

# The Lattice

Vol. 6, No. 1, February 1990

## MEMBERS NOMINATE OUTSTANDING STUDENTS IN MINERALOGY FOR SOCIETY'S UNDERGRADUATE AWARD

MSA members have again taken advantage of the Society's American Mineralogist Undergraduate (AMU) Award program to recognize 13 outstanding students who have shown an interest and ability in the discipline of mineralogy. Each student was cited by his or her department for outstanding achievement in mineralogy-related courses.

The AMU Awards allow MSA to join with individual professors to formally recognize outstanding students. Each student is presented a certificate at an awards ceremony at his or her university or college. In addition, each recipient receives a complimentary student membership, including the journal, for 1990.

MSA members, who are on the permanent (or tenure-track) faculty and whose department offers one or more courses in crystallography, mineralogy, or petrology, may nominate a student. One student may be nominated per department per year. The department must also be able to present the certificate during a departmental or university award program. MSA encourages but does not require, departments to nominate juniors who will be

seniors during the year that they receive the award.

The deadline for nominating students for 1991 is January 1, 1991. Please mark your calendars now so you can be watching for that exceptional student. To nominate a student, send a letter on departmental letterhead giving the student's full name (for the certificate), departmental address, year in school, interest area, MSA sponsor name, and the date and brief description of the award ceremony at which the certificate will be presented. The letter must be signed by the department chair. Send the letter to the MSA Business Office, 1625 I Street N.W., Suite 414, Washington, D.C. 20006.

In its sixth year, the AMU Awards have recognized 107 exceptional students in mineralogy programs throughout the U.S. and Canada. Many of these students have maintained a relationship with MSA as current members or participants in its educational short courses.

The Society welcomes these exceptional students to the program's honor roll and wishes to thank the sponsors for enabling MSA to recognize these outstanding individuals.

**Joe P. Blaylock**

University of Nevada - Las Vegas  
*Sponsored by Anne F. Wyman*

**Deborah L. Dreyfus**

Wellesley College  
*Sponsored by James R. Besancon*

**Jeanine Suzanne Fruin**

Colorado State University  
*Sponsored by M.E. McCallum*

**Andrew G. Gordon**

Rice University  
*Sponsored by John C. Stormer*

**Gary E. Jaroslow**

University of Massachusetts  
*Sponsored by Howard W. Jaffe*

**Steven Kovac**

Arizona State University  
*Sponsored by Peter R. Buseck*

**Tamara Kathryn Lowe**

George Washington University  
*Sponsored by Richard P. Tollo*

**Calvin Mullett**

Kent State University  
*Sponsored by Ernest H. Carlson*

**Henry S. Prellwitz**

University of Pittsburgh  
*Sponsored by Edward G. Lidiak*

**Mark A. Rathmell**

University of Wisconsin - Madison  
*Sponsored by John W. Valley*

**Mark Tinker**

Trinity University  
*Sponsored by Diane R. Smith*

**Debbie Warner**

West Georgia College  
*Sponsored by Curtis L. Hollabaugh*

**Craig George Wiebe**

University of Calgary  
*Sponsored by Edward D. Ghent*



## FROM THE PRESIDENT

As I write this in mid-February I am sitting in what you might imagine to be the Arctic waste of Trondheim, Norway, at 63° 30' north latitude. However, due to the Gulf Stream, it is not so cold as New England at this time of year, and, although the sun stays low on the horizon, the days are also about the same length as they are in New England this week. There is snow in the mountains though not at sea level, but many of the streets are covered by accumulated ice. The navigation of cars (and pedestrians) on steep hills using studded tires (or studded shoes) without benefit of sand or salt, is amazing to see. Here is one answer to an environmental problem that plagues many communities in the northern U.S. and Canada. My purpose here at Trondheim University is to try to learn something from Norwegian rocks and Norwegian geologists about the relations between high pressure metamorphism, thrust and fold nappes, and later extensional faults. While here I expect to meet our only member in town, Knut Heier, director of the Norwegian Geological Survey.

Thanks to an initiative by officers of the Geochemical Society, definite plans are completed to hold the MSA reception during the Annual Meeting in Dallas jointly with the Geochemical Society. This will take place on Tuesday, the same day as our Annual Awards Luncheon, after the end of the afternoon technical session. This will be a delightful informal way to recognize the cooperation that has gone on for years between our two societies on a variety of matters, and is also a convenience to our overlapping memberships.

For the 1990 Annual Meeting at Dallas, our delegation to the Joint Technical Program Committee, lead by Robert Tracy, has arranged for a symposium entitled "Thermodynamic Mixing Properties of Petrologically Important Minerals". This symposium, on a topic at an important four-way interface between crystallography, metamorphic petrology, igneous petrology, and mineral physics will be convened by Robert C. Newton, University of Chicago, and Mark S. Ghiorso, University of Washington, Seattle.

In 1989, despite requests to the contrary, our Presidential Address and Annual Business Meeting were scheduled at a site remote from the GSA technical sessions, rather than being part of them, as in the past. A special effort is being made by our officers and delegates to the Joint Technical Program Committee to have these events returned to their usual position within the technical part of the meeting.

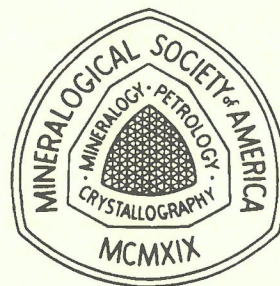
In my previous letter I discussed a

meeting that was held in St. Louis concerning a possible petition to GSA to create a Petrology and Geochemistry Section. This prompted the response by Chris Amstutz of the University of Heidelberg printed elsewhere in this *Lattice*. His comments make much sense to me. Duplication of effort merely reduces the available time devoted to real science. Further opinions would be most welcome, particularly if the proposed section comes up for formal consideration by GSA, and the Council of MSA is required to present a formal response.

A second important letter in this month's *Lattice* is from Past-President E-an Zen, who gives a very different view of proposed participation in the IMA Meeting in Beijing. His view, as I perceive it, is that MSA member participation in the meeting will do little to benefit most Chinese mineralogists, especially those under detention by their government for pro-democratic activities. Some members of our Council were reluctant to publish the letter, feeling that scientific affairs of the Society should not be politicized. In this case, the matter seemed to me to transcend politics and to effect the very possibility of our Chinese colleagues to carry on their profession. In an even more strongly worded letter that we have decided not to publish, member Dennis Eberl quotes from a 1989 speech by the Dalai Lama, referring to 40 years of repression in Tibet that has intensified sharply since spring 1989.

While the daily business of the Society at our headquarters in Washington continues smoothly, you should be aware of two significant changes. The first of these is a change of auditing firm, from a large firm with high fees to a smaller firm more reasonably priced and with a staff that is more willing to devote individual attention to our accounts and provide more year to year continuity. While this goes on, our office manager Susan Myers, in cooperation with our Management Committee, newly chaired by former Treasurer Gordon Nord, will shortly decide upon a new site for the business office, necessitated by the sale of the presently occupied building.

Our agreement with the Mineralogical Society of Great Britain concerning the production of *Mineralogical Abstracts* is shortly to be renewed for another three years. Recommendations for the agreement have come from our Publications Committee and from discussions between the Council and Prof. R. A. Howie, in person, at St. Louis. Prof. Howie has been invited to submit a promotional statement



for *Mineralogical Abstracts* in this issue of the *Lattice*. Meanwhile Dr. Karl Riggs continues to organize and compile abstracts for the United States, and is always in need of volunteers to improve coverage of U.S. publications. If you have aspirations or suggestions in this direction please contact him directly.

Several weeks ago it was my pleasure to sign certificates for the American Mineralogist Undergraduate Award for a series of top mineralogy students at various institutions. In addition to the certificate, these outstanding individuals will receive a one-year subscription to the journal, which we hope will provide a continued inspiration for excellence and interest in the science. Those of you who teach undergraduates and have not taken advantage of the opportunity to make this award, should contact Susan Myers.

The Short Course Committee, under Jane Selverstone's able leadership, continues to labor under an abundance of proposals of great diversity. As a result of concerns by the Committee and by the Council on several aspects of proposed courses, *Reviews in Mineralogy* Series Editor Paul Ribbe, in cooperation with Susan Myers, has promised to prepare a set of guidelines to be used by potential convenors and by the committee. This will include matters of technical nature and also recommendations on financial aspects. It is believed that such guidelines will be useful for all parties involved in convening short courses and will reduce the number of times that details concerning short courses need to be dealt with by the Council.

In early fall 1989 some of you were rightly critical of late arrival of important issues of the *Lattice* related to announcements of meetings, etc. It appears that part of the problem had to do with delays by the U.S. Postal Service in Washington. Every effort is being made to assure that the *Lattice* gets through the mail to you on time in 1990.

If the above matters, or anything else of concern to you, needs comment or attention, please feel free to contact me through Society headquarters. Through the wonder of the FAX machine I am usually only minutes away.

*Peter Robinson*

Peter Robinson  
President



## The Origin of Zinc Ores Symposium

A one-day symposium (10:00 a.m. to 5:00 p.m.) on the origin of the zinc ores of Franklin and Sterling Hill, Sussex County, New Jersey will be held at Lehigh University on May 19, 1990 under the sponsorship of the Department of Geological Sciences at Lehigh University and the Franklin-Ogdensburg Mineralogical Society. Speakers include Clifford Frondel, Avery Drake, Craig Johnson, Peter Leavens, Robert Metsger, Paul B. Moore, and Charles Sclar. For additional information call Prof. Charles B. Sclar, Department of Geological Sciences, Lehigh University, Bethlehem, PA 18015 at (215)758-3658.

## Mineralogical Abstracts

Are you aware that MSA is co-owner of *Mineralogical Abstracts* and that as a consequence MSA members are able to subscribe personally to *MA* at a much reduced rate? For several years this rate has been held at \$25 but is to be increased for 1991 to around \$30 (this price compares with the full price to subscribers of \$230).

Can you afford not to be a regular reader of *MA*, which produces 5000 informative abstracts annually, not author abstracts, but abstracts written by experienced mineralogists, petrologists and geochemists from all over the world? It is organized into 18 sections covering such topics as Apparatus and Techniques, Book Notices, Clay Minerals, Crystal Structure, Economic Minerals and Ore Deposits, Experimental Mineralogy and New

Minerals as well as the major sections on Geochemistry, Mineral Data and Petrology, so that items of interest can be readily found. There are also annual author and detailed subject indexes (currently in arrears but indexes for 1986, 1987 and 1988 are projected for publication in 1990). Meanwhile all abstracts published since 1982 are available for online searching in the Lockheed Dialog file 292.

This is an international cooperative venture produced in cooperation with the IMA and is a non-profit organization dedicated to supplying abstracts on subscribers desks at a realistic price. Support this effort by writing today to the MSA Business Office, 1625 I Street N.W., Suite 414, Washington, D.C. 20006. Telephone: (202)775-4344. FAX: (202)775-0018.

## 1991-92 Advanced Research Fellowships in India

The Indo-U.S. Subcommission on Education and Culture is offering twelve long-term (6-10 months) and nine short-term (2-3 months) awards for 1991-92 research in India. These grants will be available in all academic disciplines, except clinical medicine. Applicants must be U.S. citizens at the postdoctoral or equivalent professional level. The fellowship program seeks to open new channels of communication between academic and professional groups in the United States and India and to encourage a wider range of research activity between the two countries than now exists.

Therefore, scholars and professionals with limited or no prior experience in India are especially encouraged to apply.

Fellowship terms include: \$1,500 per month, of which \$350 per month is payable in dollars and the balance in rupees; an allowance for books and study/travel in India; and international travel for the grantee. In addition, long-term fellows receive international travel for dependents; a dependent allowance of \$100-\$250 per month in rupees; and a supplementary research allowance up to 34,000 rupees. This program is sponsored by the Indo-U.S. Subcommission on Education and

Culture and is funded by the United States Information Agency, the National Science Foundation, the Smithsonian Institution, and the Government of India.

The application deadline is June 15, 1990. Application forms and further information are available from:

Council for International Exchange  
of Scholars  
Attn: Indo-American Fellowship Program  
3400 International Drive, Suite M-500  
Washington, D.C. 20008-3097  
Telephone: (202)686-4013

## 1991-92 COMPETITION OPENS FOR FULBRIGHT SCHOLAR AWARDS

The Council for International Exchange of Scholars has announced the opening of competition for 1991-92 Fulbright grants in research and university lecturing abroad.

The awards for 1991-92 include about 1,000 grants in research and university lecturing for periods ranging from three months to a full academic year. There are openings in over 100 countries and, in many regions, the opportunity exists for multicountry research. Fulbright awards are granted in virtually all disciplines, and scholars in all academic ranks are eligible to apply. Applications are encouraged from retired faculty and independent scholars.

Grant benefits, which vary by country, generally include round-trip travel for the grantee and, for most full academic-year awards, one dependent; stipend in U.S. dollars and/or local currency; tuition allowance for school-age children in many countries; and book and baggage allowances.

The basic eligibility requirements for a Fulbright award are U.S. citizenship; Ph.D. or comparable professional qualifications; university or college teaching experience; and, for selected assignments, proficiency in a foreign language. It should be noted that there is no limit on the number of Fulbright grants a single scholar can hold, but there must be a three-year interval between awards.

Application deadlines for the awards are:

- June 15, 1990: Australia, India, the Soviet Union, and Latin America, except lecturing awards to Mexico, Venezuela, and the Caribbean. (Note: new deadline for Soviet Union).

- August 1, 1990: Africa, Asia, Western Europe, Eastern Europe, the Middle East, and lecturing awards to Mexico, Venezuela, and the Caribbean; travel-only awards to France, Italy, and Federal

Republic of Germany. (Note: new deadlines.)

- November 1, 1990: Institutional proposals for Scholar-in-Residence Program.

- November 1, 1990: International Education Administrators Program in Federal Republic of Germany, United Kingdom, and Japan; and the Fulbright German Studies Seminar.

- January 1, 1991: NATO Research Fellowships and Spain Research Fellowships.

Application materials will be available in March 1990. For more information and applications, call or write Council for International Exchange of Scholars, 3400 International Drive, Suite M-500, Washington, D.C. 20008-3097. Telephone: (202)686-7866.



# An Opinion from Past-President Zen

Dear fellow members of the MSA:

I was distressed to hear of the decision of the Council of the International Mineralogical Association, made this past summer, to hold the next quadrennial IMA meeting in Beijing, China, as previously planned, with no ostensible recognition of the changed social and political conditions there, symbolized by the events of repression, arrests and killings that started at Tienanmen Square last June.

All the sources of information, except the official Chinese government pronouncements, lead to the conclusion that the budding open society in China came to an abrupt end with these events. Intellectual freedom is once again on hold. Many physical and social scientists in China are reported to have been arrested; the fate of yet others are unknown because vital channels of communication have been closed. If the news reports are to be believed, even those scientists free to continue their work are receiving renewed political indoctrination and control. Under these circumstances, it is difficult to believe that an international group such as the IMA could meet in China and be able

to conduct free and unfettered conversation with our Chinese colleagues; it is equally unclear that such conversation, however innocent, might not harm them.

I find it very regrettable that the IMA Council apparently made no effort to seek assurances from the Chinese authorities that the meetings will be truly open and free and without prejudice to our Chinese colleagues. Furthermore, with China's current efforts to portray a "business as usual" situation there, the IMA meeting might well be used as "proof" that the international mineralogical community is accepting that depiction, despite the numerous evidence of blatant violations of human rights. When the depredations of the "cultural revolution" occurred, we in the outside world could plead ignorance; this time, we know at least part of what was and is occurring, and our own conscience is at stake.

Please consider your decision to go to IMA carefully.

E-an Zen  
11923 Escalante Court  
Reston, VA 22091  
Telephone: (703)860-0845

## Fragmentation or Amalgamation?

Dr. Peter Robinson, President  
Mineralogical Society of America  
1625 I Street, N.W., Suite 414  
Washington, D.C. 20006

RE: Your article "From the President" in the *Lattice* of November 1989.

Dear Mr. President,

As a fellow of MSA (and a U.S. Citizen) I am strongly opposed to a further fragmentation of the Earth Sciences by establishing more "fragmental" ("fractal") divisions within GSA - as for example a "Petrology and Geochemistry Division" of GSA. As a fellow of both Societies (and a member of four more American Geoscience Societies) I am very much concerned about the fragmentation and competition going on. One gets literally bombarded by letters asking for donations, promotions, etc. and I wonder where all of this is going to end.

Consequently, I agree that "amalgamation" is the better way and "fragmentation" leads to a loss of cooperation and a loss of a normal, coherent flow of information. I would much rather see a cooperation and coordination which might lead to a (U.S.-) Union of Geological Societies. - Was the original AGI an intended nucleus of such a coordination?

With best wishes for 1990!

Yours sincerely,  
Prof. Dr. G. C. Amstutz  
Mineralogisch-Petrographisches Institut  
Der Universität Heidelberg  
D-6900 Heidelberg  
West Germany

## \$3500 RESEARCH GRANT

**The Mineralogical Society of America  
announces the**

**Biennial Mineralogy/Petrology Research Grant  
from a**

**fund created by contributions from the MSA membership.**

This grant is made for research in mineralogy and petrology. The \$3500 grant will be given in 1991 and in odd-numbered years thereafter. The recipient will be selected by the MSA Council at the annual fall meeting prior to the award year of the grant. The choice will be based on the recommendation of a committee appointed by the President of the Society.

The only restriction on eligibility is that the successful applicant must be between 20 and 30 years of age. There are no restrictions on how the money is to be spent, as long as it is spent in support of the proposed research.

An application form may be obtained from the Mineralogical Society of America, Business Office, 1625 I Street N.W., Suite 414, Washington, D.C. 20006. Telephone: (202)775-4344. FAX: (202)775-0018.

COMPLETED APPLICATIONS SHOULD  
BE RETURNED TO THE BUSINESS OFFICE  
BY JULY 1, 1990

Previous recipients:

- 1981 - William D. Carlson, University of Texas at Austin
- 1983 - Tracy N. Tingle, University of California at Davis
- 1985 - Carol Nabalek, University of Missouri at Columbia
- 1987 - R. C. Tacker, Rice University
- 1989 - Jillian F. Banfield, Johns Hopkins University
- Nancy Elizabeth Brown, Princeton University

Note: This grant alternates each year with the Crystallography Research Grant.

## IN MEMORIAM

We regret to announce the passing of the following MSA members. The Society extends its condolences to the families and friends of these scientists.

**Hui, Stephen**, Member, 1975  
**Rossi, Giuseppe**, Member, 1975

## DO YOU HAVE . . .

. . . the new FAX number for the Business Office. The number is: (202) 775-0018.

. . . a copy of Special Paper No. 2 that you don't need or could loan to Eugene Smelik at Johns Hopkins University. Please contact him directly at (301) 338-8342.



## MEETING CALENDAR 1990

### April

- 16-21 Materials Research Society Spring Meeting in San Francisco, California. Details: MRS Headquarters, 9800 McKnight Road, Pittsburgh, PA 15237. ATTN: ICEM-90. Telephone: (412)367-3003. FAX: (412)367-4373.

### May

- 2-4 V.M. Goldschmidt Conference at the Hunt Valley Inn, Baltimore, Maryland. Organized by the Geochemical Society. Details: Donna Ricketts, 409 Keller Conference Center, The Pennsylvania State University, University Park, PA 16802. Telephone: (814)863-1743. FAX: (814)865-3003.
- 7-10 MAC/Commission on Ore Mineralogy Short Course on "Advanced Microscopic Studies of Ore Minerals" in Ottawa, Canada. Details: D.C. Harris, Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario, Canada, K1A 0E8. Telephone: (613)992-4495. FAX: (613)996-9990.
- 13-25 International School on Crystal Growth and Crystallographic Assessment of Industrial Materials in Sitges, Spain. Details: Dr. R. Rodriguez-Clemente, Institute of Materials Science, C.S.I.C. - c/Marti i Franques, s/n. 08028 Barcelona, Spain. Telephone: 34-3-3302716. FAX: 34-3-4110012.
- 14-15 MAC Short Course on "Fluids in Tectonically Active Regimes of the Continental Crust" in Vancouver, British Columbia. Details: B.E. Nesbitt, Department of Geology, University of Alberta, Edmonton, Alberta, Canada T6G 2E3. Telephone: (403)492-5071. FAX: (403)492-2030.
- 16-18 GAC/MAC Annual Meeting in Vancouver, British Columbia. Details: GAC/MAC, Secretariat, 801-750 Jervis Street, Vancouver, BC V6E 2A9. Telephone: (604)681-5226. FAX: (604)681-2503.

### May/June

- 29-1 AGU/MSA Spring Meeting in Baltimore, Maryland. Details: MSA Business Office, 1625 I Street, NW, Suite 414, Washington, D.C. 20006. Telephone: (202)775-4344. FAX: (202)775-0018.

### June/July

- 28-3 15th General Meeting of the IMA in Beijing, China.

### September

- 17-19 International Conference on Electronic Materials in Newark, New Jersey. Details: MRS Headquarters, 9800 McKnight Road, Pittsburgh, PA 15237. ATTN: ICEM-90. Telephone: (412)367-3003. FAX: (412)367-4373.

### October

- 6-11 Clay Minerals Society 27th Annual Meeting in Columbia, Missouri. Details: Professor W.D. Johns, Department of Geology, University of Missouri, Columbia, MO 65211. Telephone: (314)882-3785.
- 26-28 MSA 1990 Short Course on Mineral-Water Interface Geochemistry in Pottsboro, Texas. See article and registration form in this newsletter.

### October/November

- 29-1 MSA/GSA Annual Meeting in Dallas, Texas. Details: MSA Business Office, 1625 I Street, NW, Suite 414, Washington, D.C. 20006. Telephone: (202)775-4344. FAX: (202)775-0018.

*The Lattice* is published quarterly (February, May, August, November) by the Mineralogical Society of America. This newsletter is distributed to MSA members as a service. Articles and letters from readers are welcome.

The Mineralogical Society of America is composed of individuals interested in mineralogy, crystallography, and petrology. Founded in 1919, the Society promotes, through education and research, the understanding and application of mineralogy by industry, universities, government and the public.

Membership benefits include: the *American Mineralogist*, published bi-monthly; 30% discount on volumes in the *Reviews in Mineralogy* series; The *Lattice*; Membership Directory; special subscription rates for *Mineralogical Abstracts*, *Physics and Chemistry of Minerals*, *Journal of Petrology*, and *Journal of Metamorphic Geology*; reduced registration fees at MSA short courses; member rates for the MSA/Geological Society of America annual meeting and member rates at MSA's spring meeting with the American Geophysical Union; participation in a Society that supports the many facets of mineralogy.

Dues for 1990 are \$40 for professional members; \$20 for students. Membership is on a calendar year basis. Individuals who join after January 1, 1990 will be sent all back issues of the journal for volume 75, 1990.

For additional membership information and an application, and/or to receive a price list of the Society's publications, contact the Business Office.

Institutions may subscribe to the 1990 volume of the *American Mineralogist* for the annual rate of \$150. The subscription price includes any new volumes of the *Reviews in Mineralogy* series published during the calendar year of the subscription. Payment must be received in full before a subscription will be started.

**1990 President:** Peter Robinson,

University of Massachusetts

**Past-President:** C.W. Burnham,  
Harvard University

**Secretary:** Maryellen Cameron,  
Miami University of Ohio

**Treasurer:** James A. Whitney,  
University of Georgia

**Office Manager/Accountant:**  
Susan L. Myers

**Mineralogical Society of America**  
1625 I Street N.W., Suite 414  
Washington, D.C. 20006  
Telephone: (202)775-4344  
FAX: (202)775-0018



# WELCOME!

The following new members and students have joined MSA effective January 1, 1990. Welcome! Applications for membership may be obtained from the Business Office, 1625 I Street, N.W., Suite 414, Washington, D.C. 20006; (202)775-4344.

**Anglin, Carolyn D.**, Department of Earth Sciences, Carleton University, Ottawa, Ontario, Canada K1S 5B6. O:(613)788-4427. H:(613)526-5719. (ST-90)EG. Sponsor: MSA.

**April, Richard**, Department of Geology, Colgate University, Hamilton, NY 13346. O:(315)824-1000/212. H:(315)824-1756. (M-90)CM. Sponsor: MSA.

**Arcilla, Carlo**, 718 S. Loomis, Chicago, IL 60607. O:(312)996-3158. H:(312)733-1016. (ST-90)IP. Sponsors: John Rakovan and Stephen Guggenheim.

**Atkinson, Suzan S.**, 6821 106th Street, Edmonton, Alberta, Canada T6H 2W1. O:(403)492-1113. H:(403)436-8186. (ST-90). Sponsor: MSA.

**Bargar, John**, 49 W. Tompkins Street, Columbus, OH 43202. H:(614)447-1697. (ST-90)MI. Sponsor: MSA.

**Barwood, Henry L.**, Arkansas Technical University, Arkansas Mining Institute, Russellville, AR 72801-2222. O:(501)968-0201. H:(501)967-8711. (M-90). Sponsor: MSA.

**Bell, Michael**, Unocal Science & Technology, 376 S. Valencia Avenue, Brea, CA 92627. O:(714)528-7201/2187. H:(714)693-1543. (M-90)CC. Sponsor: MSA.

**Bender, Edward E.**, Department of Geological Sciences, University of Southern California, Los Angeles, CA 90089-0740. O:(213)743-0834. H:(213)495-3993. (ST-90). Sponsor: MSA.

**Blount, Jonathan G.**, 1203 Green Valley Cove, Round Rock, TX 78664. O:(512)471-0407. H:(512)388-1249. (ST-90). Sponsor: MSA.

**Boland, Irene B.**, 630 Cannon Drive, Rock Hill, SC 29730. O:(803)777-7795. H:(803)329-4238. (ST-90). Sponsor: MSA.

**Bowman, Brad**, 2426 Vista Drive, Upland, CA 91786. H:(714)982-2272. (M-90)MI. Sponsor: MSA.

**Brass, Garrett**, Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, FL 33149. O:(305)361-4690. H:(305)884-2419. (M-90). Sponsor: MSA.

**Cady, Sherry L.**, Department of Geology, University of California, Berkeley CA 94720. O:(415)642-3993. H:(415)295-2999. (ST-90)MI. Sponsor: MSA.

**Cavallo, Gregory**, American Museum of Natural History, Central Park West, 79th Street, New York, NY 10024. O:(212)769-5390. H:(718)651-3901. (M-90)MI. Sponsor: MSA.

**Ceci, Vincent M.**, Department of Geology, George Washington University, Washington, DC 20052. O:(202)994-6190. H:(301)776-4190. (ST-90)IP. Sponsors: Richard P. Tollo and Frederick E. Hutson.

**Choi, Jin-Beom**, Department of Geology, Kyeongang National University, Jinju, Korea 660-701. O:(0591)54-8331/4590. H:(0591)52-5058. (M-90)MI. Sponsor: Soo Jim Kim.

**Christensen, Lindsay G.**, 401 College Drive #112, Reno, NV 89503. O:(702)784-1104. H:(702)348-0862. (ST-90)EG. Sponsors: Liang-Chi Hsu and Donald C. Noble.

**Colin, Fabrice**, Department of Geology and Geophysics, University of California - Berkeley, Berkeley, CA 94720. O:(415)643-9980. H:(415)526-8648. (M-90)MI. Sponsor: MSA.

**Compton, John S.**, Department of Marine Sciences, University of South Florida, St. Petersburg, FL 33701. O:(813)893-9158. H:(813)864-2247. (M-90)CM. Sponsor: MSA.

**Connolly, James R.**, Department of Geology, University Of New Mexico, Albuquerque, NM 87131. O:(505)277-3817. H:(505)268-9471. (M-90)IP. Sponsors: Rodney C. Ewing and Klaus Keil.

**Couture, Rex A.**, Department of Earth and Planetary Sciences, Washington University, 1 Brookings Drive, St. Louis, MO 63130. O:(314)726-4194. H:(314)275-8228. (M-90)CM. Sponsor: MSA.

**Crow, Henry C.**, University of Nevada, 4505 Maryland Parkway, Las Vegas, NV 89154. O:(702)739-1091. H:(702)369-0498. (M-90). Sponsor: MSA.

**Da Silva Filho, A.F.**, 13A Nettleden House, Cale Street, London, England SW3 3RB. H:(01)5819407. (ST-90)IP. Sponsors: Paul Suddaby and John Nolan.

**Dam, B.P.**, Warande 39, Zeist, The Netherlands 3705 ZC. O:(030)534958. H:(03404)52370. (ST-90)MP. Sponsors: T.G. Nijland and P.H.M. Thijssen.

**Daniel, Christopher**, 801 Locust N.E. #1013, Albuquerque, NM 87102. H:(505)842-9264. (ST-90). Sponsor: MSA.

**Davis, Laura E.**, Lawrence Livermore National Laboratory, L-490, P.O. Box 808, Livermore, CA 94550. O:(415)423-8241. H:(209)823-5006. (M-90). Sponsor: MSA.

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## Register now for Mineral-Water Interface Geochemistry short course.

If you are interested in registering for the Fall Short Course: "Mineral-Water Interface Geochemistry", you are encouraged to do so now. The course is limited to the first 115 individuals on a first-come, first-serve basis. The course will take place Thursday, October 25th through Sunday, October 28th. This is just prior to the MSA/GSA Annual Meeting. The short course will be held at the Tanglewood Resort and Conference Center in Pottsboro, Texas, 60 miles north of Dallas. The course will begin with a welcoming reception on Thursday evening and continue until noon on Sunday. Transportation will be provided from the Dallas/Fort Worth airport at approximately 1:30 p.m. and 4:30 p.m. on Thursday. Buses will leave at approximately 2:00 p.m. Sunday afternoon and return participants to the main GSA hotels in Dallas. In addition, registration fees include Volume 22 of the *Reviews in Mineralogy* series, lodging Thursday, Friday and Saturday nights and all meals beginning with the reception and light buffet dinner on Thursday through lunch on Sunday.

Among the recreational facilities that the Tanglewood has to offer are: two lighted tennis courts, three cascading swimming pools, an 18-hole championship golf course, riding stables, boating and fishing on Lake Texoma, volleyball, softball and horseshoe pitching. The resort also has a health facility with weight machines and aerobic classes. So participants can take advantage of these facilities and to promote an informal atmosphere for the exchange of ideas and information, the convenors of the course have devised a schedule of three talks during the morning on Friday, Saturday and Sunday and two talks during the evening on Friday and Saturday. This allows participants to have their afternoons free to enjoy the resort and visit with friends and colleagues.

Scientists have realized for some time that the chemical reactions that take place at surfaces and interfaces play critical roles in many important processes such as sorption, precipitation and growth, corrosion, adhesion, catalysis, lubrication, and so on. Therefore, it is of little surprise that surface science has made major contributions to practically all scientific and engineering disciplines, and the earth sciences are no exception. The 1990 Fall short course on mineral-water interface geochemistry will address geochemical aspects of surface science. Speakers from the US, Canada, Australia, and Switzerland will discuss fundamental aspects of chemical processes that occur at mineral-water interfaces including adsorption,

dissolution, ion exchange, precipitation, catalysis, electron transfer (oxidation-reduction, including photo-redox), and organic interaction. Applications of these topics to more applied subjects, such as the geochemical cycling of certain elements, the mobility of solutes in groundwater systems, ore deposit formation, weathering processes, mineral growth and froth flotation will be explored. The three day meeting is being convened by Michael F. Hochella, Jr. (Stanford University) and Art F. White (USGS, Menlo Park).

Specific topics and speakers include: G.M. Bancroft (Western Ontario), adsorption/reduction reactions of metal complexes on sulfide minerals with implications for ore petrogenesis; G.E. Brown, Jr. (Stanford), spectroscopic studies of chemisorption reaction mechanisms at oxide-water interfaces; W.H. Casey (Sandia), leaching of mineral and glass surfaces during dissolution and chemical weathering; J.A. Davis (USGS), adsorption-desorption reactions at mineral-water interfaces with emphasis on transport of solutes in groundwater; M.F. Hochella, Jr. (Stanford), atomic structure, morphology, composition, and reactivity of mineral surfaces; A.C. Lasaga (Yale), kinetics and modeling of chemical reactions at mineral surfaces; G. Nancollas (SUNY-Buffalo), mechanisms of growth and dissolution of minerals emphasizing carbonates, sulfates, and phosphates; G.A. Parks (Stanford), thermochemical aspects and applications, with emphasis on surface and interfacial free energies; P. Schindler (Univ. of Bern), organic interactions on mineral surfaces; G. Sposito (UC-Berkeley), molecular models of ion adsorption, including statistical mechanical approaches with

applications; W. Stumm (Swiss Federal Institute for Water Resources), oxidative-reductive dissolution, including the role of biota in producing reductive ligands, and geochemical implications; T.D. Waite (Australian Nuclear Science and Technology Organization), photo-redox processes at the mineral-water interface, with implications to the natural environment; A.F. White (USGS), electrochemical reactions on ferrous oxide and silicate mineral surfaces with implications for water chemistry.

One of the primary motivations for convening this short course is to bring new ideas into this rapidly growing and dynamic field, and to explore new applications with all those in attendance. Another important motivation is to bring together aqueous geochemists and mineral surface specialists in order to help hybridize these important and related fields. Consequently, it is anticipated that those attending the course will represent a wide cross-section of geochemical disciplines.

The course lecturers, who will also be writing the companion text, will review all important research in their fields up to the present time. They will develop their subject in a pedagogic fashion starting with easily understood fundamentals, and proceed through advanced applications. Therefore, the course is appropriate for those getting started in the field, as well as researchers who are already well established in it. It is hoped that discussions generated by all in attendance, both during and between lectures, will advance the state of surface and interfacial geochemical research.

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in single room	\$575.00	\$615.00*

\* Includes MSA membership for 1991.

Registrations will be accepted in the order they are received. Individuals interested in the short course are encouraged to complete the registration form on the following page and return it as early as possible to the MSA Business Office, 1625 I Street, NW, Suite 414, Washington, DC 20006. FAX: (202)775-0018. Payment must accompany the registration form.



## Registration Form

Mineral-Water Interface Geochemistry  
October 25-28, 1990

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Please list any special requirements regarding lodging or meals. \_\_\_\_\_

Please indicate your preference for the shuttle bus on Thursday, October 25.

- \_\_\_\_ 1:30 p.m. \_\_\_\_ 4:30 p.m. \_\_\_\_ I do not plan to use the shuttle bus.



# MSA Needs Nominations And Committee Volunteers

As MSA continues to grow, member participation becomes more essential to the continuation and formation of programs that meet member needs. The best way to participate in Society activities is through committees. Please take a minute now to read the brief committee description below and consider getting involved.

Involvement can take several forms: nominate a candidate for office or an award, volunteer to serve on a committee next year, or offer your name or that of a colleague as a possible candidate for office. It is through the involvement of individual members that the Society's programs develop to meet the needs of its members.

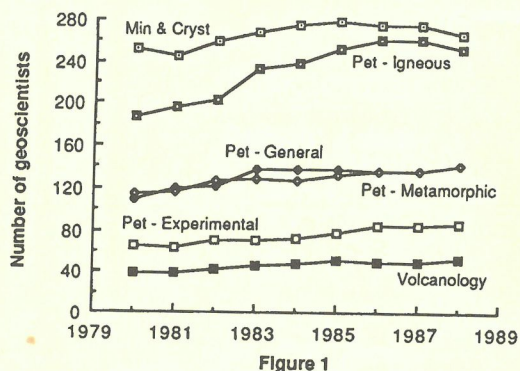
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Award/Office	Deadline	Committee Chair
<p>Roebbling Medal — The highest award given for eminence as represented by outstanding original research in mineralogy. [No form; contact committee chair with name(s).]</p>	June 1	<p>Maria L. Crawford Bryn Mawr College Dept. of Geology Bryn Mawr, PA 19010 (215)645-5111</p>
<p>Mineralogical Society of America (MSA) Award — Outstanding contribution prior to 35th birthday with 1991 awardee younger than 37 on January 1, 1990. [No form; contact committee chair with name(s).]</p>	June 1	<p>Rosemary V. Buden National Science Foundation Experimental and Theoretical Geochemistry Division of Earth Science/DOG 1800 G Street, N.W. Washington, D.C. 20550</p>
<p>Mineralogy/Petrology Grant — \$3500 for a research proposal in petrology from a scientist between 20 and 30 years of age. (Form required.)</p>	July 1	<p>M. Charles Gilbert Texas A&amp;M University Dept. of Geology College Station, TX 77843 (409)845-2464</p>
<p>Fellowship — Society recognition of a member's significant scientific contributions. Nomination undertaken by one member with two members acting as co-sponsors. (Forms required.)</p>	June 1	<p>MSA Business Office 1625 I Street, N.W. Suite 414 Washington, D.C. 20006 (202)775-4344</p>
<p>Officers — Any member or fellow of the Society. One year terms for president and vice-president; two-year terms for treasurer and secretary; three-year term for Councillors. [No form; contact committee chair with name(s).]</p>	June 1	<p>Douglas Rumble Geophysical Laboratory 2801 Upton Street, N.W. Washington, D.C. 20008 (202)966-0334</p>
<p>Committees — Any member or fellow of the Society. Terms usually from one to three years. In addition to above committee, Society has Management, Financial Advisory, Publications, External Awards and Medals, Short Course, Tellers, and Committee on Committees. [No forms; contact committee chair with name(s).]</p>	May 1	<p>Malcolm Ross U.S. Geological Survey MS 959, National Center Reston, VA 22092 (703)648-6760</p>

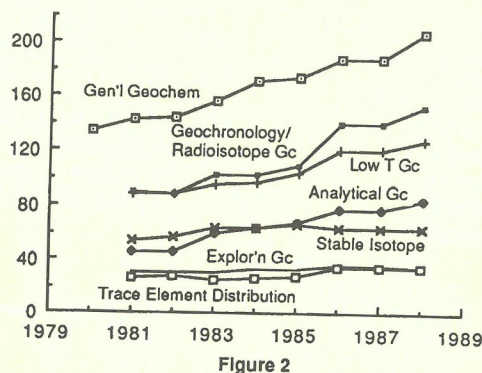


# Recent Trends: Employment in Geoscience Departments of Mineralogists, Crystallographers, Petrologists and Geochemists

MSA is a member of the American Geological Institute (AGI), which since the early 1950's has published an annual *Directory of Geoscience Departments* for the United States and Canada. In its 20th edition (1981), the first year in which the geochemical disciplines were detailed, the *Directory* listed 697 institutions. In its most recent edition (the 27th, 1988), the *Directory* listed 781 institutions - a 12% increase. In those institutions there are 886 geoscience departments, including 24 in the 19 museums, as well as 6 research institutes. Of the 886 departments, 639 (72%) are degree-granting.



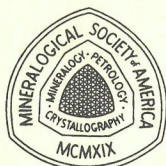
In Figure 1 above are plotted the numbers of professionals who list mineralogy and/or crystallography (Min & Cryst), general, igneous, metamorphic and experimental petrology (Pet) and volcanology as specialties. Since 1981 there has been a 21% growth in numbers (from 779 to 939), a small portion of which may be due to the added number of institutions in the AGI survey. Igneous petrologists account for 65 of these, but the number of mineralogists and crystallographers has increased only slightly (from 252 in 1980 to 266 in 1988).



In Figure 2 are data compiled for those academic professionals listing various aspects of geochemistry (Gc) as their specialty. The numbers of those working in stable isotopes, trace element distribution and exploration geochemistry have not changed significantly in eight years. But clearly there has been rapid growth in the numbers employed in general geochemistry, geochronology and radioisotope geochemistry, and low temperature and analytical geochemistry. The total number of geochemists listed in the *Directory* has increased 48%, from 476 in 1981 to 704 in 1988.

Perhaps the growing emphasis in the scientific community on environmentally-related research is responsible for much of this increase. My sense is that there presently are considerably more job openings in the academic, industrial and private consulting arenas for geochemists than for petrologists and mineralogists, although the latter are doing well in non-academic, materials-science related jobs.

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