition of organic carbon and specific components, illustrating their value in discerning the contributions from primary sources and secondary heterotrophic activity.

### S5. Application of Modern Powder Diffraction Techniques to Problems in Mineralogy and Geology

Sponsored by the Mineralogical Society of America.

Conveners: David L. Bish, Los Alamos National Laboratory; Larry W. Finger, Geophysical Laboratory, Carnegie Institution; Jeffrey E. Post, Smithsonian Institution.

Speakers: David L. Bish, Los Alamos National Laboratory; Larry W. Finger, Geophysical Laboratory, Carnegie Institution; Rossman F. Giese, State University of New York at Buffalo; Frank C. Hawthorne, University of Manitoba; George A. Lager, University of Louisville; Jeffrey E. Post, Smithsonian Institution; Deane K. Smith, Pennsylvania State University.

The main purpose of the symposium is to familiarize geologists and mineralogists with the essence of the new techniques in powder diffraction. The short course sponsored by MSA just prior to the GSA meeting will be aimed at conveying the details of powder diffraction studies in great detail. The symposium, on the other hand, will extract the flavor of the studies and attempt to demonstrate how these techniques have become much more quantitative and useful with the advent of computer control and the improved quality of the instruments in general.

The specific topics to be addressed include the techniques of crystal structure determination and sample characterization for materials too fine grained to be studied by single-crystal methods, the quantitative analysis of multiphase mixtures, and the determination of transition mechanisms. The symposium will also include presentations on the application of nontraditional radiation sources to the study of problems of interest to geoscientists.

### S18. Intraplate Seismicity and Deformation: Geological and Geophysical Constraints

Sponsored by the Geophysics Division.

Conveners: William V. Stauder, St. Louis University; Archibald C. Johnston, Memphis State University.

The symposium will focus on the New Madrid seismic zone and other active seismic zones of the eastern United States. Much has been learned in recent years of the seismicity and of the source mechanism of earthquakes occurring in the active seismic zones in this part of the continent. Simultaneously, other geophysical studies have investigated gravity and magnetic anomalies associated with these zones. Refraction and reflection surveys, together with geological and paleogeological investigations, have advanced the knowledge of the underlying structure of active zones. The study of rock properties and deformation mechanics have contributed to an understanding of the geophysical properties of the seismogenic zones of active faults.

This symposium seeks to bring together in an integrated study all the evidence—seismic, geodetic, geological, and geophysical—that bears upon the understanding of intraplate seismicity and present-day deformation. Processes of seismogenesis, differences in properties of intraplate vs. interplate seismicity, and the discordance between the level of present-day seismicity and the absence of larger scale deformation are areas of particular interest.

The relation of study of intraplate seismicity and deformation to a better understanding of earthquake hazard in the eastern United States indicates the importance of this topic to earthquake-hazard reduction, and hence its relevance as a topic of general interest.

### Future Annual Meeting Sites

1990	Dallas
1991	San Diego
1992	Cincinnati
1993	Boston
1994	Seattle

— People —

GSA Fellow **M. E. (Pat) Bickford**, University of Kansas, has been appointed chairman of the Department of Geology and Jessie Page Heroy Professor at Syracuse University, Syracuse, New York as of January 1, 1990.

Member **Richard I. Gibson** has been named president of Everest Geotech, Golden, Colorado.

The University of Minnesota has honored Fellow **Robert L. Heller**, University of Minnesota, Duluth, Chancellor Emeritus, by establishing the Robert L. Heller Endowed Professorship in Geology at the University's Duluth campus.

Fellow **Susan W. Kieffer**, USGS, Flagstaff, Arizona, was awarded the USSR Academy of Sciences Spendiarov Prize at the 1989 International Geological Congress.

Fellow **Thomas B. Nolan**, Washington, D.C., has been named the first Honorary Member of the Geological Society of Nevada.

Fellow **Cecil J. Schneer**, University of New Hampshire (emeritus), has received the Mineralogical Association of Canada's Hawley Award, for best paper in the 1988 volume of *The Canadian Mineralogist*.

The Association for Women Geoscientists has appointed to its Foundation Board GSA Member **Kate Johnson**, USGS, Denver, Colorado, vice-president; Member **Ruth Carraher**, Reno, Nevada, secretary; Member **Fred Spilhaus**, Washington, D.C., chairman of the advisory board; and Members **Genevieve Atwood**, Utah Geologic and Mineral Survey, and **Donna M. Jurdy**, Northwestern University, and Fellow **Vincent Matthews III**, Houston, Texas, directors of the board.

SEPM has awarded its Twenhofel Medal to GSA Fellow **K. O. Emery**, Woods Hole Oceanographic Institution; the Francis P. Shepard Medal to Fellow **Donald J.P. Swift**, Old Dominion University; Honorary Membership to Fellow **M. Dane Picard**, University of Utah; an award for Outstanding Paper to Member **Mary J. Kraus**, University of Colorado; and an award for Excellence of Presentation at the SEPM 1988 Annual Meeting to Member **Eric J. Barron**, University of Pennsylvania.

**Petrology and Geochemistry Division  
Organizational Meeting To Be Held  
in St. Louis**

There will be an organizational meeting to consider the proposed formation of a new GSA division at the Geological Society of America 1989 Annual Meeting in St. Louis in November. The new division, tentatively named the Petrology and Geochemistry Division, would be dedicated to the interests of hardrock petrologists and geochemists. Anyone interested in igneous or metamorphic petrology, experimental petrology, phase chemistry, major- and trace-element geochemistry, or isotope geochemistry is encouraged to attend. If there is sufficient interest in the formation of this new division, we will discuss proposed bylaws, nominations for officers, dues, and other organizational details. A petition will be circulated for those who favor the formation of this new division.

The meeting will be held on Tuesday, November 7, 5:15-6:30 p.m., in the Boulevard A room of the Sheraton Hotel. Please contact John Shervais, University of South Carolina, Columbia, SC 29208; phone (803) 777-2669, for more information.

**Future GSA GeoTrips**

- 1990 Grand Canyon

The 1990 Grand Canyon Trip has filled. Once again this enormously popular trip filled immediately. The 36 spaces went within 60 days of the first announcement. Keep your eyes open for the next trip. If you are interested in going on this or other GSA GeoTrips, please send us your name. We will send you information as soon as we know the trip dates.



**GSA Goes Kiwi**



**New Zealand: 1991**

**2½ to 3 Week Geological Vacation Trip  
emphasis on South Island**

*Exact dates to be announced;  
will be between mid-February and mid-March*

Geologic leadership and other trip information to be announced  
January 1, 1990

Check the January issue of *GSA News & Information*

Approximate cost: \$2000-\$2400 plus airfare

Guests welcome

GSA members will receive a special discount

Call Sue Beggs, GSA Meetings Manager, (303) 447-2020

— Clip and return to —

**GSA Meetings Dept.  
P.O. Box 9140, Boulder, CO 80301**

**GSA NEW ZEALAND 1991**

\_\_\_\_ YES, I'm interested. Send more information.

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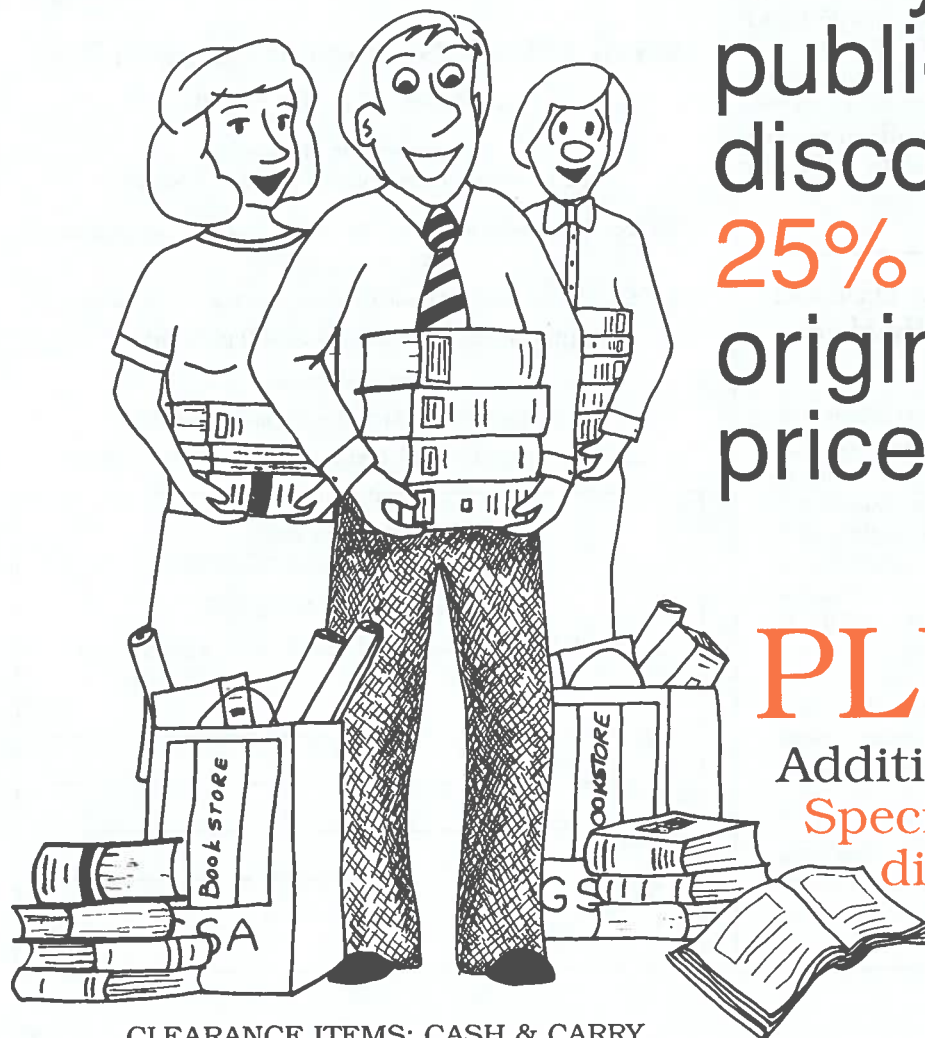
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**ABOUT THE BOOK...**

In his sparkling introduction to this Centennial volume, editor Eldridge M. Moores outlines the history of the geological sciences and of the Geological Society of America, and relates the timing of the development of both to events and personalities in world history.

The volume includes a colorful geologic time scale made especially for nonscientists. Then follow more than 250 color photographs, in 69 essays, depicting geology from around the world. Included are the familiar and the unusual, from Yellowstone to the moons of Jupiter, from Brazil to Alaska, from New York to China, from Spain to Antarctica ... from mountains to canyons, from glaciers to hot springs, from volcanoes to caverns, from mudflats to diamonds. All photos were contributed by working earth scientists.

The Art of Geology, edited by Eldridge M. Moores and F. Michael Wahl, 1988. Deluxe hardbound edition, 140 p., full color throughout, 9"X12", with dust jacket, ISBN 0-8137-2225-X. List price \$37.50.

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*The Geological Society of America*  
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# MEETINGS

(Asterisk indicates new or changed information)

## 1989

**3rd Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst**, October 1-4, 1989, St. Petersburg, Florida. Information: 3rd Multidisciplinary Conference, Florida Sinkhole Research Institute, University of Central Florida, Orlando, FL 32816.

**20th Underwater Mining Institute**, October 1-4, 1989, Madison, Wisconsin. Information: Allen H. Miller, UW Sea Grant Advisory Services, 1800 University Ave., Madison, WI 53705; (608) 262-0644.

**Association of Engineering Geologists 32nd Annual Meeting**, October 1-6, 1989, Vail, Colorado. Information: Michael W. West, Michael W. West & Associates, Inc., 290 Bank Western Bldg., 8906 West Bowles Ave., Littleton, CO 80123; (303) 972-1537.

**XIII International Geochemical Exploration Symposium and II Brazilian Geochemical Congress**, October 1-6, 1989, Rio de Janeiro, Brazil. Information: RIO '89 (XIII IGES-II CBGq), A/C CPRM-LAMIN, Av. Pasteur, 404 - Urca, CEP 22292 - Rio de Janeiro, RJ, Brazil; phone (55-21) 295-5297; telex (55-21) 22685.

**7th Thematic Conference on Remote Sensing for Exploration Geology**, October 2-6, 1989, Calgary, Alberta, Canada. Information: Robert H. Rogers, ERIM, P.O. Box 8618, Ann Arbor, MI 48107-8618; (313) 994-1200, ext. 3382.

**Canadian Continental Shelf Seabed Symposium**, October 2-7, 1989, Dartmouth, Nova Scotia, Canada. Information: C. L. Amos, Atlantic Geoscience Centre, Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada B2Y 4A2; (902) 426-7739.

**American Institute of Professional Geologists 26th Annual Meeting**, October 4-7, 1989, Hyatt Crystal City, Virginia. Information: Stan Johnson, 1016 Holmes Ave., Charlottesville, VA 22901; (804) 293-5121.

**18th Annual Rocky Mountain Ground Water Conference**, October 5, 1989, Salt Lake City, Utah. Information: Linda Moore, 2531 Murray-Holladay Road, Salt Lake City, UT 84117; (801) 272-5062.

**Geology and Hydrology of Hazardous Waste, Mining Waste, Waste Water-Brine Disposal, and Waste Repository Sites in Utah**, October 6-7, 1989, Salt Lake City, Utah. Information: Joseph Gates, USGS, 1745 W. 1700 South, Salt Lake City, UT 84104; (801) 524-4073.

**18th Geochautauqua: Mineral-Resource Assessment**, October 13-14, 1989, Newark, Delaware. Information: J. H. Schuenemeyer, Dept. of Mathematical Sciences, University of Delaware, Newark, DE 19716; (302) 451-1883.

**Institute for Tertiary-Quaternary Studies Annual Meeting**, October 13-15, 1989, Fort Collins, Colorado. Information: Frank G. Ethridge, Dept. of Earth Resources, Colorado State University, Fort Collins, CO 80523; (303) 491-6195.

**New York State Geological Association 61st Annual Meeting and Field Trips**, October 13-15, 1989, Middletown, New York. Information: Lawrence E. O'Brien, Orange County Community College, Middletown, NY 10940; (914) 343-6222, ext. 2570.

**Conference on Sedimentary Modeling: Computer Simulation of Depositional Sequences**, October 13-15, 1989, Lawrence, Kansas. Information: Lynn Watney or Evan Franseen, Kansas

Geological Survey, 1930 Constant Ave., Campus West, University of Kansas, Lawrence, KS 66046-2598; (913) 864-3965.

**Conference on Ground Water in the Piedmont of the Eastern United States**, October 16-18, 1989, Charlotte, North Carolina. Information: Richard K. White, General Chairman, Dept. of Agricultural Engineering, 113 McAdams Hall, Clemson University, Clemson, SC 29634-0357; (803) 656-3250.

**Structural and Tectonic Modelling and Its Application to Petroleum Geology**, October 18-20, 1989, Stavanger, Norway. Information: Norwegian Petroleum Society, P.O. Box 1897 - Vika, 0124 Oslo 1, Norway; phone 47-2-207025; telex 77 322 nopet n.

**Late Cambrian-Ordovician Geology of the Southern Mid-continent Symposium**, October 18-19, 1989, Norman, Oklahoma. Information: Kenneth S. Johnson, Oklahoma Geological Survey, University of Oklahoma, Norman, OK 73019; (405) 325-3031.

**Supercomputing World Conference and Exposition**, October 18-20, 1989, San Francisco, California. Information: Carol Y. Hurley, Meeting Brokers International, Inc., 5 Science Park, New Haven, CT 06511; (203) 786-5132.

**34th Annual Midwest Ground Water Conference**, October 18-20, 1989, Western Michigan University, Kalamazoo, Michigan. Information: Alan E. Kehew, Dept. of Geology, Western Michigan University, Kalamazoo, MI 49008; (616) 387-5495.

**20th Annual Geomorphology Symposium: Geomorphic Evolution of the Appalachians**, October 20-22, 1989, Dickinson College, Carlisle, Pennsylvania. Information: W. D. Sevon, Pennsylvania Geological Survey, P.O. Box 2357, Harrisburg, PA 17120; (717) 787-6029.

**6th Annual Meeting and Field Trip, Geological Association of New Jersey**, October 20-22, 1989, Easton, Pennsylvania, and Philipsburg, New Jersey. Topic: Lower Paleozoic carbonates of New Jersey and eastern Pennsylvania. Information: Michael J. Hozik, Stockton State College, Pomona, NJ 08240; (609) 652-4277.

**Joint Power Generation Conference and Exposition**, October 22-26, 1989, Dallas, Texas (ASME, IEEE, ASCE). Information: Marisa Scalice, ASME, 345 E. 46th St., New York, NY 10017; (212) 705-7793; fax 212-705-7674.

**1989 Joint International Waste Management Conference**, October 22-28, 1989, Kyoto, Japan. Information: Leslie Friedman, ASME Meetings Dept., 345 E. 47th St., New York, NY 10017; (212) 705-7795.

**MAPFRE International Meeting on Catastrophes and Society**, October 24-26, 1989, Madrid, Spain. Information: Ignacio G. Peso, Paseo de Recoletos, 25. 28004, Madrid, Spain; phone (1) 581 11 00; telex 48902 MAPFRE; fax 1-419 91 95.

**Society for Organic Petrology Annual Meeting**, October 29-31, 1989, Urbana, Illinois; and **Workshop on Fluorescence Microscopy**, November 1-2, 1989, Carbondale, Illinois. Information: Richard Harvey, Illinois State Geological Survey, 615 E. Peabody Dr., Champaign, IL 61820; (217) 244-0836.

**Annual Meeting of the Association of Ground Water Scientists and Engineers**, October 31-November 1, 1989,

(continued on p. 300)



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## MEETINGS (continued from p. 298)

Houston, Texas. Information: Susan Crites, National Program, AGWSE/NWWA, 6375 Riverside Dr., Dublin, OH 43017; (614) 761-1711; telex 241302.

**Society of Vertebrate Paleontology 49th Annual Meeting**, November 1-4, 1989, Austin, Texas. Information: SVP89, Vertebrate Paleontology Lab., Balcones Research Center, 10100 Burnet Road, Austin, TX 78758-4497; (512) 471-6087.

**Sociedad Española de Paleontología 5th Annual Meeting**, November 2-3, 1989, Valencia, Spain. Information: Ana Márquez-Aliaga, Depto. Geología, Facultad de Ciencias Biológicas, 46100 Burjassot, Valencia, Spain.

**World Gold '89**, November 5-8, 1989, Reno, Nevada. Information: Meetings Dept., World Gold '89, Society of Mining Engineers, P.O. Box 625002, Littleton, CO 80162; (303) 973-9550; telex 881988.

**Geological Society of America Annual Meeting**, November 6-9, 1989, St. Louis, Missouri. Information: Meetings Department, GSA, P.O. Box 9140, Boulder, CO 80301; (303) 447-2020.

**SIAM Conference on Geometric Design**, November 6-10, 1989, Tempe, Arizona. Information: SIAM Conference Coordinator, 3600 University City Science Center, Philadelphia, PA 19104-2688; (215) 382-9800; fax 215-386-7999.

**Supercomputing '89**, November 13-17, 1989, Reno, Nevada. Information: F. Ron Bailey, MS. 258-5, NASA Ames Research Center, Moffett Field, CA 94035; (415) 694-4500.

**1989 Eastern Oil Shale Symposium**, November 15-17, 1989, Lexington, Kentucky. Information: Geaunita H. Caylor, 201 Porter Building, Lexington, KY 40506-0205; (606) 257-2847.

**1989 Petroleum Hydrocarbons Conference**, November 15-17, 1989, Houston, Texas. Information: National Water Well Association, P.O. Box 182039, Dept. #017, Columbus, OH 43218; (614) 761-1171; telex 241302.

**\*Seminar on Compressional and Extensional Structural Styles in the Northern Basin and Range**, November 17-18, 1990, Reno, Nevada. Information: NPS-GSN Structural Seminar '89, Nevada Petroleum Society, P.O. Box 71408, Reno, NV 89570-1408.

**American Geophysical Union Fall Meeting**, December 4-8, San Francisco, California. Information: AGU Meetings, 2000 Florida Ave., N.W., Washington, DC 20009; (202) 462-6903.

### GSA Benefactor Dies

W Storrs Cole died on June 14, 1989, at the age of 86. He had been a Fellow of GSA for 58 years and was one of the Society's leading benefactors. He established the Gladys W. Cole Memorial Research Award Fund in 1980. This fund provides research support for investigation of the geomorphology of semiarid and arid terrains in the United States and Mexico.

Through his estate Storrs Cole has increased the principal of his wife's memorial fund, thus enabling larger grants to be made in future years. He also left a bequest to the Society to establish a similar fund, to be called the W Storrs Cole Memorial Research Award Fund. This will provide annual research support for a Fellow of the Society doing research in the area of micropaleontology, Cole's area of expertise. Memorial contributions to this fund should be sent to the GSA Foundation.

**American Society of Mechanical Engineers Winter Annual Meeting**, December 10-15, 1989, San Francisco, California. Information: ASME Meetings Dept., 345 E. 47th St., New York, NY 10017; (212) 705-7795.

**4th SIAM Conference on Parallel Processing for Scientific Computing**, December 11-13, 1989, Chicago, Illinois. Information: SIAM Conference Coordinator, 3600 University City Science Center, Philadelphia, PA 19104-2688; (215) 382-9800; fax 215-386-7999.

## 1990

**ACM/SIAM Symposium on Discrete Algorithms**, January 22-24, 1990, San Francisco, California. Information: SIAM Conference Coordinator, 3600 University City Science Center, Philadelphia, PA 19104-2688; (215) 382-9800; fax 215-386-7999.

**\*2nd International Brachiopod Congress**, February 5-9, 1990, Dunedin, New Zealand. Information: J. D. Campbell and D. E. Lee, 2nd International Brachiopod Congress, Geology Dept., University of Otago, P.O. Box 56, Dunedin, New Zealand; phone 64-024-791-100, ext. 7526; fax 64-024-741-607.

**Source Rocks, Generation, and Migration of Hydrocarbons and Other Fluids in the Southern Midcontinent—Symposium/Workshop**, February 6-7, 1990, Norman, Oklahoma. Information: Kenneth S. Johnson, Oklahoma Geological Survey, 100 E. Boyd, Room N-131, Norman, OK 73019; (405) 325-3031.

**Workshop on Tertiary Stratigraphy of Highly Extended Terranes, Southern Basin and Range Province**, February 9-12, 1990, Zzyzx Springs, California. Information: Rick Hazlett, Dept. of Geology, Pomona College, 609 N. College Ave., Claremont, CA 91711-6339; (714) 621-8000, ext. 2952.

**First PNG Petroleum Convention**, February 12-14, 1990, Port Moresby, Papua New Guinea. Information: Mick McWalter, First PNG Petroleum Convention, c/o PNG Chamber of Mines and Petroleum, P.O. Box 7059, Boroko, Port Moresby, Papua New Guinea; phone 675-25-2836; fax 675-21-7107; telex NE 23482.

**National Water Well Association/Association of Ground Water Scientists and Engineers Cluster of Conferences**, "Agricultural Impacts on Ground Water Quality," "Ground Water Geochemistry," "Ground Water Management and Wellhead Protection," and "Environmental Site Assessments: Case Studies and Strategies," February 20-22, 1990, Kansas City, Missouri. Information: NWWA/AGWSE, P.O. Box 182039, Dept. #017, Columbus, OH 43218; (614) 761-1711.

**Society of Mining Engineers Annual Meeting**, February 26-March 1, 1990, Salt Lake City, Utah. Information: Meetings Department, Society of Mining Engineers, P.O. Box 625002, Littleton, CO 80162; (303) 973-9550; fax 303-973-3845; telex 881988.

**\*GSA Northeastern Section**, March 4-7, 1990, Syracuse, New York. Information: Henry T. Mullins or Donald I. Siegel, Dept. of Geology, Heroy Geology Lab., Syracuse University, Syracuse, NY 13244; (315) 443-4706 or 2672. (Abstracts deadline: November 9, 1989.)

**\*GSA South-Central Section**, March 5-6, 1990, Stillwater, Oklahoma. Information: Scott M. Ritter, School of Geology, Oklahoma State University, 105 Noble Research Center, Stillwater, OK 74078-0451; (405) 744-6358. (Abstracts deadline: November 3, 1989.)

**SIAM Conference on Applied Probability in Science and**  
(continued on p. 301)

**MEETINGS** (continued from p. 300)

Engineering, March 5-7, 1990, New Orleans, Louisiana. Information: SIAM Conference Coordinator, 3600 University City Science Center, Philadelphia, PA 19104-2688; (215) 382-9800; fax 215-386-7999.

**AAPG Southwest Section Convention**, March 11-13, 1990, Wichita Falls, Texas. Information: Will Tucker, Technical Program Co-Chairman, 825 MBank Building, Wichita Falls, TX 76301.

**American Institute of Hydrology: Minimizing Risk to the Hydrologic Environment**, March 12-16, 1990, Las Vegas, Nevada. Information: AIH, 3416 University Ave. S.E., Minneapolis, MN 55414; (612) 379-1030.

**\*GSA Cordilleran Section**, March 14-16, 1990, Tucson, Arizona. Information: William R. Dickinson, Dept. of Geosciences, University of Arizona, Tucson, AZ 85721; (602) 621-4051. (Abstracts deadline: November 14, 1989.)

**\*Ninth Symposium on Coastal Sedimentology**, April 5-6, 1990, Tuscaloosa, Alabama. Information: Richard Hummell, Energy and Coastal Geology Division, P.O. Box 0, Tuscaloosa, AL 35486.

**\*GSA Southeastern Section**, April 5-6, Tuscaloosa, Alabama. Information: William A. Thomas or C. Michael Leshner, SEGSA, Dept. of Geology, University of Alabama, Tuscaloosa, AL 35487. (Abstracts deadline: December 15, 1989.)

**\*8th Petroleum Congress of Turkey**, April 16-20, 1990, Ankara, Turkey. Information: Aytac Eren, Mudafaa Cad. 22, 06420 Bakanliklar, Ankara, Turkey; phone 90-4-117-91-60/288-285; telex 42-426 TPAO-TR.

**Symposium on Geology and Ore Deposits of the Great Basin**, April 1-5, 1990, Reno, Nevada. Information: Geological Society of Nevada, P.O. Box 12021, Reno, NV 89510.

**International Conference on Mechanics of Jointed and Faulted Rock**, April 18-20, 1990, Vienna University of Technology, Vienna, Austria. Information: H. P. Rossmann, Wiedner Hauptstrasse 8-10/325, A-1040 Wien, Austria; phone 0222-588-01.

**Orogenesis in Action: Tectonics and Processes in the West Equatorial Pacific Margin**, April 18-20, 1990, London, England. Information: Robert Hall, Department of Geological Sciences, University College, Gower St., London, WC1E 6BT, England.

**European Geophysical Society XV General Assembly**, April 23-27, 1990, Copenhagen, Denmark. Information: EGS Office, Postfach 49, D-3411 Katlenburg-Lindau, Federal Republic of Germany; phone 49-5556-1140; fax 49-5556-4709; telex 965564 zil d. (Abstracts deadline: January 31, 1990.)

**\*GSA North-Central Section**, April 26-27, 1990, Macomb, Illinois. Information: John Klasner, Dept. of Geology, Western Illinois University, Macomb, IL 61455. (Abstracts deadline: January 5, 1990.)

**SIAM Conference on Applications of Dynamical Systems**, May 7-10, 1990, Orlando, Florida. Information: SIAM Conference Coordinator, 3600 University City Science Center, Philadelphia, PA 19104-2688; (215) 382-9800; fax 215-386-7999. (Abstracts deadline: November 28, 1989.)

**West Texas Geological Society and Permian Basin Section of SEPM Field Seminar to the Marathon Area, Brewster County, Texas**, May 10-12, 1990. Information: WTGS/PBS-SEPM, P.O. Box 1595, Midland, TX 79702; (915) 683-1573.

**Geological Association of Canada-Mineralogical Association of Canada Joint Annual Meeting**, May 16-18, 1990, Vancouver,

British Columbia. Information: R. I. Thompson, c/o GAC-MAC '90 Secretariat, 801 - 750 Jervis St., Vancouver, B.C. V6E 2A9, Canada; (604) 681-5226; fax 604-681-2503; telex 04-352848 VCR.

**\*GSA Rocky Mountain Section**, May 21-23, 1990, Jackson, Wyoming. Information: Ronald W. Marrs, Dept. of Geology & Geophysics, University of Wyoming, Laramie, WY 82071; (307) 766-3386. (Abstracts deadline: January 31, 1990.)

**1st Joint Meeting of the Canadian Quaternary Association and American Quaternary Association**, June 4-6, 1990, Waterloo, Ontario, Canada. Information: Alan V. Morgan, Quaternary Sciences Institute, Dept. of Earth Sciences, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada.

**USA/USSR Joint Conference on Global Environmental Hydrology and Hydrogeology**, Leningrad, USSR, June 18-21, 1990. Information: Helen Klose, American Institute of Hydrology, 3416 University Ave., S.E., Minneapolis, MN 55414; (612) 379-1030.

**4th International Conference on Geoscience Information (GeolInfo IV)**, June 24-29, 1990, Ottawa, Canada. Information: David Reade, Conference Secretary-Treasurer, GEOSCAN Centre, Geological Survey of Canada, 601 Booth St., Ottawa, Ontario K1A 0E8, Canada; (613) 992-9550; fax 613-996-9990; telex 0533117 EMAR-OTT.

**9th International Conference on Basement Tectonics**, July 2-6, 1990, Canberra, Australia. Information: M. J. Rickard, ANU, GPO Box 4, Canberra ACT 2601; phone 062-492055.

**1990 Watershed Management Symposium**, July 9-11, 1990, Durango, Colorado. Information: Robert Riggins, USACERL, P.O. Box 4005, Champaign, IL 61824-4005.

**\*International Association on the Genesis of Ore Deposits 8th Symposium**, August 12-18, 1990, Ottawa, Ontario. Information: L. M. Cumming, 8th IAGOD Symposium, Geological Survey of Canada, 601 Booth St., Ottawa, Ontario K1A 0E8, Canada. (Abstracts deadline: January 1, 1990.)

**International Conference on Water Resources in Mountainous Regions**, August 27-September 1, 1990, Lausanne, Switzerland. Information: Aurèle Parriaux, Laboratory of Geology EPFL, 1015 Lausanne, Switzerland; phone 021-47-23-55; telex 454478 EPFV CH.

**AEG General Meeting and 14th International Geochemical Exploration Symposium**, August 29-31, 1990, Prague, Czechoslovakia. Information: Frantisek Mrna, Geological Survey of Prague, 118 21 Praha 1, Malostranske nam. 19, Czechoslovakia.

**Geological Association of Canada Nuna Research Conference**, Late Proterozoic Rifting, Glaciation and Eustasy, as Illustrated by the Windermere Supergroup, September 8-14, 1990, Windermere and Valemount, British Columbia. Information: J. D. Aitken, Geological Survey of Canada, 3303 33rd St. NW, Calgary, Alberta T2L 2A7, Canada.

**3rd International Archaean Symposium**, September 17-21, 1990, Perth, Western Australia. Information: Susan E. Ho, P.O. Box 435, Nedlands, Western Australia 6009, Australia. (Abstracts deadline: December 31, 1989.)

**7th International Conference on Geochronology, Cosmochronology and Isotope Geology**, September 24-29, 1990, Canberra, Australia. Information: Organizing Committee, ICOG 7, Research School of Earth Sciences, Australian National University,

(continued on p. 302)

## MEETINGS (continued from p. 301)

G.P.O. Box 4, Canberra, A.C.T. 2601, Australia; phone 062-49-3406; fax 062-47-4639; telex 62693.

**\*International Earth Sciences Congress on Aegean Regions**, October 1-7, 1990, Izmir, Turkey. Information: IESCA-1990, D.E. University Dept. of Geology, P.K.74 (E.U.-PTT) Bornova, Izmir, Turkey; phone 51-182919-180680-181088; telex 52407 dbte tr; fax 51-220978.

**\*5th Australasian Remote Sensing Conference**, October 8-12, 1990, Perth, Western Australia. Information: Golden West Conventions, P.O. Box 411, West Perth, W.A. 6005, Australia; phone 619-3227922; telex AA 95380; fax 619-4814029.

**Conference on Geodynamics of the Arabian Plate**, October 20-25, 1990. Information: Waris E.K. Warsi, Dept. of Geology, University of Kuwait, P.O. Box 5969, Safat 13060, Kuwait; or Muawia Barazangi, INSTOC, Snee Hall, Cornell University, Ithaca, NY 14853-1504. (Abstracts deadline: April 1, 1990.)

## Penrose Conferences 1990

**Correlation of Nonmarine Cretaceous Strata**, May 9-13, 1990, Breckenridge, Colorado. Information: Niall J. Mateer, Nonmarine Cretaceous Correlations, 1467 N. 17th, Laramie, WY 82070; (307) 721-4946; or Norman O. Frederiksen, USGS, 970 National Center, Reston, VA 22092; (703) 648-5277.

**\*New Methods for Dating of Geomorphic Surfaces**, late July-early August 1990, Mammoth Lakes, California, area. Information: Fred M. Phillips, Dept. of Geoscience, New Mexico Tech, Socorro, NM 87801; (505) 835-5540 (direct), (505) 835-5634 (dept.).

**Large Lakes and Their Stratigraphic Record**, September 9-13, 1990, Lake Tahoe, California. Information: Andrew S. Cohen, Dept. of Geosciences, University of Arizona, Tucson, AZ 85721; (602) 621-4691 (direct), (602) 621-6024 (dept.).



**The Eastern Pacific Ocean and Hawaii**  
edited by E. L. Winterer, D. M. Hussong, and R. W. Decker, 1989

This new synthesis includes a section on plate kinematics, documenting the basis for a new interpretation of the magnetic anomaly patterns. It also includes: six chapters on various aspects of tectonics, petrologic characteristics, and hydrothermal processes of active ridges from the Galapagos Rift to the Juan de Fuca Ridge; a section on mid-plate volcanism, including the Hawaii-Emperor chain; five chapters on various aspects of northeastern Pacific sedimentary regimes; and nine chapters on the geology of the Pacific continental margin from the Aleutians to Guatemala, seen from the perspective of marine geology. Three separate oversize plates illustrate

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**Late Cenozoic Paleohydrogeology of the Western San Joaquin Valley, California; Relation to Structural Movements in the Central Coast Ranges**  
by G. H. Davis and T. B. Copten, 1989

This paper applies isotopic chemistry, conventional chemistry, meteorology, and subsurface stratigraphy to develop a model of mid-Pleistocene paleometeorology of central California consistent with the chemistry of the confined waters and the hydrogeology of the area. The model has profound implications with respect to the isotopic character and amounts of precipitation during the early and mid-Pleistocene over the Sierra Nevada and the Great Basin to the east.

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**Paleobiology of the Dinosaurs**  
edited by J. O. Farlow, 1989

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This list of 50-year Fellows includes all current members who joined the Society in 1940.

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**INSIDE \_ \_ \_**

Southeastern Section 1990 Meeting .....	p. 276
North-Central Section 1990 Meeting .....	p. 277
Rocky Mountain Section 1990 Meeting .....	p. 280
Call for Nominations	
Young Scientist Award .....	p. 282
Penrose and Day Medals, Honorary Fellows .....	p. 289



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