



GSA NEWS & INFORMATION

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1989 Survey Helps GSA Plan for the '90s

Each of the 4986 attendees at the 1989 GSA Annual Meeting in St. Louis received a questionnaire. Of these, 915 were completed, giving us an excellent 18.4% response rate. A similar questionnaire for nonattendees appeared in the December issue of *GSA News & Information*. We received 838 responses, which we estimate as a 12.0% response rate.

Those who responded to the questionnaire were eligible for prize drawings. Congratulations to the many winners whose names were announced in the June issue. The main winner, however, is the GSA membership because the answers we received to our recent survey will be the basis on which we make decisions for the years ahead.

Highlights

- Both groups identified Montreal, New Orleans, and Toronto as the most popular options for the 1995 Annual Meeting site.
- The decision to periodically repeat a meeting site met with approval from 60.4% of the attendees and 68.5% of the nonattendees.
- Denver was overwhelmingly approved by over 70% of each group as acceptable as the repeat site.
- Over 30% of each group was interested in having volunteered presentations occur on Sunday. Neither group showed interest in a five-day meeting.
- Theme sessions are preferred by 48.9% of the attendees and 53.2% of the nonattendee group.
- The change in the abstracts deadline was enthusiastically received by 72.4% of the attendees and 61.6% of the nonattendees.

1989 Annual Meeting Questionnaire—Responses Received

Registrant Profile

	Attendees		Nonattendees			Attendees		Nonattendees	
1. Registration status					3. Primary daily responsibilities (all that apply)				
1. Professional	689	75.30%	747	89.14%	1. Professor	464	40.49%	365	29.92%
2. Student Associate	201	21.97%	82	9.79%	2. Department Chair	45	3.93%	23	1.89%
3. Guest	22	2.40%	--	--	3. Dean, VP, Provost	13	1.13%	6	0.49%
4. No answer	3	0.33%	9	1.07%	4. Student	188	16.40%	86	7.05%
					5. Owner/Partner/Officer	29	2.53%	52	4.26%
GSA Member					6. Manager	29	2.53%	57	4.67%
1. Yes	527	57.60%	--	--	7. Chief/Sr. Geologist	49	4.28%	122	10.00%
2. No	164	17.92%	--	--	8. Geologist	173	15.10%	316	25.90%
3. No answer	224	24.48%	--	--	9. Geophysicist	9	0.79%	35	2.87%
					10. Other	112	9.77%	152	12.46%
2. Age bracket					11. No answer	35	3.05%	6	0.49%
1. Under 25	30	3.28%	10	1.19%	4. Location of primary address (GSA Section)				
2. 25-35	301	32.90%	232	27.68%	1. Cordilleran	136	14.86%	255	30.43%
3. 36-45	256	27.98%	253	30.19%	2. Rocky Mountain	92	10.05%	178	21.24%
4. 46-60	242	26.45%	226	26.97%	3. North-Central	237	25.90%	70	8.35%
5. Over 60	85	9.29%	115	13.72%	4. South-Central	94	10.27%	90	10.74%
6. No answer	1	0.11%	2	0.24%	5. Northeastern	181	19.78%	132	15.75%
					6. Southeastern	159	17.38%	106	12.65%
					7. Other	9	0.98%	2	0.24%
					8. No answer	7	0.77%	5	0.60%

1989 Survey continued on p. 174

	Attendees		Nonattendees		Attendees		Nonattendees	
5. How important is the meeting site as a factor in your decision to attend the Annual Meeting?								
1. Very	218	23.83%	354	42.24%				
2. Little	151	16.50%	366	43.68%				
3. Somewhat	459	50.16%	94	11.22%				
4. Not a factor	82	8.96%	23	2.74%				
5. No answer	5	0.55%	1	0.12%				
6. GSA has chosen the following future annual meeting sites. Please check all the ones you are likely to attend (all that apply)								
1. 1990 Dallas	361	19.86%	269	17.00%				
2. 1991 San Diego	336	18.48%	430	27.18%				
3. 1992 Cincinnati	239	13.15%	123	7.77%				
4. 1993 Boston	287	15.79%	254	16.06%				
5. 1994 Seattle	272	14.96%	364	23.01%				
6. All of the above	291	16.01%	54	3.4%				
7. None of the above	23	1.27%	72	4.5%				
8. No answer	9	0.50%	16	1.01%				
7. GSA is considering sites for 1995. Please identify the host city in which you would most likely attend the Annual Meeting.								
1. Atlanta	101	11.04%	103	12.29%				
2. Montreal	249	27.21%	167	19.93%				
3. New Orleans	196	21.42%	161	19.21%				
4. Orlando	76	8.31%	75	8.95%				
5. Toronto	184	20.11%	117	13.96%				
6. None of the above	64	6.99%	207	24.70%				
7. No answer	45	4.92%	8	0.95%				
8. GSA is considering holding meetings in one city on a frequent, regular cycle, with alternative cities for the years in between. Which cycle do you prefer?								
1. Every other year	141	16.19%	148	18.50%				
2. Every third year	248	28.47%	267	33.38%				
3. Every fourth year	134	15.38%	133	16.63%				
4. Do not repeat	348	39.95%	252	31.50%				
5. No answer	44	5.05%	38	4.75%				
9. GSA is considering naming Denver as the city to be repeated on a regular cycle. Do you agree or disagree with this idea?								
1. Agree	669	73.11%	650	77.57%				
2. Disagree	201	21.97%	161	19.21%				
3. No answer	45	4.92%	27	3.22%				
10. Currently the official meeting days are Monday through Thursday. In order that registrants may take better advantage of Saturday discounted airfares, GSA is considering starting the Annual Meeting earlier. Assuming a four-day meeting, do you favor starting the meeting with volunteered papers beginning on (check one)								
1. Saturday	161	17.60%	130	15.51%				
2. Sunday	355	38.80%	278	33.17%				
3. Neither	13	1.42%	397	47.37%				
4. Keep Monday	357	39.02%	1	0.12%				
5. No answer	29	3.17%	32	3.82%				
11. Regardless of the starting day, are you in favor of volunteered papers being presented for a five-day period?								
1. Yes	229	25.03%	279	33.29%				
2. No	644	70.38%	527	62.9%				
3. No answer	42	4.59%	32	3.82%				
12. Do you prefer theme sessions (volunteered papers organized by scientific topic) to discipline sessions (volunteered papers organized by scientific classification)?								
1. Yes	448	48.96%	446	53.22%				
2. No	86	9.40%	44	5.25%				
3. No preference	346	37.81%	320	38.19%				
4. No answer	35	3.83%	28	3.34%				
13. This year the abstracts deadline was on July 19 (five weeks closer to the start of the meeting than any previous year). Do you like this change?								
1. Yes	663	72.46%	517	61.69%				
2. No	44	4.81%	37	4.42%				
3. Don't care	191	20.87%	279	33.29%				
4. No answer	17	1.86%	5	0.60%				
14. The July abstracts deadline meant that speakers were not selected until August 19. As a result, speaker notification cards became available the third week in August, and the 1989 program schedule first appeared in the September issue of <i>GSA News & Information</i> . Did the later release of information affect your decision to attend the meeting or your ability to obtain travel funds?								
1. Yes	77	8.42%	61	7.28%				
2. No	813	88.85%	746	89.02%				
3. No answer	25	2.73%	31	3.70%				

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	<u>Attendees</u>		<u>Nonattendees</u>			<u>Attendees</u>		<u>Nonattendees</u>	
15. What is your primary use of the abstracts volume? (check one)					18. Considering your overall use of the abstracts volume, do you prefer having it organized by (check one)				
1. On-site	308	33.66%	401	47.85%	1. Sessions	386	42.19%	316	37.71%
2. Postmeeting	429	46.89%	338	40.33%	2. Alphabetically	272	29.73%	293	34.96%
3. Other	137	14.97%	76	9.07%	3. Either	216	23.61%	208	24.82%
4. No answer	41	4.48%	23	2.74%	4. No answer	41	4.48%	21	2.51%
16. Over what period of time are you most likely to use the abstracts volume for research purposes? (check one)					19. How frequently do you attend GSA section meetings?				
1. 1 month to 1 year	298	32.57%	305	36.40%	1. 1989 was first year	88	9.62%	9	1.07%
2. 1 year to 4 years	403	44.04%	344	41.05%	2. Every year	278	30.38%	93	11.10%
3. Over 4 years	162	17.70%	162	19.33%	3. Every other year	200	21.86%	206	24.58%
4. No answer	52	5.68%	27	3.22%	4. Every 3 to 5 years	175	19.13%	326	38.90%
17. How often do you use the abstracts volume as an independent reference work citable in your publication?					5. Rarely or never	151	16.50%	195	23.27%
1. Very frequently	29	3.17%	37	4.42%	6. No answer	23	2.51%	9	1.07%
2. Frequently	331	36.17%	251	29.95%	20. If you attend a section meeting, how likely is it that you will attend a GSA annual meeting in the same year?				
3. Rarely	422	46.12%	443	52.86%	1. Very likely	229	25.03%	52	6.21%
4. Never	85	9.29%	83	9.90%	2. Likely	337	36.83%	223	26.61%
5. No answer	48	5.25%	24	2.86%	3. Unlikely	212	23.17%	463	55.25%
					4. Never	16	1.75%	27	3.22%
					5. No answer	121	13.22%	73	8.71%

Interested in the Remote Sensing Employment Market?

GSA Joins Forces with ERIM

GSA is a sponsor of the Environmental Research Institute of Michigan's (ERIM) 8th Thematic Conference on Geologic Remote Sensing: Exploration, Engineering, and Environment, scheduled for Denver April 27 to May 3, 1991. As part of this affiliation, the 8th Thematic Conference is using GSA's Employment Service as part of its program.

Looking for a new job? Register with GSA's Employment Service and combine possibilities of interviewing at the GSA annual meeting and the ERIM 8th Thematic Conference. Contact GSA Membership Services for more details.

Employers, looking for good people? The GSA Employment Service will be enhanced by potential employees participating in GSA annual meetings and the ERIM 8th Thematic Conference. Contact the Membership Services Department at GSA for more details.

How to use this service

You can now interview at the GSA annual meeting AND the ERIM 8th Thematic Conference. When filling out the GSA

Employment Service form, make sure that you list REMOTE SENSING (code 620) as one of your discipline interests. This is how we will do our special 8th Thematic Conference matchup! Also remember that your GSA Employment Service registration is good for one year. So signing up **from now until early August** lets you get matchups at the time of the 1990 GSA Annual Meeting and the ERIM 8th Thematic Conference. Signing up **between November and March 1** lets you get matchups at the time of the 8th Thematic Conference and the 1991 GSA Annual Meeting. Act now to take advantage of this offer!

Besides the opportunity to interview at these meetings, GSA will provide matches for prospective employees at any time during their registration upon request by prospective employers.

Meet leaders in geologic remote sensing at the 8th Thematic Conference. For further information on the ERIM 8th Thematic Conference, contact Robert Rogers, Environmental Research Institute of Michigan, P.O. Box 8618, Ann Arbor, MI 48107-8618; (313) 994-1200, ext. 3382. Abstracts are due soon, so request a call for papers and meeting announcement.



DNAG NEWS

by Allison R. (Pete) Palmer

DNAG Progress

There's good news on a number of fronts. The DNAG volume *The Arctic Region* went to the printer on May 4 and should be printed and available by the end of August. The final pages for *Surface Water Hydrology* are expected any moment (early May); this book should be at the printer by the time you receive this. The last chapter for the Caribbean volume is being typeset, and as soon as galley proofs are seen and checked, the final pages can be prepared. This volume should be off to the printer sometime in June. It will be the twentieth volume completed; ten more are still in the works and must be fully in our hands and in production before the end of the year when the DNAG Project will be terminated, by decree of the GSA Executive Committee and the GSA Foundation. If you have laggards holding up your volume, let them know they have very little time left to get their pygidia in motion.

The first 15 chapters for the DNAG volume *The Cordilleran Orogen: Alaska* have been received from the USGS editors, so this book has now made a major step forward. One more chapter has been completed for the Centennial Special Volume on engineering geology; there are only two to go to complete this book. The chapter on water resources by Jack Sharp and colleagues for the Gulf of Mexico volume has been received in final form. Nine more translations of chapters for *Economic Geology: Mexico* have been received; only five more remain to complete the translation of this book.

More kudos

Now that the last chapter of the Caribbean volume is into production, it's time to thank the many patient contributors to that volume. This is another of the volumes that required substantial international cooperation; Jim Case and Gabriel Dengo did a fine job of shepherding all of the pieces through to completion. Among the 48 authors are representa-

tives from Colombia, Costa Rica, France, Guatemala, Jamaica, Mexico, The Netherlands, Puerto Rico, Trinidad and Tobago, the U.K., and Venezuela. These authors bring the total number of participants in completed DNAG volumes to 1534.

- | | |
|------------------|------------------|
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PEOPLE

Member **Christopher I. Chalokwu** of the geology department at Auburn University has received a Fulbright Grant to lecture at the University of Ghana in Legon and to conduct petrologic research on the Freetown Layered Complex in Sierra Leone.

Fellow **W. Barclay Kamb** has been named the first Barbara and Stanley R. Rawn, Jr. Professor of Geology and Geophysics at the California Institute of Technology.

Fellow **Donald D. Runnells** has been elected Chair of the Department of Geological Sciences of the University of Colorado, Boulder. Runnells was also recently elected to the Water Science and Technology Board of the National Research Council/National Academy of Science.

In Memoriam

Howard A. Coombs
Seattle, Washington
March 12, 1990

Adolf Pabst
Berkeley, California
April 16, 1990

John S. Vhay
Spokane, Washington
March 22, 1990

GSA Bulletin and Geology Contents July 1990



The Geological Society of America

BULLETIN

Volume 102, Number 7, July 1990

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John C. Frye

Environmental Geology Award Established

In cooperation with the American Association of State Geologists, GSA will make an annual award for the best environmental geology paper published each year either by GSA or by one of the state geological surveys. The John C. Frye Environmental Geology Award will be a cash prize from the endowment income of the Foundation's John C. Frye Memorial Fund. Selection of the recipient each year will be made by the Association of State Geologists in coordination with GSA.

The choice of this particular type of award and the selecting group are particularly fitting in view of John Frye's career. After receiving a Ph.D. degree in 1938 from the University of Iowa, John worked with the Ground Water Division of the U.S. Geological Survey until 1942. At that time he joined the Kansas State Geological Survey where he spent the next twelve years, the last nine of which were as Director. In 1954 he was appointed Chief of the Illinois State Geological Survey, a position he held for the next twenty years. Upon retirement in 1974 he began a second career as Executive Director of GSA. He died shortly after his retirement from GSA in 1982.

One of John Frye's major interests was environmental geology, a term that had its origin at the Illinois Survey during his tenure. Environmental geology provided a means of focusing public and professional interest on the application of geology to society. He was one of the first to bring attention to the interrelationship of man and the environment, as viewed through the science of geology. This sub-discipline of geology now enjoys wide acceptance as the public becomes more aware of and shows more concern for its natural surroundings. Today, most geological surveys, both in this country and elsewhere, place strong emphasis on this subject.

At the 75th anniversary of the Illinois State Geological Survey in 1980, John Frye said, "In the next few decades, geologic data and advisory input will be needed more urgently than has ever been the

case.... When we view an exponentially increasing population set in apposition to finite mineral and land resources, the urgency of the situation becomes apparent."

John Frye extended his environmental activities and interests well beyond the boundaries of his state survey. He served on many national committees dealing with radioactive waste management, environmental sciences, and problems of the environment.

The John C. Frye Environmental Geology Award is a most appropriate tribute to a state geologist who pioneered this now extremely important part of geoscience. Friends of John Frye and GSA members interested in supporting the stimulation and recognition of excellent work in environmental geology are encouraged to send contributions to the GSA Foundation designated for the John C. Frye Memorial Fund.

Donors to the Foundation March and April 1990

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of Donald D. Briggs)

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North-Central Section symposium

On April 27, the North-Central Section meeting at Macomb, Illinois, sponsored a special symposium on "Earth Science Education in the 1990's" organized by Larry Wiedman of Monmouth College, Illinois. The symposium grew out of activities of the North-Central Section Education Committee chaired by John Klasner of Western Illinois University. Initially, a modest audience of perhaps 30 teachers was expected, but the symposium was publicized widely in the region and ended up attracting 250 participants! The majority of these were elementary, middle, and high school teachers from Wisconsin, Illinois, and Iowa. This powerful response suggests that such programs might be profitably developed by the other regional sections at future meetings. Section meetings are prime opportunities to reach the grass roots of the public education structure and develop contacts that will lead to improving the quality and reforming the content of public education in geosciences. Congratulations to Larry and John for starting what may be a very productive trend for GSA education-related activities.

Some thoughts on partnering

Earlier this year I was asked to speak to representatives of federal agencies regarding what "the Fed" can do to assist in the upgrading of science education in the public schools. One thought came to mind that could apply to businesses as well as schools. All major employment projections for the next couple of decades stress

the need to attract more black and Hispanic students to careers in science to fill the widening gap between supply and demand for qualified scientists at all career levels. Many federal agencies and large geoscience-oriented businesses (engineering and environmental consulting firms, petroleum and mining industries, etc.) are located in large cities. What if each organization adopted a school district with a strong minority population and developed a partnering structure, in cooperation with school officials, that would provide support and encouragement in science (not just geoscience) related activities for talented minority students from about third grade through high school. Continuing mentor relationships, support of science clubs, assistance to teachers with public-domain scientific concepts, contacts for both human and material resources, and clearly identified availability and concern expressed by an organization can be good for science and good PR for the profession.

Free brochures on geoscience careers available from GSA

Two outstanding and colorful brochures outlining opportunities for careers in the geosciences have recently become available, one produced jointly by GSA, AGI, and AAPG, and the other by the Colorado School of Mines. You or a teacher friend can help spread the word about opportunities to make a difference by selecting careers in the geosciences. Simply contact GSA by mail or phone for free copies in any quantity. Get involved.

Conference on High-Level Radioactive Waste Management Scheduled for Las Vegas, Nevada

The 1991 International High-Level Radioactive Waste Management Conference will be held April 28–May 3, 1991, in Las Vegas, Nevada. The conference will be a forum for presentation of scientific and technical information related to public safety in the management and disposal of high-level radioactive wastes. The Geological Society of America is one of the co-sponsors of the 1991 conference.

Extended summaries (1500-2000 words) of proposed papers for the meeting are due *September 6, 1990*. For further information, contact Lloyd W. McClure, WINCO/USDOE, DP-323, Room GA-045, 1000 Independence Ave., SW, Washington, DC 20585; (202) 586-6122; fax 202-586-1348.

NEW GSA MEMBERS

The following 977 Members have been elected to Membership by Council action during the period from March 1989, through February 1990 (*indicates transfer from Student Associate to Member).

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| * Jon E. Olson | * James F. Renner | * Steven C. Semken | Wendolyn R. Sumner | Wayne T. Walker |
| Jason T. Olsson | * Rebecca Renner | C. David Senor | Robert Scott Sumsion | * Maud M. Walsh |
| John A. Opheim | Robert E. Rentschler | Keith C. Seramur | Frederick M. Surowiec | * Ping Wang |
| Taiye B. Orimolade | Michael W. Ressel | John E. Sevee | Edward H. | Lauck W. Ward |
| John D. O'Rourke | Timothy J. Reston | Carole Sforza | Sussenguth, III | Robert H. Washburn |
| R. Gustavo Ortega | John J.G. Reymer | Warren D. Sharp | Keiko Susuki-Kamata | Paul A. Washington |
| Thomas J. Owens | * Suzanne Reynolds | * Herbert R. Shaw | Roger J. Suthren | Douglas R. Waterman |
| | | Russell D. Shaw | Hugh A. Swearman | <i>continued on p. 184</i> |

New Members *continued from p. 183*

Willard L. Watney
Robert C. Watson
*Nicholas A. Way
*Suzanne Y. Wdowiak
Thomas R. Weaver
Fred Webb, Jr.
Gregory E. Webb
James D. Webster
*Thomas J. Weiland
John C. Weiss
Melissa L. Wenrich

* Al Werner
Roger H. Werner
John G. Westerfield
Gregory R. Wheeler
John R. Wheeler
* James D. L. White
* Lisa D. White
Richard J. White
Stanley F. White
Terry L. White
Peter B. Whiteway

Nancy M. Whiting
* Nasraldean A.
Widataalla
Douglas A. Wiens
R. Jude Wilber
Dale G. Wilder
* Colin F. Williams
* David S. Williams
Ron E. Williams
Brad Williford
* Kevin M. Wilson
Gary D. Wine

Brooke C. Wineteer
David J. Wingerd
* R. Dwight Wingo
* Kay Wischkaemper
James R. Wood
Deborah W. Woodcock
* Alan B. Woodland
Robert E. Woody
* Beth M. Wrege
Alan Wright
James E. Wright
* Andrew H. Wulff

* Dennis R. Wuthrich
Douglas B. Yager
S. Camille Yarbrough
Michael A. Yarling
Dann K. Yobbi
* Eberhard Zangger
Neil H. Zickefoose
* Tracey L. Ziegler
Nancy R. Zolidis

NEW GSA STUDENT ASSOCIATES

The following 956 Student Associates became affiliated with the Society during the period from March 1989, through February 1990

Lon D. Abbott
Mark B. Abbott
Robert H. Abrams
Anne F. Ackerman
Donald C. Adams
Laurel J. Adams
Rasool Aftabi
Abinash Agrawal
Jose M. Aguirre
Martin R. Aguirre
Mohamed K. Ahmed
William T. Akers
David W. Alberg
Linda S. Albertzart
Alton L. Albin
Lynn B. Albright
Mahesh P. Albuquerque
Dennis J. Alexander
Jim S. Alexopoulos
Carlos A. Alfonso
Stephen T. Algar
Michael P. Algero
Saif A. Alhakimi
Bryan K. Allen
Cristina M. Allen
Hamad A. Alsaad
Shiv K. Ambardar
Clifford P. Ambers
Barbara A. amEnde
David Anderson
Steven W. Anderson
Suzanne P. Anderson
William P. Anderson, Jr.
William E. Andrews
Kevin M. Ansdell
Manuel De J.
Aragon-Arreola
Carlo A. Arquilla
Greg B. Arehart
John C. Armentrout
Allan E. Armitage
Antonio M. Arribas
Joaquin Arroyo-Cabrales
Rolf S. Arvidson
Jahangir Asadi

Daniel R. R. Askren
Elizabeth D. Atkins
Ronald E. Augustin
Victoria F. Avery
Jennifer C. Aydelotte
Clifford A. Baines III
Dean M. Ballotti
Phillip J. Bandy
Douglas E. Barden
Linda J. Barnes
Matt Barnett
Deborah L. Barr
James Lyle
Leonard Barton
Carvel Bass
Todd F. Battey
Denise A. Battles
William K. Baty
Rita M. Bauer
Jennifer L. Baysinger
David L. Beadle
Harriet G. Beale
Stanley T. Beames
Brian L. Beard
Victoria M. Becker
Michael G. Beikirch
Paul Belasky
Richard H. Bell
Richard A. Bennett
J. Bret Bennington
Bret L. Berglund
Jeanette Bergman
Gladys Bernal
Barrie L. Bernstein
James M. Berry
Andis D. Berzins
Kailash P. Bhatt
Arshad M. Bhutta
Roberto E. Biaggi
Amy L. Biondich
Bruce P. Birge, Jr.
Kaylynn M. Bishop
Bren E. Blackburn
Terri L. Bladow
Ruth E. Blake

Scott M. Blanchard
Daniel F. Blankenau
Allan R. Blaske
Judson M. Blazek
Wouter Bleeker
Veronica L. Blette
William L. Blewett
Daniel R. Block
Marianne E. Blom
Sabine C. Boardman
Robert T. Bobo
Barbara M. Bock
Brian E. Bodenbender
Adam Boers
Stefan S. Boettcher
Yvette L. Bordeaux
Robert H. Borowski
William B. Boston
Bret D. Boundy
Theresa M. Boundy
Scott A. Bowman
Keven C. Boyd
Elizabeth W. Boyer
James J. Brady
Richard T. Brandley
Michael L. Bratrud
Hans-Martin Braun
Hayden L. Bridwell
Douglas R. Britton
Todd H. Brobst
Cheryl L. Brown
Justin P. Brown
Stephen C. Brown
Wanda L. Brownlee
Thomas C. Brudos
Craig B. Bruno
Frank R. Brunton
Stephen J. Brunton
Joel B. Bruxvoort
Michael A. Bruzzesi
Peter G. Buchanan
Andrew R. Buckland
Thomas P. Buerkert
Bruce E. Bultman
Armando Burciaga

Robert M. Burger
Scott A. Burner
Ann Burns
Jonathan L. Burr
Emelia A. Burt
William J. Bussard
David R. Byers
Barbara J. Byron
Sherry L. Cady
Kenneth G. Caldeira
Arthur R. Calderwood
Marta L. Calvache
Grisell Camacho
Desiree M. Campbell
Tuqiang Cao
Duane A. Carey
Christine Carlson
Christopher P. Carlson
Victoria L.
Carlson-Fosc
Antonio M. Carrillo
Camela A. Carstarphen
Paul J. Catanzariti
Gang Chai
Bill Chaisson
Mark Chandler
Nathan T. Charlton
David C. Chase
Leslie L. Chau
Zi-Qiang Chen
Tracey L. Chester
Elizabeth W. Chinn
Jung-Chan Choi
Beth Anne Christensen
Douglas H. Clark
Tonya D. Clayton
Drew M. Clemens
Steve A. Clementi, Jr.
Brooke P. Clements
Peter D. Clift
Donald L. Coble
Matthew J. Cochran
Becky J. Coel
Matthew W. Colbert
Ronald B. Cole

James W. Collister
Herminio Concepcion, Jr.
Terrence D. Conlon
Marc Constantin
Timothy W. Cook
Craig E. Cooper
Jon W. Cooper
Edward J. Corbett
Clifton Cornelison
Kevin Cornwell
Samuel G. Coronado
Jeffrey T. Cottingham
Mathew A. Cotton
Angela J. Coulton
Brent A. Couzens
Patience A. Cowie
B. Lea Cox
David A. Coyle
Dale Crissman
David A. Crown
Ronald A. Crowson
Daniel T. Cullinan
William A. Curry
Sarah F. Curtis
Julie M. Curtiss
John J. Cutright
Yongshan Dai
Timothy S. Dalbey
Michael W. Dane
Eric J. Daniels
Brett V. Danko
Rick L. Darr
Terri-Lynn Day
Jeanne L. De Lanois
Jennette C. DeLeeuw
Gian L. D'Elia
Kathy L. De Luca
Antonio Dematteis
Anna M. Dennis
Marilyn L. DeRosa
Mark W. de Wit
David W. Dilkes
Jeremy S. Dillon
Samuel R. Diner

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New Student Associates *continued from p. 184*

Steve W. Dobbs	Katie C. Forman	Judy M. Harmon	Linda C. Ivany	George Kougias
Carl B. Dotson	Zorka A. Foster	Peter J. Harries	R. Bradford Jackson	Patricia A. Kowalik
Carl N. Drummond	Bruce W. Fouke	Therese R.	Gerhard K. W. Jacob	John H. Kramer
Peter A. Drzewiecki	Kendall B. Fountain	Harris-O'Connell	Pamela D. Jacobs	John M. Kruger
Christopher P. R. Dsa	Troy D. Fowler	Charles P. Hart	Peter M. Jacobs	Keith A. Krugh
Yijun Du	Miranda S. Fram	Forrest E. Harvey	Thomas S. James	Jeffrey S. Krukonis
Yubuo Du	Ludwig J. Frank II	James L. Harvey	Taekeun Jang	Debra K. Krumm
Matthew Duke	Tracy D. Frank	Deborah R. Hassler	Gary E. Jaroslow	Jennifer B. Kupperman
Diana G. Duncan	Kathy N. Fraracci	Kendall L. Hauer	David L. Jeffery	Ohmyoung Kwon
Joel G. Duncan	William T. Frederick	Richard B. Havrilla	Anne-Marie Jepsen	Robert LaChappelle, Jr.
Robert T. Duncan	Samual J. Friedmann	William B. Hawkins, Jr.	Yuequn Jin	April G. Lafferty
Thomas L. Dunn	William J. Friedmann, Jr.	Laura A. Hayes	Mary K. Johns	Laura D. Lampshire
James M. Durbin	Julie K. Friez	Garrett B. Hazelton	Bradford J. Johnson	Labao Lan
Roger B. Durham	David Froehlich	Thomas S. T. Heah	Gerald W. Johnson	Ragnhild Landheim
Janet F. Dyson	Madeleine M. Fulford	Kevin M. Hedinger	Peggy S. Johnson	Michael E. Lane III
Louis S. Eaton	George Furniss	John L. Heely	Victoria M. Johnson	Alexander T. Langshur
Suzanne K. Eckel	Jerry M. Gahr	Adam W. Heft	Kathryn M. Joiner	George D. Langstaff
Kate Edgar	Jennifer A. Gano	Patricia E. Helland	Harry M. Jol	Antonio Lanzirrotti
Cheryl A. Edwards	John H. Ganter	Marion J. Henry	Alene M. Jones	John R. Laribee
Walter W. Edwards	Jon O. Garbisch	Virginia S. Hensley	Carolyn E. Jones	Kristen J. Law
John M. Eiler	Geoffrey G. Gardner	Harvey Henson, Jr.	Charles E. Jones	Patrick R. Lawson
Mark F. Eisen	Elizabeth A. Garner	Theresa R. Henson	Perry M. Jones	Thomas D. Leavitt
Harold V. Ekstrom	Gregory N. Gerike	F. Vincent Hernly	James W. Jordan	Simon Leclair
Roger F. Elconin	Bibek Ghosh	Marc A. Herpfer	Rhonda K. Joseph	Arthur C. Lee
Diana F. Elder	Tamara L. Gibbons	Charles N. Herrick	Aine A. Joyce-Hasham	J. Lee
Brian P. Elias	E. Gay Gibson	John M. Herzog	Sue C. Kahle	Judy A. Lee
Pamela J. Ellerman	Sandra J. Giesler	Alexander E. Hess	Robert M. Kalin	Shannon M. Lee
R. James Elliot	Julia A. Gilbert	Eric D. Hetherington	Michael S. Kalka	David C. Leeth
Ali A. El-Makhrouf	Gary M. Gin	Mahlon T. Hewitt III	Joseph F. Karls	Lisa M. Leffler
Aley El-Din K. El-Shazly	Jacques Giraudeau	Robert J. Hickey III	Allah B. Kausar	John T. Leftwich, Jr.
James C. Ely	Linda R. B. Glaman	Kathryn V. Hieger	Gina N. Keenan	David F. Lehmann
Juliana Erato	Paul E. Glubcznski	Albert J. Hilty	Carla B. Keith	Michael B. Leite
Stuart G. Erickson	Todd T. Gmitro	David S. Hirt	David C. Keith	Yvonne M. Lembi
William C. Erler	Anne R. Gogola	Richard A. Hisert	Daniel L. Kelleher	Gregory J. Leonard
Nancy K. Esmerian	Helge M. Gonnermann	David E. Hobbs	Stephen P. Kellerman	Robinson Herberto
Emmett Evanoff	Victor M. Gonzalez	Margaret A. Hodgkins	Mark O. Kelly	Leon Diaz
Gordon C. Evans	Erika L. Gonzalez-Caver	Joanne L. Hoffard	Kirt A. Kempter	Robert F. Lewis III
William L. Evans III	Peter T. Goodman	Don F. Hoirup, Jr.	Naila Khairallah	Huan Li
Barbara J. Everett	Dibakar Goswami	Eric J. Holdener	Mohammad A. Khan	Xing Li
Phillip D. Everhart	Molly H. Gowen	Gregory J. Holk	Diann S. Kiesel	Yong Li
Douglas D. Everson	Wendy J. Graber	Lynne Holland	Lynn A. Kieselhorst	Lee M. Liberty
Timothy J. Fagan	Robert W. Graves	Scott D. Holmes	Lynn A. Kieselhorst	Joseph L. Lilly
Timothy R. Fahrner	James D. Green, Jr.	Harry E. Holthaus, Jr.	Crystal E. Killen	Saulwood Lin
Monica M. Farek	Martha C. Green	Mary E. Hoover	Douglas S. Kilmer	Andrea Lini
Randy L. Farmerie	Robert Grenier	Brian D. Hopp	Hye S. Kim	Margo J. Liss
James Farquhar	Chris A. Greytak	Linda L. Horn	Seong P. Kim	Huiqi Liu
William H. Farrand	Robert Gribble	Dwight A. Hornbacher	Samuel C. Kindervater	Ping Liu
Elaine P. Farrell	Jonathan E. Grimes	Marcie R. Horowitz	Robert W. King	Songfa Liu
Joe Fassio	Jeffrey A. Groen	Joy A. Horvat	Virginia L. King	Timothy Liverton
Joe C. Faulkerson	Michael R. Gross	Martha A. House	James A. Kingsbury	Claire R. Livingston
Annia K. Fayon	Todd W. Grunwald	P. Kyle House	John M. Kipp, Jr.	Tina M. Lloyd
David L. Feckley	Michael D. Guebert	Alan E. Hubbard	Gerd Kirchner	James D. Loch
Sharon N. Feldstein	Linda C. Gundersen	Edward M. Huber	Kimberly S.	Steven T. Lo Duca
Xiahong Feng	Michael J. Gunderson	George J. Hudak III	Kirchoff-Stein	Nancy J. Loiacono-Klier
Zhaodong Feng	Dennis W. Haas	David L. Hunt	Paul D. Kirk	Barbara Sherwood Lollar
Scott J. Ferguson	Elizabeth A. Hadly	Jeannie Hunt	Donna Kirkwood	Andrew J. Lonergan
Gabriel M. Filippelli	G. Ted Haeussler	Gary K. Hurban	Ellen K. Kirschner	Manuel Lopez-Infanzon
Christian C. Finch	Marc J. Haga	Meer T. Husain	Patrick B. Klages	Richard A. Lounsbury
Robert E. Fisher	Donald L. Hall	Theodore L. Huscher	Paul D. Klipfel	Tracy A. Love
Thomas Fleming	Fraser K. Hamilton	Quentin S. Huss	Margaret L. Kneller	Tamara K. Lowe
Timothy P. Fleming	John M. Hanchar	Frederick E. Hutson	Joseph Knight	Jacob B. Lowenstern
Charles D. Fletcher	Mohammad Haneef	Kristin T. Huysken	Jeffrey R. Knott	Angela K. Lucci
Frank P. Florence	Jennifer L. Hare	Ebenezer O. Ifekoya	Harold R. Knox	William A. Lumsden
Kevin M. Foley	Ali Hariry	Carlos M. C. Inverno	Ari I. Kogut	Jason J. Lundquist
		Virginia A. Irvine	Elaine Kotler	
			Edouard Kouadio	

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New Student Associates *continued from p. 185*

Ana L. G. Macario
Paola Macchiaroli
Robert I. Macfie
Donald B. MacGowan
H. Elizabeth MacLellan
Daniel E. Madsen
Lori A. Maher
Cecil P. Majors
Mark P. Mallamo
David H. Malone
Mitchell J. Malone
Paul C. Manega
Angela R. Maness
Lunjin Mao
Rebecca A. Markel
John J. Marra
Antony J. Marsh
Jeffrey S. Marshall
Louise D. Marshall
John W. Marsolais
Anthony J. Martin
David J. Martin
Harriet Martin
Laurie E. Martin
Scott E. Martin
Albert Martinez
Alfonso V. Martinez
Daniel R. Martinioni
Kevin G. Marty
Gary L. Mast
Alan R. Mathews
James Matthews
Jane M. Matty
John A. Mavrogenes
Helmut Mayer
John R. McArthur
Robert L. McCall
Austin V. McClain
Cathy J. McCormack
Diane K. McDaniel
David W. McDonald
Gregory D. McDonald
Mitchell G. McGinnis
Robert W. McGrath
Allen J. McGrew
Joe R. McHam
Cindy L. McIlveen
John P. McKiness
Curtis R. McKinney
Jill P. McMahan
Ronald L. McNeil
Brendan A. McNulty
Lawrence McTiernan
Donna J. Mease
Ellen L. Mecray
Irene L. Meglis
Roger A. Melick
Rebecca K. Mellinger
Nancy Merritt-Watson
Kevin J. Meurer
Grant A. Meyer
Qingmin Miao
Joseph M. Michaletz
Melody D. Mierisch
Elizabeth J. Miksa
David W. Millen
Christopher A. Miller
David E. Miller
Henry A. Miller
Jeffrey D. Miller
Marcus E. Milling, Jr.
Elizabeth Millner
Andrew M. Miner
Conrado R. Miranda
Richard W. Mitchell
Thomas L. Mitchell
Martha N. Mixon
Roberto S. Molina-Garza
Sarah W. Molloy
Philipp C. Molzer
H. Curtis Monger
Rogelio Monreal
Ann L. Montgomery
Daniel J. Moore
Michael D. Moore
Shirley A. Morikawa
Charles F. Morrison
Eric T. Morton
Jed L. Mosenfelder
Billy E. Moss
Ann E. Moulding
Yiorgos G. Moussouris
Edna L. Mueller
Karl J. Mueller
Barry E. Muller
Kevin R. Mulligan
Sandor G. Mulsow
Barbara J. Munn
John E. Murnane
Kevin B. Murphy
Valerie M. Murray
Dean C. Musfeldt
Douglas L. Musser
Maria Mutti
Stephen C. Myers
Diane Nahr
John E. Nay
Majid Soleamani
Nazhad
L. Gayle Nelms
Storr L. Nelson
Karen L. Nesbit
Kathleen A. Nicoll
Lee C. Nordt
Ronald W. Novak
Patrick S. O'Boyle
Jinyong Oh
Susan Oleson-Elliott
Jeffrey A. Olsenholler
John J. O'Rourke
Steven A. Osterberg
Kim-Marie Pacanovsky
Bonnie M. Packer
Clay H. Padginton
Matthew L. Paige
Heikki S. Pankka
Luis M. Paredes-Mejia
Sarah J. Parkin
David L. Parkinson
Shannon M. Parsons
Suresh C. Patel
Upen P. Patel
Gagan B. Patnaik
David D. Patton
Eugene A. Pavia
Paige R. Peapples
Teufelin Peare
Robert E. Pearson
Aristeo M. Pelayo
Chris N. Penzel
Bruce D. Perry
Chiara Pezzani
Capitola D. Phillips
Philip M. Piccoli
Frank W. Pickell
Jayne A. Pietrowski
Harold T. Pile
Junior A. Pinnix
Nicholas Pinter
Carlos Pirmez
Susan L. Pittenger
Dede L. Pitts
Bruce A. Pletsch
Ernesto C. Podaca
John S. Pollard
Ruben D. Ponciano
Gregory B. Pool
Nancy M. Porrino
Stephen S. Potts
Susan M. Power
Ellen J. Prager
Shari J. Preece
Henry S. Prellwitz
Norman D. Prettyman
Shawn G. Price
Lynn L. Pryer
Wayne D. Pudney
Eriks M. Puris
Qu Qi
Jay Quade
Andrew I. Quarles
John J. Quinn
Eric M. Radjef
Jahandar Ramezani
Namin
Eric Ramsay
Elizabeth A. Ramsey
Richard H. Raymond
Scott M. Readnour
Stanley E. Reeder
Joseph F. Reese
Carolyn Relf
James R. Rice
Ian J. Richards
Paul J. L. Richards
John E. Ries
Bonnie J. Rippere
Terrell W. Rippstein
John S. Risch
George B. Roberts
Dawn M. Robinson
Steven R. Robinson
James K. Roche
Budi Rochmanto
Michael W. Rockow
Melissa Rogers
Robert M. Rohlfs
Steven R. Roof
Jill L. Rosenberg
Pamela J. Roths
Robert R. Ruscitto II
James H. Rusk, Jr.
Luigi Russo
Ian D. Rutherford
Sandra Ryan
Bernhardt Saini-Eidukat
David B. Saja
Qazi Salahuddin
Geoffrey V. Saldivar
Janet L. Saltzman
Maria M. Sampayo
Ernest Sanchez
Julia T. Sankey
Hernan Santos
Joseph I. Satterfield
Robert A. Sattler
Lynne A. Saunders
Mark E. Savoca
Oswald Sawicki
Leon T. Sawyko III
Christopher P. Saxon
Mary Jo Schabel
Stephen J. Schaefer
Jeffrey D. Scheerhorn
Lily A. Schlinke
Thomas G. Schmitz
Cynthia E. Schneider
Ronald C. Schott
Daniel P. Schrag
Matthew E. Schramm
Kathryn A. Schubel
Mitchell D. Schulte
Greg J. Schurter
Patrizia P. Schuster
Rudolph M. Schuster, Jr.
Stefanie Schwerdtfeger
David A. Scorgie
Nobukazu Seama
Marylin P. Segall
Jeffery C. Seitz
Lisa A. Senior
Aristides Sfeikos
Peng Sha
Stephen G. Shank
Russell S. Shapiro
Saxon E. Sharpe
Thomas H. Shaw
Jonathan D. Shenk
Warren Shepard
Lisa D. Shepherd
David M. Sherer
Sarah C. Sherwood
Tom Shoberg
Daniel B. Shrum
Shamim A. Siddiqui
Bradley S. Singer
David A. Sinson
Andrew P. Skypeck
Trond Skyseth
Michael W. Slattery
L. Cirbus Sloan
John R. Smerekanic
Brian D. Smith
Caryn H. Smith
Grant A. Smith
Jennifer A. Smith
Loren H. Smith
Richard Edwin Smith
Tad M. Smith
Vera A. Smith
William R. Smith
S. Kim Smulling
Hilde Snoeckx
Gregory A. Snyder
Leslie J. Sontag
James Sousa
Barbara J. Souter
Peter A. Souza
Christoph Spoetl
Abraham E. Springer
Linda S. Spry
Kevin R. Stank
Robbie J. Stanley
Michael A. Starcher
Kenneth J. Stark
Charles L. Stebbins, Jr.
Alison M. Steele
William L. Stefanov
Eric J. Steig
Daniel J. Stettner
Peter W. Stewart
Harald Stollhofen
Ronald A. Stone
Lawrence J. Strom
Charles L. Stuart III
Matthew A. Stuk
Muzaffer Sultan
Dawn Y. Sumner
Alan L. Supple
Daniel W. Sutton
Donald S. Sweetkind
Robert F. Swenson
Christopher S. Swezey
James E. Swierc
Kent M. Syverson
Anna Szatai
Nur I. Taib
Jean A. Tangeman
Lawrence H. Tanner
Robert R. Tarver
Ann M. Tattersall
Robert E. Tayloe II
Alexander W. Taylor
James T. Taylor
Wendy L. Taylor
John M. Tedesco
Jeffrey H. Templeton
Lani M. Terry
Valery J. Terwilliger
Pierre P. Theriault
Eric B. Thoman
Andrew L. Thomas

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New Student Associates *continued from p. 186*

Mary Ann Thomas
Rene O. Thomsen
Stuart N. Thomson
Mark W. Thurber
Richard L. Tibbitts
Basil Tikoff
Christopher A. Toles
Nita J. Tolia
A. Kurt Tollestrup
Gustave I. Tolson
Steven M. Trader
Suzanne G. Traub
Daniel E. Trawick
Charles W. Tremper
Andrew T. Truax
Wendy E. True
Dale M. Tshudy
David M. Tuck
Robertino Turello

Mary E. Turner
Natasha P. Umrigar
Heidi A. Untener
James W. Vallance
Margaret C. Van
Buskirk
M. Ross Vandrey
Bradley S. Van Gosen
Julieann Van Nest
Robert J. Van
Waasbergen
Nicholas Van Wyck
Stephen R. Varsa
Yousef Vasigh
Luis A. Vega
Denys Vermette
Meenakshi Wadhwa
Karen D. Walker
Thomas M. Walker

Thomas N. Wallis
Shiping Wang
Wei-Hau Wang
David J. Ward
Jeffrey V. Ware
Michael T. Warmouth
Andrea D. Warner
James E. Warram
Marian J. Warren
Paula M. Watt
Craig S. Wavra
David A. Wavrek
Tim F. Wawrzyniec
Alecia L. Wawrzynski
Edward J. Weagle
Tamie R. Weaver
John C. Weber
Dennis K. Wells
Kathryn A. West
Greg Whearty

Walter Wheeler
Dennis C. White
Patricia V. White
Julia L. Whitelaw
Robert E. Whittington
Christopher H. Whittle
Wayne A. Wilkening
Rick T. Wilkin
Thomas L. Willett
Steven K. Williams
Marc A. Willis
Bruce M. Wilson
Eric Wilson
Joan M. Winkler
Roy A. Wogelius
Kathleen Woida
Krzysztof M. Wojcik
Jeffrey H. Wolff
Bernard B. Wong
Bernice L. Wood

M. Catharine Woodfield
Mark T. Woods
Mark R. Woyshner
Michael D. Wracher
Robert A. Yambrick
Hi-Il Yi
James E. Yocum
William A. Yankee
Heather K. Young
Katherine M. Yuhas
Mohammad Zafar
Thomas E. Zahner
Mehdy Zare
Susan Zarekarizi
Christian C. Zarn
Kurt J. Zeppetello
Dazheng Zhang
Jiaxiang Zhang
Guozhu Zhao
Mark E. Zimmerman

GSA Council Actions—Spring 1990

Council announces the following actions taken at its meeting on May 12, 1990, in Boulder, Colorado.

Council Nominations for 1991

Beginning this year, all voting members of the Society will receive a ballot that will list two candidates for the position of vice-president and two candidates for each councilor position. Complete biographical information on all candidates will be mailed with the ballot in August. Listed below are officer and councilor candidates for the term 1991-1993.

For Councilor (1991-1992) and President (1991)

Doris M. Curtis; Bellaire, Texas

For Councilor and Vice-President (1991)

Robert D. Hatcher, Jr.; Knoxville, Tennessee

E-an Zen; Reston, Virginia

For Councilor and Treasurer (1991)

Robert L. Fuchs; Denver, Colorado

For Councilor (1991-1993)—Position 1

John D. Bredehoeft; Menlo Park, California

John M. Sharp, Jr.; Austin, Texas

For Councilor (1991-1993)—Position 2

Paul D. Fullagar; Chapel Hill, North Carolina

John F. Sutter; Reston, Virginia

For Councilor (1991-1993)—Position 3

Victor R. Baker; Tucson, Arizona

Shirley J. Dreiss; Santa Cruz, California

For Councilor (1991-1993)—Position 4

Gordon P. Eaton; Ames, Iowa

William J. Hinze; West Lafayette, Indiana

Corporate Matters

An amendment is proposed that would update GSA's constitution to provide for the newly established election procedure of listing two candidates for the position of vice-president and two candidates for each councilor position. The amendment, reviewed by the Society's legal counsel, will be submitted to GSA voting members on the ballot to be mailed in August.

New Honorary Fellows

German K. Müller

Department of Mineralogy and Petrology
University of Heidelberg
D-6900 Heidelberg, West Germany

B. P. Radhakrishna

Geological Society of India
63 Basappa Layout
Gavipuram, Bangalore 560 019, India

Medal and Award Winners for 1990

Penrose Medal

Norman D. Newell

American Museum of Natural History
Central Park West, and 79th Street
New York, New York 10024

Day Medal

William S. Fyfe

Department of Geology
University of Western Ontario
London, Ontario N6A 5B7, Canada

Young Scientist Award (Donath Medal)

Leigh H. Royden

Department of Earth and Planetary Sciences
Room 54-1014
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

GSA Distinguished Service Award

William B. Heroy, Jr.

Apartment 610
3901 Montecito Drive
Denton, Texas 76205

Position Available



Coordinator for Educational Programs

The Geological Society of America is committed to educational initiatives and seeks a full-time Coordinator for Educational Programs on the GSA staff in Boulder. A major new thrust for the Society in this area is called the SAGE Program (Scientific Awareness through Geological Education). Direction, development, and coordination of this program will be one of the prime responsibilities of the Coordinator for Educational Programs. The SAGE Program will serve the GSA Committees on Education, Minorities in the Geosciences, and Geology and Public Policy. Initially it will focus on the pre-college and public education sectors, but will have as its overall goal working with all relevant organizations to improve both public literacy about geology and the attractiveness of careers in geosciences.

The Coordinator must be a skilled organizer, motivator, fund raiser, and public spokesperson for quality educational activities. This is an excellent opportunity for a mid-career contribution to the leadership of reform in science education at all levels, with emphasis on the geological sciences.

Qualifications desired:

- Ph.D. in some area of the geological sciences
- Strong personal commitment to science education
- Substantial knowledge of the problems and structure of science education
- Strong interest in public-issue education
- Demonstrated fund-raising ability
- Effective networking capabilities
- Outstanding ability to communicate and motivate
- Ability to work creatively and effectively with individuals and organizations at all levels.

Letters of application should include a full résumé; names, addresses, and telephone numbers of three professional references; and a statement of interest in and qualifications for the position. The salary range is \$50,000 to \$60,000 depending on qualifications and experience. The desired starting date is early 1991.

Nominations, applications, and supporting materials should be submitted no later than September 30, 1990, to:

Dr. F. Michael Wahl
Executive Director
Geological Society of America
P.O. Box 9140
Boulder, Colorado 80301

GSA is an equal-opportunity employer.

Call for Geologic Papers For 1991 GSA Section Meetings

Northeastern/Southeastern Sections

Omni Inner Harbor Hotel
Baltimore, Maryland
March 14–16, 1991

Abstract Deadline:
November 1, 1990

Submit completed abstracts to
Robert W. Ridky
Department of Geology
University of Maryland
College Park, MD 20742
(301) 454-3542

North-Central Section

University of Toledo—Seagate Campus
Toledo, Ohio
April 18–19, 1991

Abstract Deadline:
December 12, 1990

Submit completed abstracts to
D. J. Stierman
Department of Geology
University of Toledo
Toledo, OH 43606
(419) 537-2046

Cordilleran Section

Cathedral Hill Hotel
San Francisco, California
March 25–27, 1991

Abstract Deadline:
November 15, 1990

Submit completed abstracts to
Ivan Wong
Woodward-Clyde Consultants
500 12th St., Suite 100
Oakland, CA 94607
(415) 874-3014

Rocky Mountain/South-Central Sections

University of New Mexico
Albuquerque, New Mexico
April 22–24, 1991

Abstract Deadline:
December 20, 1990

Submit completed abstracts to
Michael Campana or Lee Woodward
Department of Geology
University of New Mexico
Albuquerque, NM 87131
(505) 277-4204

1991 Abstract Form Request

To: GSA Abstracts Coordinator
P.O. Box 9140
Boulder, CO 80301

Please send _____ copies of the 1991 GSA abstract form. I understand that the same form may be used for all 1991 GSA meetings—the four Section Meetings and the Annual Meeting.

Name _____

Address _____

Address _____

City _____ State _____ ZIP _____

GSA Annual Meetings

1990

GSA Annual Meeting • Dallas, Texas October 29–November 1, 1990

Abstracts due
July 11

Program, housing, and registration information
August 10

Joint Technical Program Committee
August 10–11

Preregistration due
September 28



For information: GSA Meetings Department, P.O. Box 9140, Boulder, CO 80301, (303) 447-2020

1991

Future

GSA Annual Meeting • San Diego, California October 21–24, 1991

Call for short course proposals

GSA members and nonmembers are encouraged to submit short course proposals to be reviewed by GSA's Short Course Committee. All proposals are due by *December 1, 1990*. For short course proposal guidelines contact:

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

Dallas	October 29–November 1	1990
San Diego	October 21–24	1991
Cincinnati	October 26–29	1992
Boston	October 25–28	1993
Seattle	October 24–27	1994

GSA Section Meetings

1991

Section, Location, Dates

Cordilleran, Cathedral Hill Hotel
San Francisco, California, March 25–27

North-Central, University of Toledo
Toledo, Ohio, April 18–19

Northeastern-Southeastern
Omni Inner Harbor Hotel
Baltimore, Maryland
March 14–16

Rocky Mountain–South-Central
University of New Mexico
Albuquerque, New Mexico
April 22–24

Contact

Raymond Sullivan, Dept. of Geosciences, San Francisco State University,
San Francisco, CA 94132, (415) 338-2061

Lon Ruedisili or Mark Camp, Dept. of Geology, University of Toledo,
Toledo, OH 43606, (419) 537-2009

Emery Cleaves, Maryland Geological Survey, 2300 St. Paul Street,
Baltimore, MD 21218, (301) 554-5504
Juergen Reinhardt, U.S. Geological Survey, 926 National Center, Reston,
VA 22092, (703) 648-6789

G. Randy Keller, Dept. of Geological Sciences, University of Texas at
El Paso, El Paso, TX 79968-0555, (915) 747-5501
John Geissman or Wolfgang Elston, Dept. of Geology, University of
New Mexico, Albuquerque, NM 87131, (505) 277-4204

1992

Cordilleran	Eugene, Oregon
North-Central, April 16–17	Iowa City, Iowa
Northeastern	Bethlehem, Pennsylvania
Rocky Mountain	Ogden, Utah
South-Central, February 24–25	Houston, Texas
Southeastern, March 18–20	Winston-Salem, North Carolina

MEETINGS

(Asterisk indicates new or changed information)

1990

9th International Conference on Basement Tectonics, July 2-6, 1990, Canberra, Australia. Information: IBT9 ACTS, GPO Box 2200, Canberra, A.C.T. 2601, Australia; phone 062-49-8015; fax 062-573256.

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.

Rocky Mountain Friends of the Pleistocene Field Trip, August 16-19, 1990, southwestern Montana. Information: Robert D. Hall, Dept. of Geology, Indiana University-Indianapolis, 425 University Blvd., Indianapolis, IN 46202-5140; (317) 274-3795 (direct), (317) 274-7484 (dept.).

Wyoming Geological Association 41st Annual Field Conference, August 17-23, 1990, Casper, Sheridan, Cody, Jackson, and Riverton, Wyoming. Information: Kent A. Sundell, P.O. Box 1543, Casper, WY 82602; (307) 266-4760.

Cretaceous Resources, Events and Rhythms, SEPM Research Conference, August 20-24, 1990, Denver, Colorado. Information: Michael A. Arthur, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI 02882-1197; fax 401-792-6160.

International Symposium on Geothermal Energy, August 20-24, 1990, Kailua-Kona, Hawaii. Information: Geothermal Resources Council, P.O. Box 1350, Davis, CA 95617-1350; (916) 758-2360; fax 916-758-2839.

***Coal Geology for Petroleum Geologists and Reservoir Engineers**, August 21-24, 1990, Edmonton, Alberta. Information: Slavko Stuhec, Alberta Geological Survey, Alberta Research Council, P.O. Box 8330, Station F, Edmonton, Alberta T6H 5X2, Canada; (403) 438-7619.

Western Pacific Geophysics Meeting, August 21-25, 1990, Kanazawa, Japan. Information: Western Pacific Geophysics Meeting, American Geophysical Union, 2000 Florida Ave. N.W., Washington, DC 20009; (202) 462-6900; fax 202-328-0566.

International Sedimentological Congress, August 26-31, 1990, Nottingham, England. Information: C. P. Summerhayes, Institute of Oceanographic Sciences Deacon Lab., Brook Rd., Wormley, Godalming, Surrey GU8 5UB, England.

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.

Conference on Evolution of Upwelling Systems since the Early Miocene, September 3-4, 1990, London, England. Information: C.P. Summerhayes, IOS Deacon Lab., Wormley, Godalming, Surrey GU8 5UB, England; phone 042-879-4141; fax 042-879-3066.

IGCP Cretaceous Field Conference, September 5-15, 1990, Jerusalem, Israel. Information: G. Gvirtzman, Geological Survey of Israel, 30 Malkhe Yisrael St., Jerusalem 95501, Israel; telex 26362 ENERGI; fax 972-2-381444.

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.

Society for Organic Petrology Annual Meeting, September 9-14, 1990, Calgary, Alberta. Information: Wolfgang Kalkreuth, Institute of Petroleum and Sedimentary Geology, 3303 33rd St. NW, Calgary, Alberta T2L 2A7, Canada; (403) 292-7119; fax 403-292-5377.

GOLDTech 4, September 10-12, 1990, Reno, Nevada. Information: Meetings Department, Society for Mining, Metallurgy, and Exploration, P.O. Box 625002, Littleton, CO 80162-5002; (303) 973-9550; fax 303-973-3845; telex 881988.

New Mexico Geological Society Annual Field Conference, September 12-15, 1990, Red River, New Mexico. Information: Paul Bauer, New Mexico Bureau of Mines, Socorro, NM 87801; (505) 835-5106.

***AAPG-SEPM-EMD Rocky Mountain Section Meeting**, September 16-19, 1990, Denver, Colorado. Information: Matt Silverman, Gustavson Associates, Inc., 5757 Central Ave., Suite D, Boulder, CO 80301; (303) 443-2209.

3rd International Archaean Symposium, September 17-21, 1990, Perth, Western Australia. Information: Susan E. Ho, P.O. Box 435, Nedlands, Western Australia 6009, Australia.

82nd Annual New England Intercollegiate Geological Conference, with field trips in the Gaspé Peninsula, Quebec, September 21-22, 1990, Montreal, Quebec. Information: Walter Trzcieski, Dept. of Geology, University of Montreal, C.P. 6128, Succ. A, Montreal, Quebec H3C 3J7, Canada.

***Lessons Learned from Major Oil Spills: International Conference**, September 24-27, 1990, St. Petersburg, Florida. Information: Larry J. Doyle, Center for Nearshore Marine Science, University of South Florida, 140 7th Ave., St. Petersburg, FL 33701; (813) 893-9130.

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Meetings continued from p. 191

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, G.P.O. Box 4, Canberra, A.C.T. 2601, Australia; phone 062-49-3406; fax 61-62-490 738; telex 62693.

Association of Ground Water Scientists and Engineers Annual Meeting, September 25–26, 1990, Anaheim, California. Information: Jacqueline Mack, National Water Well Association, 6375 Riverside Dr., Dublin, OH 43017; (614) 761-1711; fax 614-761-3446.

European Geological Societies, September 29–October 7, 1990, Lisbon, Portugal. Information: MEGS 6, Sociedade Geológica de Portugal, Apto. 2361, P1109 Lisboa Codex, Portugal.

Association of Engineering Geologists 33rd Annual Meeting, October 1–5, 1990, Pittsburgh, Pennsylvania. Information: 33rd AEG Meeting, MEMS, One Northgate Sq., Suite 211, P.O. Box 270, Greensburg, PA 15601; (412) 836-6813; fax 412-836-6817

Soils and Landscape Evolution, Binghamton Symposium in Geomorphology, October 6–7, 1990, Binghamton, New York. Information: Peter L.K. Knuepfer, Dept. of Geological Sciences, SUNY, Binghamton, NY 13901; (607) 777-2389; Leslie D. McFadden, Dept. of Geology, University of New Mexico, Albuquerque, NM 87131; (505) 277-2307. (*Abstracts deadline: August 1, 1990.*)

Clay Minerals Society 27th Annual Meeting, October 6–11, 1990, Columbia, Missouri. Information: W. D. Johns, Dept. of Geology, University of Missouri, Columbia, MO 65211; (314) 882-3785.

***Geoscience Data Conference**, October 7–9, 1990, Dallas, Texas. Information: Infomart Registration Services, 1950 Stemmons Freeway, Dallas, Texas 75207; (214) 746-3500, fax 214-746-3501.

Federation of Analytical Chemistry and Spectroscopy Societies 17th Annual Meeting, October 7–12, 1990, Cleveland, Ohio. Information: Charles J. Belle, Lucas Aerospace, PEC, 4259 W. 192 St., Fairview Park, OH 44126.

International Symposium on Environmental Studies on Tropical Rain Forests, October 7–13, 1990, Manaus, Brazil. Information: Organizing Committee—Forest '90, P.O. Box 3591, 2001 Rio de Janeiro, RJ, Brasil; phone 55-21-211-5581; telex 55-21-22395; fax 55-21-252-9269.

Petroleum Computing in the '90s Symposium, October 8–9, 1990, Midland, Texas. Information: Permian Basin Graduate Center, P.O. Box 1518, Midland, TX 79702; (915) 683-2832.

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.

***American Institute of Professional Geologists Annual Meeting**, October 9–12, 1990, Long Beach, California. Information: Stephen M. Testa, Applied Environmental Services, 6695 E. Pacific Coast Highway, Second Floor, Long Beach, CA 90803; (213) 594-9485; fax 213-596-6376.

***Coal and Coal Bed Methane: An Introduction to Sampling Techniques for the Petroleum Industry**, October 10–12, Calgary, Alberta. Information: Slavko Stuhec, Alberta Geological Survey, Alberta Research Council, P.O. Box 8330, Station F, Edmonton, Alberta T6H 5X2, Canada; (403) 438-7619.

***Society of Vertebrate Paleontology 50th Anniversary Meeting**, October 10–13, 1990, Lawrence, Kansas. Information: SVP 90, Vertebrate Paleontology Division, Museum of Natural History—Dyche Hall, University of Kansas, Lawrence, Kansas 66045-2454; (913) 864-3216.

Conference on Eastern Regional Ground Water Issues, October 17–19, 1990, Springfield, Massachusetts. Information: FOCUS Eastern Conference, National Water Well Association, P.O. Box 182039, Dept. #017, Columbus, OH 43218; (614) 761-1711.

***Geodynamics of the Arabian Plate**, October 20–25, 1990, Safat, Kuwait. 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.

Biodiversity and Landscapes: Human Challenges for Conservation in the Changing World, October 22–25, 1990, University Park, Pennsylvania. Information: K. C. Kim, 117 Land and Water, Center for BioDiversity Research, Penn State, University Park, PA 16802; (814) 863-0159.

***Alberta Geological Survey Field Trip to the San Juan Basin**, October 24–26, Edmonton. Information: Dennis Nikols, Alberta Geological Survey, Alberta Research Council, P.O. Box 8330, Station F, Edmonton, Alberta T6H 5X2, Canada; (403) 438-7622; fax 403-438-3364.

Geological Society of America Annual Meeting, October 29–November 1, 1990, Dallas, Texas. Information: GSA, Meetings Department, P.O. Box 9140, Boulder, CO 80301; (303) 447-2020. (*Abstracts deadline: July 11, 1990.*)

Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection and Restoration, October 31–November 2, 1990, Houston, Texas. Information: Petroleum Hydrocarbons Conference, National Water Well Association, P.O. Box 182039, Dept. #017, Columbus, OH 43218; (614) 761-1711.

Eastern Oil Shale Symposium, November 6–8, 1990, Lexington, Kentucky. Information: Geaunita H. Caylor, Symposium Coordinator, University of Kentucky/OISTL, 201 Porter Bldg., Lexington, KY 40506-025; (606) 257-2820.

Supercomputing '90, November 12–16, 1990, New York, New York. Information: Joanne L. Martin, IBM T. J. Watson Research Center, P.O. Box 218, Rte. 134, Yorktown Heights, NY 10598; (914) 945-3285.

Penrose Conferences

Transpressional Tectonics of Convergent Plate Margins, August 25–30, 1990, Bellingham, Washington. Information: Vicki L. Hansen, Dept. of Geological Sciences, Southern Methodist University, Dallas, TX 75275-0395; (214) 692-4179.

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Penrose Conferences continued

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.).

New Methods for Dating of Geomorphic Surfaces, October 12–17, 1990, Mammoth Lakes, California. Information: Fred M. Phillips, Dept. of Geoscience, New Mexico Tech, Socorro, NM 87801; (505) 835-5540 (direct), (505) 835-5634 (dept.).

***Metalliferous Black Shales and Related Ore Deposits Symposia**, October 27–28, 1990, Dallas, Texas. Information: Bartholomew Nagy, Laboratory of Organic Geochemistry, Dept. of Geosciences, University of Arizona, Tucson, AZ 85721, (602) 621-6973; Philip A. Meyers, Dept. of Geological Sciences, University of Michigan, Ann Arbor, MI 48109-1063, (313) 764-3335; Joel S. Leventhal, U.S. Geological Survey, MS 973 Denver Federal Center, Denver, CO 80225, (303) 236-1522; Lisa M. Pratt, Dept. of Geology, Indiana University, Bloomington, IN 47405, (812) 855-9203.

1991

***10th Annual Symposium on Caribbean Geology: Tectonics and Mineral Deposits of the Caribbean**, February 20–24, 1991, Mayagüez, Puerto Rico. Information: J. H. Schellekens, Dept. of Geology, University of Puerto Rico, P.O. Box 5000, Mayagüez, Puerto Rico 00709-5000; (809) 265-3845.

Society for Mining, Metallurgy, and Exploration Annual Meeting, February 25–28, 1991, Denver, Colorado. Information: Meetings Department, Society for Mining, Metallurgy, and Exploration, P.O. Box 625002, Littleton, CO 80162; (303) 973-9550; fax 303-979-3461.

Second International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics (including special session on the Loma Prieta [California] earthquake of October 17, 1989), March 11–15, 1991, St. Louis, Missouri. Information: Shamsher Prakash, Dept. of Civil Engineering, 308 Butler Carlton Hall, University of Missouri, Rolla, MO 65401-0249; (314) 341-4489; fax 314-341-4729. (*Abstracts deadline for Loma Prieta session is July 15, 1990.*)

International Conference on Environmental Pollution, April 15–19, Lisbon, Portugal. Information: ICEP Conference Office, ICTR Secretariat, 11–12 Pall Mall, London SW1Y 5LU, England; phone 01-930-6825; telex 925312 REICO G; fax 01-976-1587. (*Abstracts deadline: July 15, 1990.*)

International Symposium on Geophysical Hazards in Developing Countries and Their Environmental Impacts, April 21–27, 1991, Cairo, Egypt. Information: T. S. Murty, Hazards-91, c/o Institute of Ocean Sciences, P.O. Box 6000, Sidney, B.C. V8L 4B2, Canada; (604) 356-6311; telex 04-97281; fax 604-356-6390; Mohammed I. El-Sabh, Hazards-91, Dept. Océanographie, Université du Québec, 300, Allée des Ursulines, Rimouski, Québec G5L 3A1, Canada; (418) 724-1707; telex 051-31623; fax 418-723-7234.

European Geophysical Society XVI General Assembly, April 22–26, 1991, Wiesbaden, Federal Republic of Germany. Information: EGS

Office, Postfach 49, 3411 Katlenburg-Lindau, Federal Republic of Germany; phone 49-5556-1440; fax 49-5556-4709; telex 965564 zil d.

***Association of Exploration Geochemists 15th International Geochemical Exploration Symposium**, April 29–May 1, 1991, Reno, Nevada. Information: Harold Bonham, 15th IGES, P.O. Box 9126, Reno, Nevada, 89507; (702) 784-6691; fax 702-784-1709.

Eighth Thematic Conference on Remote Sensing for Exploration Geology, April 29–May 2, 1991, Denver, Colorado. Information: Robert H. Rogers, ERIM Thematic Conferences, P.O. Box 8618, Ann Arbor, MI 48107-8618; (313) 994-1200.

International Symposium on Land Subsidence, May 12–18, 1991, Houston, Texas. Information: Ivan Johnson, A. Ivan Johnson, Inc., 7474 Upham Ct., Arvada, CO 80003; (303) 425-5610.

Brazil Gold '91, May 13–17, 1991, Belo Horizonte, Brazil. Information: Organizing Committee, Av. Afonso Pena, 3880-3/5 andares, 30130 Belo Horizonte MG, Brazil, or Charles Thorman, U.S. Geological Survey, Box 25046, MS 905, Denver Federal Center, Denver, CO 80225, (303) 236-5601; fax 303-236-5603.

Geological Association of Canada–Mineralogical Association of Canada Annual Meeting, May 27–29, 1991, Toronto, Canada. Information: J. J. Fawcett, Dept. of Geology, Earth Sciences Center, University of Toronto, 22 Russell St., Toronto, Ontario M5S 3B1, Canada; (416) 978-3027.

***11th International Symposium on Ostracoda**, July 8–13, 1991, Warrnambool, Victoria, Australia. Information: Peter J. Jones, Bureau of Mineral Resources, P.O. Box 378, Canberra A.C.T. 2601, Australia; phone (06) 249 9737; fax 06-257 6465.

Meetings continued on p. 194



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Meetings continued from p. 193

SEPM Midyear Meeting—Continental Margins, Tectonics, Eustasy and Climate Change, August 15–18, 1991, Portland, Oregon. Information: Sam Boggs, Jr., Dept. of Geology, University of Oregon, Eugene, OR 97403; (503) 686-4573.

1st International Meeting of Young Geologists, August 22–28, 1991, Budapest, Hungary. Information: Anna Balog, Dept. of Geology, Technical University of Budapest, H-1521 Budapest, Hungary; phone (36-1) 16-67-370; fax 36-1-16-66-808; telex 225931.

Third U.S. Conference on Lifeline Earthquake Engineering, August 22–23, 1991, Los Angeles, California. Information: American Society of Civil Engineers, Specialty Conference Dept., 345 E. 47th St., New York, NY 10017; (212) 705-7139.

International Symposium on Fossil Cnidaria Including Archaeocyatha and Porifera, September 9–14, 1991, Münster, Federal Republic of Germany. Information: Fossil VI. Cnidaria, Pferdegasse 3, D-4400 Münster, Federal Republic of Germany.

***Second International Conference on the Abatement of Acidic Drainage**, September 16–18, 1991, Montreal, Québec. Information: Pamela Friedrich, Centre des Recherches Minérales, 1665, boulevard Hamel, Édifice 2, 1^{er} étage, Québec, Québec, Canada G1N 3Y7.

***International Symposium on Debris Flow and Flood Disaster Protection**, October 14–20, 1991, Emeishan City, Sichuan Province, China. Information: Tong Yuling, International Research and Training Centre on Erosion and Sedimentation (IRTCES), P.O. Box 366, Beijing, China 100044; phone 8413372; telex 22786 ITCES CN; fax 8412539.

American Institute of Professional Geologists Annual Meeting, October 16–19, 1991, Gatlinburg, Tennessee. Information: Lawrence I. Benson, ERC/EDGE, P.O. Box 22879, Knoxville, TN 37933-0879; (615) 966-9761; fax 615-966-4155.

***2nd International Symposium on Environmental Geochemistry**, September 16–19, 1991, Uppsala, Sweden. Information: Mats Olsson, Dept. of Forest Soils, Swedish University of Agricultural Sciences, Box 7001, S-750 07 Uppsala, Sweden; phone 46 18 672212; fax 46 18 300831. (*Abstracts deadline: March 28, 1991.*)

Geological Society of America Annual Meeting, October 21–24, 1991, San Diego, California. Information: GSA, Meetings Dept., P.O. Box 9140, Boulder, CO 80301; (303) 447-2020; fax 303-447-1133.

5th International Circum-Pacific Terrane Conference, November 11–28, 1991, Santiago, Chile. Information: D. G. Howell, U.S. Geological Survey, MS 902, 345 Middlefield Rd., Menlo Park, CA 94025; (415) 329-5430.

Mining Indonesia '91, December 4–7, 1991, Jakarta, Indonesia. Information: Eileen M. Lavine, Information Services, Inc., 4733 Bethesda Ave., #735, Bethesda, MD 20814; (301) 656-2942; fax 301-656-3179.

Send notices of meetings of general interest, in format above, to Editor, *GSA News & Information*, P.O. Box 9140, Boulder, CO 80301.

Corrections

The April 1990 issue of *News & Information* contained an article entitled "More GSA Representatives Needed!" In the article the name of Robert E. Riecker was listed in error as a representative for Los Alamos National Laboratory. The current GSA representative for Los Alamos National Laboratory is Robert Raymond, Jr.

The description in May *News & Information* for the 1990 short course *Contaminant Hydrogeology: Practical Monitoring, Protection, and Cleanup* should have stated that the faculty, Christopher M. Palmer and Jeffrey L. Peterson, teach at the University of California, Santa Cruz Extension.



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Positions Open

ILLINOIS STATE GEOLOGICAL SURVEY GROUNDWATER RESOURCES SECTION

Two full-time State appointments are available in the Groundwater Resources Section at the Illinois State Geological Survey located on the campus of the University of Illinois.

SCIENTIFIC HEAD OF SECTION. Responsibilities: direct and develop research and service activities; duties include administration and supervision. Successful candidate must have M.S. in hydrogeology or related field with 13 years experience, including scientific supervision; Ph.D. preferred.

RESEARCH SCIENTIST. Assistant/Associate Scientist level, depending on qualifications. Responsibilities: conduct original research on groundwater resources; carry out service activities. Successful candidate must have B.S. or M.S. in hydrogeology or related field with at least 1-5 years experience; Ph.D. preferred. Equivalent professional achievement and experience will be considered for both positions. Full benefits package: life, medical, and dental insurance; 27 days/year vacation; 12 days/year sick leave; 11 paid holidays; State Universities Retirement System; staff privileges at the University of Illinois. Interested individuals should make application, including a detailed curriculum vitae to Human Resource Office, Illinois State Geological Survey, 615 E. Peabody Drive, Champaign, IL 61820. Screening of applications will begin after August 31, 1990, but applications will be accepted until the position is filled. ISGS is an AA/EEO employer. Women and minority applicants are especially encouraged to apply.

FACULTY POSITION IN CARBONATE GEOLOGY

The Colorado School of Mines Department of Geology and Geological Engineering is accepting applications for a tenure-track position at the Assistant or Associate Professor level. The Department of Geology and Geological Engineering emphasizes applied geoscience and geoengineering in the fields of petroleum geology, hydrogeology/waste management, mineral deposits, and geological engineering. We offer a Bachelor of Science degree in

Geological Engineering and Professional, Master of Science, and Doctor of Philosophy degrees in science and engineering. The petroleum and sedimentary geology program includes five faculty and several adjunct professors with interests in stratigraphy/sedimentation, depositional environments, diagenesis and fluid flow, petrophysics and subsurface methods, resource estimation, petroleum and coal geology, and hydrocarbon geochemistry. We seek a person who desires to build a vigorous research and teaching program in Carbonate Geology. Responsibilities will involve enthusiastically teaching undergraduate level courses in historical geology and stratigraphy and graduate level courses in carbonate geology and other areas of applicant expertise, supervising masters and doctoral research that may include field and subsurface studies, and conducting a dynamic research program. The successful applicant should possess a Ph.D. and exhibit demonstrated modern and innovative approaches to research. Carbonate geologists with ancillary interests and background in paleontology, stable isotope geochemistry, clay mineralogy, petroleum geology, or organic geochemistry are encouraged to apply. Letter of application, resume, brief statement of immediate teaching and research goals and the names of three references should be sent to: COLORADO SCHOOL OF MINES, Geology Search Committee, P.O. Box 69, Golden, CO 80402. AN EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER. Minorities and females are encouraged to apply.

GEOCHEMIST OR GEOHYDROLOGIST

Dept. of Geology, Bowling Green State University, Ohio, invites applications for a full-time tenure-track assistant professor position in geohydrology or geochemistry. The position will be filled by January 1991 or as soon as possible afterwards. Applicants should have a Ph.D. or have completed all the requirements for it at the time of application. The successful candidate will develop an active research program, direct graduate student research as well as teach courses in his/her specialty in addition to general geology. The candidate will add to a developing departmental focus in environmental geology. The department is moving into newly renovated facilities and has modern equipment—including XRF, XRD, AAS and laboratories for geochemistry, computers, petrography, rock mechanics, thin section and image analysis. Letters of application should be accompanied by a statement of research/teaching interests, vitae, and the names of at least three references. The closing date for applications is November 9, 1990. Applications should be sent to Chair, Search Committee, Dept. of Geology, Bowling Green State University, Bowling Green, OH 43403. Women and minority candidates are encouraged to apply. BGSU is an Affirmative Action/Equal Opportunity Employer.

MASS SPECTROSCOPIST to design/construct apparatus & techniques pertinent to separation & analysis of radiogenic isotopes from microsamples of geologic material. REQ: Ph.D. in Geology & at least 1 yr. in job offered or 1 yr. research exp. working in area of thermal ionization mass spectrometry. Experienced in theory & practice multicollector thermal ionization mass spect. including ion-counting. Familiarity with mass spectrometer control & data acquisition software. Strong background in geology/chem. to aid diverse needs of faculty. Demo. ability developing chem. separation techniques for geo. samples under ultra-clean room conditions. \$36,000 annual. Job location Los Angeles. Please send this ad and resume to Job # CR-15690, P.O. Box 9570, Sacramento, CA 95823-0560, before August 1, 1990.

Consultants

DR. J.W. SCHROEDER, Geologist, since 1939, 2, Rue des Granges, GENEVA, Switzerland.

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