

# The Lattice

## TEACHING MINERALOGY WORKSHOP

Mineralogy, a gateway course in geology, often gets a bad rap. Many students struggle with the complex concepts, groan under the burden of memorization, and miss the excitement and fun of minerals. Often they choose to change their majors rather than face mineralogy. In June, seventy people who teach mineralogy gathered at Smith College to discuss what it is they do. The Teaching Mineralogy Workshop was sponsored by the National Science Foundation and organized by John Brady, Dexter Perkins, Peter Whelan, and Jack Cheney. Attendees were a diverse group who teach mineralogy in a wide range of settings. The Workshop included field trips, group and breakout discussion sessions, and demonstrations of lab and computer exercises. With each activity mineralogy and geology shared the stage with teaching as leaders and volunteers modeled teaching methods and participants discussed how they would present ideas, what they expected of students, and how to encourage active participation by students. It quickly became apparent that some questions would not be resolved, in part because of instructor's diverse backgrounds, settings, and audiences.

The initial general session and breakout groups were devoted to a discussion of goals in teaching, the audience, and the core content of a mineralogy course. The broad goals of mineralogy include the development of critical thinking skills and scientific habits of mind, three dimensional visualization skills, an understanding of the petrologic significance of minerals, an appreciation of integration with life, and of the skills to identify minerals. The personal goal of most of the participants was to 'steal' as many ideas as possible to improve their courses in mineralogy.

Students in mineralogy reflect a shift away from those preparing for careers in mineralogy or hard-rock geology to hydrogeology and environmental studies. Other students include many preparing for careers in teaching, as well as engineers, chemists, soil scientists, and others interested in applying mineralogy in their fields.

The issue of content aroused the most passionate discussion with the group unable to agree on what should be included in a mineralogy course. Topics considered essential by some are not included by others. One such topic was the memorization of chemical formulas. A show of hands indicated that some participants do not expect students to memorize any formulas while others expect students to memorize more than 100. At the closing session the group firmly rejected a suggestion that we try to define a 'core' curriculum of topics. One breakout report summarized the debate by stating that teaching mineralogy is 'a variety of approaches, customized to a setting, tied by a common thread.'

One session was devoted to discussion of pedagogy. Breakout groups came up with lists of alternatives to lecturing and discussed pros and cons of each. Suggestions included collaborative exercises, team approaches, open exams, discussions, and problem solving approaches among others. Each group was also challenged to come up with several approaches to teaching a complex topic in an extremely limited time frame. Participants discussed the need to teach theory versus applications, increasing lab over lecture, a need for depth but on fewer topics. Again the discussion came around to content and there was wide disagreement on what should be taught (or if suggested topics should be taught at all). A wide range of innovative and new exercises were

presented at the workshop. Attendees settled into the role of students as colleagues taught labs and exercises. Leaders modeled a wide range of teaching approaches (as others modeled a wide range of student behaviors). In addition to the science there was an on-going discussion of teaching and how to effectively use collaborative, group, and other approaches to promote student understanding. A variety of computer software was loaded and available for review in the computer lab during the workshop and participants were given the opportunity to view several CD-ROM programs.

At the final session members of the group agreed to field test exercises and provide feedback to the authors in the expectation that the exercises will be published by the MSA. Participants also discussed some of the resources needed and how those could be made available. There was a call to create Web page or pages to facilitate communication about resources.

**Mary Dowse**

Department of Natural Science  
Western New Mexico University

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## *From the President*

This is my last Lattice column as MSA President, so I would like to start by thanking all the MSA members who have helped make the Society function during the past year as members of committees and commissions, Associate Editors of *American Mineralogist*, Lattice Editor, symposia organizers, and others who work behind the scenes without much thanks. Your efforts are greatly appreciated by the Council. I am particularly grateful to members of the MSA Council, who have worked hard this year on Society business, and to the Editors and Editorial Office of *American Mineralogist*, who continue to put out a world-class mineralogical journal. My almost completed year as MSA President has been greatly facilitated through the help and wise council of Alex Spear, our very able Administrator. We are in excellent hands with Alex.

Now on to some news about MSA. I am happy to report that the MSA Business Office finally has a new computer system that will be capable of handling the Society's business well into the next century. Alex just informed me that the building in which the MSA Business Office is housed just installed a T-1 high speed transmission line, so e-mail communication with the Business Office should be improved very soon. The Society's dependence on electronic communications will undoubtedly increase over the next decade, so I am very pleased about this new development. Speaking of electronic communication, MSA has a very attractive and informative homepage on the WWW that is maintained by John Brady of Smith College and contributed to by a number of MSA members. In addition, we have a very useful *American Mineralogist* home page that is maintained by Editor Ted Labotka. These WWW sites are certain to become much more visible to members in the future, and they should also serve an important educational function. During the past year I have worked with

members of the MSA Outreach Committee to generate a plan for increasing the impact of MSA through educational outreach activities on the Internet through our WWW site. Several committee members and I prepared and submitted a proposal to the National Science Foundation earlier this year requesting three years of funding to help support a new half-time staff member who would have the title MSA Coordinator of Internet Resources. Our proposal is still under consideration by the Education and Human Resources Program at NSF, and we should hear about the outcome of this request prior to the annual GSA-MSA meeting in October. If we are successful, the MSA Council will move quickly to identify and hire a Coordinator to expand MSA's educational activities on the Internet and to provide new member services, such as access to useful data bases and computer codes. If our proposal is not successful, we will approach several sister societies, including the GSA and the Geochemical Society, to perhaps begin a joint outreach effort on the Internet. I will keep you posted about the outcome of this effort with a short announcement in the next Lattice.

I hope to see many of you at the annual MSA Business Meeting in Denver and in the scientific sessions and the symposium being sponsored by MSA at the GSA meeting. Please join us at the joint MSA-Geochemical Society reception on the evening of Wednesday, October 30. We will be giving out 25 and 50 year membership pins to those who qualify for them and who attend the reception. For those who cannot make the reception, you can pick your pin up at the MSA booth in the Exhibits Hall at the GSA Meeting. For those not attending the GSA meeting, you will receive your pins by mail. This year, we will charge an entrance fee at the reception of \$10 for members and \$5 for students. I hope this charge, which is necessary to offset the costs to MSA and the Geochemical

Society, will not keep you from attending.

I would like your opinion on future involvement of MSA at the Spring AGU meetings. As many of us have observed over the past five years, this meeting has declined in attendance significantly. AGU management is now concerned about these attendance trends and is seeking guidance from affiliated societies about possible changes that might make the meeting more popular. Please think about what MSA can do or should do to help.

Again, I hope to see many of you in Denver in October when I will pass the Presidential gavel to incoming President David Veblen.

*Gordon E. Brown, Jr.*



President

### *Lattice Home Page*

The Lattice has a new home page that will include Lattice issues beginning with volume 12, No. 1 (1996). The home page address is <http://scribe.geol.lsu.edu/henry's/lattice.html>. There are also links to other related sites. Any suggestions for additional information to be included in the Lattice home page would be greatly appreciated. Contact Darrell Henry with suggestions or comments at [glhenr@lsuvax.sncc.lsu.edu](mailto:glhenr@lsuvax.sncc.lsu.edu).

### *Other useful List servers and Home Pages*

**MSA list server:** [msa@smith.smith.edu](mailto:msa@smith.smith.edu)

**MSA Home page:** <http://geology.smith.edu/msa/msa.html> (MSA forms and publication price lists on Home page)

**American Mineralogist Home page:** <http://ammin.gg.utk.edu>



## Notes from Washington

At its Spring, 1996 Meeting, the SA Council voted to raise member dues by \$10, from \$30 to \$40. Student dues remain unchanged at \$30, as does the cost of a member subscription to *American Mineralogist* at \$30. In 1997, member dues without the journal will be \$40, members receiving the journal will pay \$70, and students will pay \$30 and will receive the journal. International surface airlift for the journal will remain at \$30. Institutional subscriptions to the journal are increased to \$320.00 for subscribers with a domestic U.S. address, \$325.00 to Canadian or Mexican addresses, and \$330.00 for subscribers with other foreign addresses.

MSA has processed subscriptions to the *Journal of Metamorphic Geology* for its members since 1987. When this arrangement with the publisher started, subscriptions through the Society were at a substantial discount. MSA set the price to our members by taking the publisher's discounted price and adding a handling fee of \$5 to cover the processing time and direct expenses. MSA is a federal tax-exempt organization, not an expense-free one. In the last year we discovered that the prices the publisher was charging MSA are no different than an individual subscriber can obtain elsewhere. Added on to these prices was the \$5 fee charged by the Society. In checking our files we found that this situation has been going on for some years, with almost no comment. Thus MSA members have been paying a premium to subscribe to the journal through the Society. This is hardly a benefit of membership. At its Spring, 1996 Meeting, the MSA Council voted to terminate its arrangement with the publisher unless a preferential subscription rate could again be established. We attempted to reach an agreement with the publisher, but there was no interest on their part other than to offer subscriptions at full price with suggestion that we do away with our handling fee. Thus MSA will no longer accept new or renewal subscriptions to the *Journal of Metamorphic Geology*

starting in 1997. For those members who have been subscribing, this item will not appear on your renewal notice. You may receive a renewal notice directly from the publisher.

There will be a joint MSA-Geochemical Society Reception on October 29, 1996 at the GSA Meeting in Denver, CO (see calendar for a full). In order to make this more than a beer and pretzel affair, the GS and MSA decided that this would be a ticketed function. Tickets are sold by GSA and can be bought either when you register by mail for the meeting or up to 24 hours before the event in Denver. Cost is \$10 for professionals and \$5 for students.

In 1995 the MSA Arts Council proposed, and the Council accepted, a recommendation to produce metal pins recognizing individuals who have been members of the Society for at least 50 and 25 years. We have received these pins. Both are 2 cm across, have the shape of a tourmaline cross-section, and have a raised and modified seal of the Society with either a 25- or 50-year center inscriptions. The 25-year pin is silver-colored, the 50-year gold-colored. MSA would like to distribute these to as many members as possible at the GSA Meeting in Denver. They will be available either at the MSA Booth in the Exhibit Hall, or at the joint MSA-GS Reception. Any remaining pins will be mailed to members after the meeting.

(continued next page)

### Advertisements in *The Lattice*

*The Lattice* accepts paid advertisements. All items advertised must relate to mineralogy, crystallography, or petrology or use of these disciplines in other sciences, industry, technology, or the arts. Rates:

Full page:\$400 Half page:\$200

Quarter page:\$100 Eighth page:\$50

Details may be obtained from the MSA Business Office: J. Alex Speer, Mineralogical Society of America, 1015 Eighteenth Street N.W., Suite 601, Washington, D.C. 20036, Telephone: 202-775-4344, Fax: 202-775-0018.

Only camera-ready copy of advertisements can be accepted, and should be sent directly to the editor of *The Lattice*: Darrell J. Henry, Dept. of Geology and Geophysics, Louisiana State University, Baton Rouge, LA 70803. Phone: 504-388-2693; fax: 504-388-2302.



The *Lattice* is published quarterly (February, May, August, November) by the Mineralogical Society of America. It 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: *American Mineralogist*, published bi-monthly; 25% 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 1996 are \$60 for professional members who elect to receive *American Mineralogist* and \$30 for those who elect not to receive the journal, but who do receive all other membership benefits; membership is \$30 for students. Membership is on a calendar year basis. Individuals who join after January 1, 1996 will be sent all back issues of the journal for volume 81, 1996.

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 1996 volume of *American Mineralogist* for the annual rate of \$295 in the US, \$300 in Canada and Mexico and \$305 in all other countries. 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.

**1996 President:** Gordon E. Brown, Jr.  
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**Editor of *The Lattice*:** Darrell J. Henry  
Louisiana State University

**MSA Administrator:** J. Alexander Speer  
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This project revealed that the Society has a very loyal membership. As of July, 1996, 77 individuals have been members for at least 50 years; 628 individuals have been members for at least 25 years. The oldest member joined in 1924. MSA may need a 75-year pin.

During the next two months the aging MSA Business Office computer system will be replaced. New computers were acquired starting at the beginning of 1996. In August, the server and network software will be installed. The membership and sales transaction databases will be freed from their

present residences and translated into the new required formats. In early September, the databases will be installed onto the new system along with the association management software. During the rest of September, the office staff will undergo training on the new system. A new accounting system will be installed as well. The hope is that all this will not effect the members, but please bear with us if the normal office tasks slow during the transition, or for any errors that result.

In 1962 MSA signed an agreement with the Kraus Reprint Corporation to reprint out-of-print

numbers of the *American Mineralogist*, v. 20-32. In 1964, there was an agreement to reprint volumes 1-19. Subsequent agreements turned over back issue stock of the *American Mineralogist* to Kraus and gave them the near exclusive right to sell back issue volumes through 1980. The Society sells back issues after 1980. In the late 1980's Kraus experienced financial problems. We have been informed that Periodicals Service Co. (11 Main St., Germantown, NY 12526 Ph: 518-537-4700) has now acquired the rights to sell back issues of our journal.

## 1996 GSA Annual Meeting Program Schedule - Mineralogical Society of America

	Sunday October 27	Monday October 28	Tuesday October 29	Wednesday October 30
<i>Breakfast</i>	MSA Council Breakfast Penrose - Marriott 7:30-8:30 a.m.	MSA Presidents' Breakfast Gold Coin - Marriott 7:30-9:30 a.m.		
	<b>8:00 am - Noon</b>	<b>8:00 am - Noon</b>	<b>8:00 am - Noon</b>	<b>8:00 am - Noon</b>
<i>Morning Sessions</i>	3 <sup>rd</sup> 1996 MSA Council Meeting  Pomeroy - Marriott 8:30 am-12:30 pm	MSA Symposium Applications of Reactive Transport Modeling to Natural Systems  8:00 am - 12:00 pm	MSA-reviewed Oral Session on Mineralogy - Crystallography  includes the MSA Presidential Address @ 10:30-11:15 am	MSA-Clay Mineral Society Joint Symposium Environmental Mineralogy: Science and Politics 8:00 am - 12:00 pm
<i>Lunch</i>	MSA Council Lunch  Penrose - Marriott 12:30 - 1:30 pm	Am. Min. Associate Editors' Lunch Nat Hill - Marriott 12:15 - 2 pm	MSA Awards Luncheon  Grand Ballroom - Hyatt 12:15 - 2 pm	
	<b>1:30 - 5:30 pm</b>	<b>1:30 - 5:30 pm</b>	<b>1:30 - 5:30 pm</b>	<b>1:30 - 5:30 pm</b>
<i>Afternoon Sessions</i>	3 <sup>rd</sup> 1996 MSA Council Meeting (continues) Pomeroy - Marriott 1:00 - 5:00 pm		MSA-Reviewed Poster Session  2:30 - 4:30 pm	
<i>Receptions or Dinners</i>	MSA Council Dinner  Penrose - Marriott 5:30 - 6:30 pm		MSA-Geochemical Society Joint Reception Colorado F - Marriott 5:30 - 7:30 pm	
<i>Evening Sessions</i>	1 <sup>st</sup> 1997 MSA Council Meeting Pomeroy - Marriott 7:00 - 11 pm			

*Note: No MSA functions are scheduled for Thursday October 31.*



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## ***Outstanding Students Honored -American Mineralogist Undergraduate Award***

MSA members have taken advantage of the Society's American Mineralogist Undergraduate (AMU) Award program to recognize 4 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 the individual faculty 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 *American Mineralogist*, for 1996.

Deadlines for nominating students are January 1 and July 1 of each year. Mark these dates on your calendars so you can be watching for that exceptional student. If you are interested in presenting the award at a particular ceremony, please remember these dates and that time is required to

produce certificates. To nominate a student, send a letter on departmental letterhead to Dr. J. Alexander Speer, MSA Business Office, 1015 Eighteenth St., NW, Suite 601, Washington, DC 20036. With the nomination, please include the student's full name that would be suitable for the certificate, the student's address that will be current at the time the award will be made (we receive returned mail from AMU awardees who have moved on), year in school, the MSA sponsor's name, and the date and brief description of the award ceremony at which the certificate will be presented. The letter must be signed or co-signed by the department chair.

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

**Ellen R. Avery**  
Bryn Mawr College  
*Sponsored by William A. Crawford*

**Jason James**  
Acadia University  
*Sponsored by Sandra M. Barr*

**Philip E. Owens**  
Central Washington University  
*Sponsored by James R. Hinthorne*

**Louise Bolge**  
Rider University  
*Sponsored by Jonathan M. Husch*

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## ***Financial Contributors to MSA***

Many members contribute to MSA's Endowment and Mineralogy/Petrology Funds and the Edward H. Kraus Crystallographic Research Fund each year by including a contribution along with their dues payments. The MSA Benefactor Committee, chaired by Stephen Guggenheim, has also been active the last few months soliciting contributions for a new, Outreach Fund. These four Funds support MSA's biennial research grants in crystallography, mineralogy, and petrology; publishing of the *American Mineralogist*; the *American Mineralogist* Undergraduate Awards; the Mineralogical Society of America Award; the Public Service Award, the Roebling Medal; and the lectureship program. The contributions range from modest to generous. But they

are effective. For example, the Fund with the largest number of contributors is the Mineralogy/Petrology Fund. The persistence of these contributors' generosity has permitted the Fund to reach the point where either a \$3500 research grant can be given each year, two grants every-other year, or the award can be doubled.

In 1995, \$5696 was contributed to your Society. In 1996, \$8646 has been contributed as of July 1: Endowment (\$2002), Kraus (\$668), Outreach (\$3031), and Mineralogy/Petrology Fund (\$2945). If you have not done so previously, you might want to consider contributing at the next opportunity. Here we want to extend our gratitude to the following individuals and organizations:

### ***MSA Endowment Fund***

C.A. Botner  
Roy S. Clarke, Jr.  
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### **IN MEMORIAM**

We regret to announce the passing of the following MSA Life Fellow. The Society extends its condolences to the family and friends of this scientist.

**Dr. Stuart O. Agrell**, Life Fellow  
1940

### **Members in the News**

**R. A. Howie** was elected as President of the Gemmological Association and Gem Testing Laboratory of Great Britain

**Correction:** In the May issue of *The Lattice* there was an error in which George M. Friedman should read Gerald M. Friedman.

**Gerald M. Friedman**, Professor of Geology at Brooklyn College, was elected an honorary Fellow of the Geological Society (of London, England), was given the Russian Academy of Natural Sciences Kapitsa Gold Medal of Honor and will be awarded the Twenhofel Medal by the Society of Sedimentary Geology



# Mineralogical Society of America Short Course Announcement

## REACTIVE TRANSPORT IN POROUS MEDIA: General principles and application to geochemical processes

- Dates:** October 25-27, 1996 (preceding the Geological Society of America Annual meeting in Denver, Colorado)
- Location:** Short Course sessions are October 25-26, between 8:45 am - 5:00 pm. The sessions will be held at the Table Mountain Inn, 1310 Washington Avenue, Golden, Colorado 80401, U.S.A. voice: 303-277-9898, 1-800-762-9898, fax: 303-277-0261. The Computer Jamboree is on October 27, between 8:30 am - 3:30 pm. It is sponsored by the Colorado School of Mines (CSM) Department of Geology and Geological Engineering and will be held at the CSM Computer Center.
- Conveners:** *Peter C. Lichtner*, Southwest Research Institute, 6220 Culebra Road, San Antonio, TX 78238-5166; e-mail: lichtner@swri.edu  
*Carl I. Steefel*, Department of Geology, University of South Florida, Tampa FL 33620, e-mail: steefel@margaux.cas.usf.edu  
*Eric H. Oelkers*, Laboratoire de Geochimie, CNRS/Universite Paul Sabatier, 38 rue des Trente Six Ponts, 31400 Toulouse, FRANCE; e-mail: oelkers@cix.cict.fr

<b>Fees:</b>		<i>before 8/31/96</i>	<i>after 9/1/96</i>
Professional Registration:	Member	\$320	\$370
	Non-member	\$380*	\$430*
Student Registration:	Member	\$220	\$270
	Non-member	\$280*	\$330*

\* includes MSA membership dues for 1997.

**Registering:** Registration forms are available from the MSA Business Office, 1015 Eighteenth Street, N.W., Suite 601, Washington, D.C. 20036-5203, USA. tel: 202-775-4344 fax: 202-775-0018 e-mail: minrlsocam@aol.com; or the MSA Home Page (<http://geology.smith.edu/msa/msa.html>). Registration form with payment must be returned to the MSA Business Office.

**Practical:** Registration fee includes MSA short course sessions, refreshments at breaks, Saturday evening banquet, and *Reviews in Mineralogy* volume. There is an informal welcoming reception beginning 5:30 pm Thursday evening, October 24 on a self-pay basis at the Table Mountain Inn. Registration fee does not include room, other meals, or transportation costs to or from Golden. Participants must contact the hotel or motel of their choice to make reservations and pay for rooms. Blocks of rooms have been reserved at the following hotels until October 10:

<u>Lodging</u>	<u>phone</u>	<u>price range</u>	<u>distance</u>	<u>rooms blocked</u>
Table Mountain Inn	800-762-9898	\$86-136	session site	20
Antique Rose	303-277-1893	\$75-115	next door	5
Mariott	303-279-9100	\$74-150	> 3 miles	25
Ramada Inn	303-279-7611	\$60-80	4 miles	30
Williamsburg	303-279-7673	\$55-65	next door	10
LaQuinta	303-279-5565	\$59-99	4 miles	30

Ground transportation to and from the Denver Airport (DIA) is available. Among the services available is Golden West Commuter leaving about every hour. Cost \$15-20.

Participants may wish to bring their own computer disks for the Computer Jamboree.

Further information and updates are available on the internet site of this short course: <http://geology.smith.edu/msa/ShortCourse/announ.html>. A more detailed description and registration forms are also in the May issue of *The Lattice*.

## Report of the Financial Advisory Committee for 1995

As of the end of 1995 the Mineralogical Society of America's endowment was divided into three funds. The largest of these, the Endowment Fund, is for unrestricted use authorized by the MSA Council, and the other two smaller funds, the Mineralogy/Petrology Fund and the Kraus Crystallography Fund, are restricted for providing financial assistance toward future research in their respective fields. This report provides a brief summary of the fiscal year financial history of those funds and describes the changes that the Society's endowment will undergo in 1996 because of changes in auditing standards.

The Endowment Fund is composed of subequal investments in five equity funds, the Brandywine Fund, the Fidelity Equity Income II Fund, the Fidelity Magellan Fund, the Lindner Dividend Fund and the Reich & Tang Equity Fund, and a small amount of cash in two money market accounts. The market value of the Endowment Fund on December 31, 1995 was \$1,285,667 (Table 1). Even after substantial transfers from the Endowment Fund to the MSA Operating Budget in 1995 the great strength of the equity markets

during the year earned the Society a gain of more than \$237,000 in the Endowment Fund.

The Mineralogy/Petrology Fund and the Kraus Crystallography Fund are each 100% invested in separate Fidelity Equity-Income Fund accounts. Table 1 shows that the gains in those Funds, after expenses and including contributions, were \$35,087 and \$20,353 respectively.

**Table 1: Mineralogical Society of America Endowment**

	1995	1995	1994	1994
	Cost	Market	Cost	Market
<b>Fund Type</b>				
Endowment	\$1,058,873	\$1,285,667	\$1,009,130	\$1,048,649
Mineralogy/Petrology	\$101,511	\$138,120	\$91,371	\$103,033
Kraus Crystallography	\$69,218	\$91,156	\$63,837	\$70,803
<b>Investment Type</b>				
U.S. Treasury Notes		\$0		\$40,000
Mutual Funds-Equities		\$1,513,017		\$595,121
Cash Equivalents		\$1,926		\$587,364

### Restructuring of the MSA Endowment

The MSA Council approved the following restructuring of the MSA Endowment at its Spring 1996 Meeting. The changes were highly recommended by the Society's

Auditors so that the Society would be in compliance with the new set of auditing procedures due to become effective during 1996 for non-profit organizations.

### The MSA Endowment

#### Description of the MSA Funds

(Effective 1/1/96)

#### 1. Edward H. Kraus Crystallography Fund

- Fund Purpose: *To provide financial assistance toward future research in the field of crystallography*
- All past and future contributions to this Fund plus an inflation adjustment are permanently restricted.
- All accumulated income to the Fund in excess of the contributions and the inflation adjustment is temporarily restricted until March 31, 2016.

#### 2. Mineralogy and Petrology Fund

- Fund Purpose: *To provide financial assistance toward future research in the fields of mineralogy and petrology*
- All past and future contributions to this Fund plus an inflation adjustment are permanently restricted.
- All accumulated income to the Fund in excess of the contributions and the inflation adjustment is temporarily restricted until January 1, 2030.



### 3. MSA Endowment Fund

- a. Fund Purpose: *To provide support for the publication of the American Mineralogist and for the advancement of the mineralogical sciences*
- b. This Fund is composed of the inflation adjusted sum of all past documented contributions to the old Endowment Fund, except for the original contributions from Col. Roebling. The 1/1/96 balance (\$119,908) and all future contributions to this Fund are permanently restricted.
- c. The Fund balance will be calculated annually. If that balance shows an excess over the previous balance plus all contributions and an inflation adjustment, the excess is to be transferred to the unrestricted Roebling Fund. If in any year, or series of years, the adjusted balance of the MSA Endowment Fund should decrease, no money shall be transferred until such time as the balance of the Fund reaches or exceeds the balance that existed at the most recent transfer of funds to the Roebling Fund plus the accumulated contributions and the inflation adjustment since that time.

### 4. Roebling Fund

- a. Fund Purpose: *To provide support for the publication of the American Mineralogist and for the advancement of the mineralogical sciences*
- b. This new Fund is composed of all unrestricted funds that have accumulated in the old Endowment Fund over the last 71 years. Because the major source of those funds was the \$45,100 donated by Col. Roebling in 1925 and 1926 the Fund has been named the "Roebling Fund".
- c. A substantial portion of the Roebling Fund has been "Board Restricted" by the MSA Council and will thereby be treated as permanently restricted by the Society. The "Board Restricted" portion of the Roebling Fund will be calculated annually based on an initial (1/1/96) value of \$850,000. If that balance shows an excess over the previous balance plus an inflation adjustment, the excess is to be transferred to the unrestricted portion of the Roebling Fund.
- d. All remaining money in the Roebling Fund is unrestricted for use by vote of Council with the following specific expenses to be charged to the Roebling Fund annually.

1. American Mineralogist Undergraduate Awards
2. Life Memberships
3. Roebling Medal Awards
4. MSA Awards
5. MSA Public Service Awards
6. The MSA Lecture Series and the MSA Web Site expenses until such time as these can be funded by the Outreach Fund

### 5. Outreach Fund

- a. Fund Purpose: *To support the Society's public service activities*
- b. Principal and all contributions plus an inflation adjustment are permanently restricted. The Fund will be totally restricted until the balance reaches \$100,000. Once this balance has been reached all accumulated income to the Fund in excess of the contributions and an inflation adjustment is temporarily restricted until January 1, 2050 to provide financial assistance for the Society's public service activities.

### Policies Relating to the MSA Funds

1. Unless otherwise specified, all contributions to the Society will be treated as permanently restricted and placed in the MSA Endowment Fund. All contributions designated for the MSA Endowment, Kraus Crystallography, Mineralogy and Petrology, and Outreach Funds will be placed in the permanently restricted portions of those Funds. Contributions made specifically to the Roebling Fund will be treated as unrestricted.
2. The descriptions of the individual MSA Funds indicate that portions of those Funds are categorized as permanently restricted, temporarily restricted, or unrestricted. The specific meanings of those terms are as follows:
  - a. Permanently Restricted: funds are part of the permanent endowment and are totally unavailable for spending.
  - b. Temporarily Restricted: funds are restricted from being spent for purposes other than the prescribed purpose of the Fund until the date specified.
  - c. Unrestricted: funds may be spent by vote of the MSA Council

*Respectfully submitted,*

**D. Hewitt**, Chairman  
**W. Carlson**, Chairman of the Management Committee  
**R. T. Helz**, Treasurer

**C. Guidotti**  
**D. Rumble**

## *Report of the Treasurer for 1995*

This report summarizes the financial activity of the Mineralogical Society of America for the calendar year 1995. The financial statements have been audited by Rubino & McGeehin, Chartered Certified Public Accountants of Bethesda, Maryland. The financial statements given in this report are taken from that audit.

Table 1 shows the Statement of Assets, Liabilities, and Fund Balances, with the summary numbers from 1994 for comparison. As of the end of 1995, there was a negative balance of \$25,166 in the General Operating Fund, which was more than offset by a positive balance of \$1,045,018 in the Reserve (Endowment) Fund. In addition to the Reserve fund, the society has two smaller restricted-purpose funds: the Edward H. Kraus Crystallographic Research Fund, which had a balance of \$69,409 and the Mineralogy/Petrology Fund, which had a balance of \$103,294. The value shown for the Reserve fund increased by \$34,236, that for the Edward H. Kraus Crystallographic Research Fund increased by \$7736, and that for the Mineralogy and Petrology Fund by \$7661. All securities in the various funds were evaluated by the auditors on both a cost basis and on the basis of market value as of 12/31/95. The figures in Table 1 use the cost basis, as the lower of the two, and represent a conservative estimate of the Society's financial status. Table 1 shows that the cost basis value of the Society's investments has increased \$49,633 since the end of 1994.

MSA extensively restructured the Society's investment portfolio in 1994, in accordance with a plan developed by Dave Hewitt, Chair of the Financial Management Committee. The large amount of cash in the General Operating Fund as of 12/31/94 (shown in Table 1) is a consequence of this restructuring, which was completed in early 1995. The lower amount shown in the 1995 column is a more reasonable level for the Society to maintain during normal operations.

### **Breakdown by Funds**

The Society has four funds. The General Operating Fund, which encompasses all aspects of the Society's operations, closed 1995 with a balance of negative \$25,166 (Table 1). There was an operating surplus of \$3343 in 1995, corresponding to 0.45% of the total budget of the Society on 1995. The negative balance carried in the General Operating Fund, which reflects operating deficits in 1990 and earlier years, has been reduced from the 1994 level in consequence.

The Society's Reserve Fund, income from which provides support for Society operations and special projects, showed an increase of \$34,276, on a cost basis of the portfolio, as discussed above. The market value of the Society's investment increased during 1995, as noted in the report of the Financial

Advisory Committee, from \$1,082,126 to \$1,285,667, an increase of 18.8%.

The Edward H. Kraus Crystallographic Research Fund and the Mineralogy-Petrology Fund make biennial research grants to promising young scientists, in alternate years. The Mineralogy-Petrology Fund made an award of \$3500 in 1995, while the value of the fund on a cost basis rose by \$7661. The Kraus Crystallographic Research Fund, which made no award grew by \$7736, on a cost basis, during 1995.

### **Discussion**

The Society's financial performance in 1995 was again better than anticipated on the original budget. That budget projected a deficit of \$11872 for the year, whereas the actual outcome was a profit of \$3343. As in 1994, one factor involved was decreased material and production costs of the American Mineralogist, reflecting the Society's current, more favorable contract with Allen Press. Sales of textbooks (especially Frank Spear's monograph on metamorphism) continued strong in 1995, running \$18628 ahead of the projected sales.

Expenses for the Society increased in 1995, as it instituted a TIAA-CREF retirement plan for all employees who work 1000 or more hours per year. Also the Business Office moved into new space, leasing enough space for the Editorial Office to join them there later in 1996. The move of the Business Office was accomplished with minimal cost and disruption in late July 1995, but there is inevitably some overlap in rent payments between space in Washington and space in Ann Arbor, until the Editorial Office completes its move later this year.

Two other comments on the figures in Table 1: The amounts listed in Table 1 for Dues and Subscriptions (as of 12/31/95) are much lower than those that obtained on 12/31/94. This is because the dues notices were not mailed until after the 1995 GSA meeting, which was unusually late. Consequently fewer people and subscribers had responded by the end of the year. Subsequent renewals suggest that the Society is holding its own in membership in 1996, though subscriptions appear to be off. Second, the monies shown on the line "Assets held for others" include funds being held from the Fifth and Sixth Kimberlite Conferences. At this point the money is mostly from sale of volumes from the Fifth Conference, and some amount of it should accrue to MSA, but until it is clear how much belongs to the Society and what should be done with the rest, we are showing it as a separate line.



## Summary of Treasurer Report

In 1995 the Mineralogical Society of America had a good year, financially and operationally. The Business Office is working well, under the direction of Administrator Alex Speer, in its new space. consolidation of the Editorial Office and the

Business Office in one location and completion of the upgrading of MSA's computer system in 1996 should enable the Society to serve its members and the scientific community better than ever in the years to come.

*Rosalind Tuthill Helz*, Treasurer

## MINERALOGICAL SOCIETY OF AMERICA STATEMENT OF FINANCIAL POSITION

December 31, 1995  
(With comparative Totals for 1994)

<b>Assets</b>	<b>General Operating Fund</b>	<b>Reserve Fund</b>	<b>E H Kraus Crystallographic Research Fund</b>	<b>Mineralogical &amp; Petrology Fund</b>	<b>1995 Total</b>	<b>1994 Total</b>
Cash	\$97,113				\$97,113	\$255,381
Accounts receivable	\$27,847				\$27,847	\$39,990
Prepaid expenses and deposits	\$12,870				\$12,870	\$9,302
Interfund borrowings	\$11,881	\$(13,855)	\$191	\$1,783		
Investments		\$1,058,873	\$69,218	\$101,511	\$1,229,602	\$1,164,338
Furniture and equipment net of \$72,651 accumulated depreciation	\$28,097				\$28,097	\$10,250
Deposit	\$8,425				\$8,425	
Assets held for others	\$91,900				\$91,900	
<b>Total assets</b>	<b>\$278,133</b>	<b>\$1,045,018</b>	<b>\$69,409</b>	<b>\$103,294</b>	<b>\$1,495,854</b>	<b>\$1,479,261</b>

<b>Liabilities and net assets</b>	<b>General Operating Fund</b>	<b>Reserve Fund</b>	<b>E H Kraus Crystallographic Research Fund</b>	<b>Mineralogical &amp; Petrology Fund</b>	<b>1995 Total</b>	<b>1994 Total</b>
Accounts payable and accrued expenses	\$78,082				\$78,082	\$63,965
Due to other publishers						\$9,048
Deferred revenues						
Dues	\$20,647				\$20,647	\$46,471
Subscriptions	\$104,000				\$104,000	\$223,945
Rent abatement	\$8,670				\$8,670	
Assets held for others	\$91,900				\$91,900	
<b>Total Liabilities</b>	<b>\$303,299</b>				<b>\$303,299</b>	<b>\$343,429</b>
<b>Fund balances</b>	<b>\$(25,166)</b>	<b>\$1,045,018</b>	<b>\$69,409</b>	<b>\$103,294</b>	<b>\$1,192,555</b>	<b>\$1,135,832</b>
<b>Total liabilities and fund balance</b>	<b>\$278,133</b>	<b>\$1,045,018</b>	<b>\$69,409</b>	<b>\$103,294</b>	<b>\$1,495,854</b>	<b>\$1,479,261</b>

## *Report of the Editors of American Mineralogist (Oct. 1, 1994 - Sept. 30, 1995)*

1. Tom Cichonski assumed the responsibility of Managing Editor in January 1995. Dave Vaniman (Los Alamos) is the new Book Reviews Editor, and Robert T. Downs (Geophysical Lab) is the new Technical Editor (Crystal Structures). John Jambor continues as New Minerals Editor.

2. New Associate Editors (serving through 1998) include: Gilberto Artioli (Milan), William Carey (Los Alamos), Lee Groat (British Columbia), Anne Hofmeister (Washington Univ.), David Jenkins (Binghamton), Hans Keppler (Bayreuth), Rebecca Lange (Michigan), Dave Mogk (Montana St.), Kathy Nagy (Sandia), Gordon Nord, Jr. (USGS - Reston), and Simon Redfern (Cambridge Univ.) We extend our sincere thanks to retiring Associate Editors: Barb Dutrow, George Guthrie, Claude Herzberg, Tony Kampf, Jim Luhr, Bill Nash, and Dave Sherman.

3. There were 274 manuscripts submitted in the period 10/1/94 to 9/30/95; 37 of these were Letters. During this

period 63 were rejected and 11 were withdrawn, yielding a rejection/withdrawal rate of 27%. Of the Letters, 13 were published, 11 were rejected or withdrawn, and 13 were converted to regular manuscripts.

4. Disk-based submissions and editing were introduced in 1995 to improve editorial efficiency and accuracy and to reduce cost. As of September nearly one-half of the accepted manuscripts were received and edited on disk, and the fraction has been increasing steadily.

5. American Mineralogist has a home page on the World Wide Web that provides current information about the editorial staff, recent Tables of Contents, as well as software announcements and distribution. The URL is <http://ammin.gg.utk.edu>

6. The Editorial Office will move from its Ann Arbor location to a new office in Washington, DC, adjoining the Business Office, by the end of 1996.

*Theodore C. Labotka*, Editor

*Richard J. Reeder*, Editor

*Thomas J. Cichonski*, Managing Editor

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### **Reviewers of Manuscripts Accepted or Rejected in 1995**

Abs-Wurmbach, I.	Bohlen, S.	Dollase, W.	Geiger, C.	Henry, D.	Kiefenbacher, J.
Amthauer, G.	Boudreau, A.	Donovan, J.	Gerdes, M.L.	Hervig, R.	Kleebe, J.
Angel, R.	Bowman, J.	Dorling, M.	Getting, I.	Hess, P.	Knight, R.
Anovitz, L.	Brady, J.	Dove, M.	Ghiorso, M.	Hickmott, D.	Kohlstedt, D.
Appleman, D.	Brearley, A.	Downs, R.	Ghose, S.	Higgins, J.	Kohn, M.
Arai, S.	Brookey, R.	Dunitz, J.	Graham, C.M.	Hirschman, M.	Kress, V.
Aranovich, L.	Brown, N.	Dyar, D.	Gregory, R.T.	Hochella, M.	Kubicki, J.
Arehart, G.	Brown, W.	Dymek, R.	Grew, E.	Hofmeister, A.	Kunz, M.
Armbruster, T.	Burnley, P.	Eberl, D.	Grice, J.	Holdaway, M.J.	Lager, G.
Ayers, J.	Burt, D.	Eiler, J.	Groat, L.	Hovis, G.L.	Lamble, G.
Bailey, S.	Cady, S.	Elza-Cole, J.	Grundy, H.	Hugh-Jones, D.	Last, W.
Bancroft, M.	Carlson, W.	Ercit, T.S.	Guggenheim, S.	Hughes, J.M.	Leinenweber, K.
Banerjee, S.	Carpenter, M.A.	Essene, E.	Haggerty, S.	Ihinger, P.	Libowitzky, E.
Barnes, C.	Carroll, M.	Finch, R.	Hall, D.	James, O.	Lindsley, D.
Baronnet, A.	Catti, M.	Finger, L.	Hammarstrom, J.	Jamtviet, B.	Lindstrom, D.
Bassett, W.	Chakoumakos, B.	Fiquet, G.	Hansen, E.	Jenkins, D.	Liou, L.
Baumgartner, L.	Chakraborty, S.	Fischer, R.	Harker, B.	Jiang, W.	Lofgren, G.
Bayliss, P.	Chernosky, J.	Fleet, M.	Harley, S.	Joesten, R.	Loferski, P.
Bell, D.	Chopelas, A.	Foit Jr., F.	Harlow, G.	Johan, Z.	Longhi, J.
Berg, J.	Circone, S.	Foord, E.E.	Hawthorne, F.	Johnson, M.C.	Luth, R.
Bergantz, G.	Cressey, G.	Francis, C.A.	Hazen, R.M.	Joliff, B.	Mackwell, S.
Berman, R.G.	Criddle, A.	Freed, R.	Heaney, P.	Jones, R.	Makovicky, E.
Blundy, J.	Cygan, R.	Frost, B.R.	Hearn, C.	Joyce, D.	Manning, C.
Boatner, L.A.	Diefenbacher, J.	Gait, R.	Heinz, D.	Kampf, A.	Marsh, B.
Bodnar, B.	Dingwell, D.	Ganguly, J.	Hemley, R.	Keppler, H.	McCormick, T.



McLelland, J.M.  
 McMillan, P.  
 McSween, H.  
 Made, C.  
 Michael, P.  
 Miller, C.  
 Mitchell, R.H.  
 Moecher, D.  
 Moore, P.  
 Morgan, G.  
 Morrison, J.  
 Moses, C.  
 Mossman, B.  
 Mueller, P.  
 Mumpton, F.  
 Murowchick, J.  
 Nabelek, P.  
 Nash, W.  
 Neuman, S.  
 Nolan, R.  
 Nord, G.  
 Nyfeler, D.  
 Oberti, R.  
 O'Day, P.  
 Papike, J.  
 Paque, J.  
 Parkhurst, Q.  
 Pasero, M.  
 Patino-Douce, A.  
 Patrick, R.  
 Pawley, A.R.  
 Peacor, D.  
 Perkins, D.  
 Peterson, R.  
 Phillips, B.  
 Poe, B.  
 Post, J.  
 Prestel, D.J.  
 Prewitt, C.T.  
 Pring, A.  
 Rakovan, J.  
 Rapp, R.  
 Reche, I.  
 Redfern, S.  
 Richardson, P.  
 Rieder, M.  
 Rivers, M.  
 Robinson, G.  
 Ross, N.  
 Rossman, G.  
 Sack, R.  
 Schmahl, W.  
 Schomaker, V.  
 Schooner, M.

Schramke, J.  
 Scott, S.  
 Seifert, F.  
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 Shirey, S.  
 Sickafus, K.E.  
 Simms, S.  
 Skogby, H.  
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 Smith, D.  
 Smyth, J.  
 Snow, E.  
 Sorenson, S.  
 Spear, F.S.  
 Spearing, D.R.  
 Spera, F.  
 Stanley, C.  
 Stebbins, J.  
 Steele, I.M.  
 Stucki, J.  
 Symmes, G.  
 Tacker, R.C.  
 Takeda, H.  
 Taulelle, F.  
 Taylor, L.A.  
 Tossell, J.  
 Tracy, R.J.  
 Tyburczy, J.  
 Ullman, W.  
 Walker, J.  
 Wang, S.  
 Watson, E.B.  
 Waychunas, G.  
 Webster, J.  
 Wechsler, B.  
 Weiss, Z.  
 Welch, M.  
 Westrich, H.  
 Whitney, G.  
 Wicks, F.  
 Williams, Q.  
 Winkler, B.  
 Wood, B.  
 Woodland, A.  
 Wopenka, B.  
 Wuensch, B.  
 Xu, H.  
 Young, E.  
 Zanazzi, P-F.  
 Zbinden, E.  
 Zhang, Y.



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# Meeting Calendar 1996-1998

## 1996

### August

- 29-31 Degassing History of the Earth.** Bristol, UK. *Details:* B. J. Wood, Dept. of Geology, University of Bristol, Bristol BS8 1RJ England. e-mail: [b.j.wood@bristol.ac.uk](mailto:b.j.wood@bristol.ac.uk) or [Margaret.D.Wilkins@bris.ac.uk](mailto:Margaret.D.Wilkins@bris.ac.uk); WWW: <http://www.gly.bris.ac.uk/www/research/cetsei/cetsei.html>

### September

- 2-4 International Conference on Cathodoluminescence and Related Techniques in Geosciences and Geomaterials.** Nancy, France, *Details:* Maurice Pagel, CREGU, BP 23, 54501 Vandoeuvre-les-Nancy Cedex, France, Tel: (33) 83 44 19 00; Fax: (33) 83 44 00 29, e-mail: [pagel@cregu.cnrs-nancy.fr](mailto:pagel@cregu.cnrs-nancy.fr).

- 5-9 AGU Chapman Conference on Crater Lakes, Terrestrial Degassing and Hyper-acid Fluids in the Environment.** Crater Lake, OR. *Details:* Johan C. Varekamp, Earth & Environ. Sci., Wesleyan Univ., Middletown CT 06459-0139, Tel.: (860) 685-2248; Fax: (860) 685-3651 or Gary L. Rowe, US Geol. Surv., Water Resources Div., 975 West Third Ave., Columbus OH 43212-3192, Tel.: (614) 469-5553 x133; Fax: (614) 469-5626; e-mail: [glrowe@wrmail.er.usgs.gov](mailto:glrowe@wrmail.er.usgs.gov).

- 11-13 What Drives Metamorphism and Metamorphic Reactions: Heat Production, Heat Transfer, Deformation and Kinetics?** Kingston Univ., Surrey, UK. *Details:* Peter J. Treloar, School of Geol. Sci., Kingston University, Penrhyn Road, Kingston upon Thames, Surrey, UK, KT1 2EE, Tel: (44) 181 547 7525; Fax: 181 457 7497; e-mail: [treloar@kingston.ac.uk](mailto:treloar@kingston.ac.uk); or Paddy O'Brien, Geol. Inst., Univ. Bayreuth, Postfach 101251, D-95440 Bayreuth, Germany. WWW: [http://www.king.as.uk/~gl\\_s041/geolhmpg.htm](http://www.king.as.uk/~gl_s041/geolhmpg.htm).

### October

- 7-11 Minerals and Health.** Fribourg, Switzerland. *Details:* Giuseppe Biino, Inst. of Mineralogy and Petrography, Univ. Fribourg, Perolles, CH 1700, Fribourg, Switzerland, Tel. (41) 37 298 935; Fax: (41) 37 299 765; e-mail: [giuseppe.Biino@unifr.ch](mailto:giuseppe.Biino@unifr.ch); WWW: <http://www.unifr.ch/mineral/colloques.html>.
- 9-13 Geological Society of America Penrose Conference on "Exhumation Processes: Normal Faulting, Ductile Flow, and Erosion".** Chania, Crete. *Details:* Mark Brandon, Dept. of Geology and Geophysics, Yale University, P. O. Box 208109, New Haven, CT 06520-8109. Tel.: (203) 432-3135, Fax: (203) 432-3134, e-mail: [mark.brandon@yale.edu](mailto:mark.brandon@yale.edu). *Application deadline:* March 15, 1996.

- 25-27 Mineralogical Society of America Short Course: "Reactive Transport in porous media": General principles and applications to geochemical and biogeochemical processes".** Golden, Colorado. *Details:* Peter C. Lichtner, Southwest Research Institute, 6220 Culebra Road, San Antonio, TX 78238-5166, e-mail: [lichtner@swri.edu](mailto:lichtner@swri.edu); Carl I. Steefel, University of South Florida, e-mail: [steefel@margaux.cas.usf.edu](mailto:steefel@margaux.cas.usf.edu); Eric H. Oelkers, Université Paul Sabatier, e-mail: [uelkers@cix.cict.fr](mailto:uelkers@cix.cict.fr). [*see this issue of the Lattice for more information and registration forms.*]

- 26-27 Society of Economic Geologists' Short Course: "Applications of Microanalytical Techniques to Understanding Mineralizing Processes".** Florissant, CO. *Details:* Michael McKibben, Dept Earth Sci., Univ. of California - Riverside, Riverside, CA 92521. Tel.: (909) 787-3444; Fax: (909) 787-4324; e-mail: [michael.mckibben@ucr.edu](mailto:michael.mckibben@ucr.edu); WWW: <http://igpp2413a.ucr.edu>.

- 28-31 Geological Society of America Annual Meeting.** Denver, Colorado. *Details:* GSA, P.O. Box 9140, Boulder, CO 80301. Tel.: (303) 447-2020 or 800-472-1988 (USA only), e-mail: [meetings@geosociety.org](mailto:meetings@geosociety.org); WWW: <http://www.aescon.com/geosociety/index.html> *Abstract deadline:* July 9, 1996.

### December

- 2-6 Northwest Mining Association meeting on "Mining and the Environment - New Directions".** Spokane, WA. *Details:* NWMA, 10 N. Post St., Ste 414, Spokane, WA 99201. Fax: (509) 623-1241.
- 6-11 First European Research Conference : Geochemistry of Surficial and Crustal Fluids.** Seefeld, Tyrol, Austria. *Details:* K. Vala Ragnarsdottir, Dept. of Geology, University of Bristol, Bristol BS8 1RJ, U. K. Tel.: 44-(0)117-928-8201; Fax: 44-(0)117-925-3385. e-mail: [Vala.Ragnarsdottir@Bris.ac.uk](mailto:Vala.Ragnarsdottir@Bris.ac.uk) or Eric H. Oelkers, Université Paul Sabatier, e-mail: [uelkers@lucid.ups-tlse.fr](mailto:uelkers@lucid.ups-tlse.fr); WWW: <http://www.gly.bris.ac.uk/www/research/geochem/expt.htm>.
- 15-19 Fall AGU meeting.** San Francisco, CA. *Details:* AGU Meetings Dept., 1996 Fall Meeting, 2000 Florida Ave., N.W. Washington, DC, 20009. (202)-462-6900 (outside US) or 800-966-2481 (US); Fax (202)-328-0566; e-mail: [meetinginf@kosmos.agu.org](mailto:meetinginf@kosmos.agu.org); WWW: <http://www.agu.org>, *Abstract Deadline:* Sept. 11, 1996

## 1997

### April

- 8-10 Principal Genetic Problems Related to Mineral Deposits of Magmatic Affiliation.** Moscow, Russia. *Details:* Nick S. Bortnikov, IGEM RAS, Staromonetny per., 35, Moscow 109017, Russia. Tel.: (007) 095-230-8259 or 230-8244; Fax: (007) 095-230-2179; e-mail: symposium@igem.msk.su. *Abstract deadline: Feb. 1, 1997.*

### May

- 19-21 Geological Association of Canada/Mineralogical Association of Canada.** Ottawa, Canada. *Details:* GAC, Room 757, 601 Booth St., Ottawa, Ontario K1A 0E8. Tel.: (613) 947-7649; Fax: (613) 947-7650; WWW: <http://www.emr.ca/~ottawa97/>

### June

- 15-21 The 11th International Clay Conference and The 34th Annual Meeting of the Clay Minerals Society.** Ottawa, Ontario, Canada. (see announcement in *The Lattice* for further detailed information). *Details:* Jeanne B. Percival, Secretary-General, 11th ICC, Geological Society of Canada, 601 Booth St., Ottawa, Ontario K1A 0E8, Ontario, Canada. Fax: (613) 943-1286; E-mail: [icc97@gsc.emr.ca](mailto:icc97@gsc.emr.ca).

- 22-25 "Tourmaline 1997" - International Symposium on Tourmaline.** Moravia, Czech Republic. Technical Session (June 20-22) and Field Trip (June 23-25). *Details:* M. Novák, Dept. of Mineralogy and Petrography, Moravian Museum, Zelný trh 6, 659 37 Brno, Czech Republic. Fax: (05) 4221 2792; E-mail: [mzm@mzm.anet.cz](mailto:mzm@mzm.anet.cz) and F. C. Hawthorne, Dept. of Geological Sci., University of Manitoba, Winnipeg, R3T 2N2, Manitoba, Canada. Fax: (204) 261-7581; E-mail: [fchawthorn@bldgwall.lan1.umanitoba.ca](mailto:fchawthorn@bldgwall.lan1.umanitoba.ca)

### August

- 10-15 Gordon Research Conference on Inorganic Geochemistry: Ore Deposits.** New Hampton School, New Hampton, New Hampshire. *Details:* Mark Reed, Dept. of Geological Sciences, Univ. of Oregon, Eugene, OR 97403-1272. Tel.: (541) 346-5587; Fax: (541) 346-4692; e-mail: [mhreed@oregon.uoregon.edu](mailto:mhreed@oregon.uoregon.edu); or Kevin Shelton, Dept. of Geological Sciences, Univ. of Missouri, Columbia, MO 65211. Tel.: (573) 882-6568, Fax: (573) 882-5458; e-mail: [geosckls@showme.missouri.edu](mailto:geosckls@showme.missouri.edu); or Robert Schafer, BHP Minerals International Exploration, Inc., 5330 South 900 East, Suite 200, Salt Lake City, Utah 84117, Tel.: (801) 261-1103.

- 20 IMA Working Group in Mineral Equilibria and Data Bases.** Helsinki, Finland. *Details:* Pentti Holttä, Geol. Surv. Finland, SF-02150 Espoo, Finland. Tel.: 358-0-469323-12;

Fax: 358-0-462205; e-mail: [pentti.holttä@gsf.fi](mailto:pentti.holttä@gsf.fi) or Leonid L. Perchuk, Geological Faculty, Moscow State Univ., Vorobievy Gory 119899, Russia. Tel.: 7-095-913-2112; Fax: 7-095-939-1395; e-mail: [llp@geol.msu.ru](mailto:llp@geol.msu.ru) or [llp@p1854.home.chg.ru](mailto:llp@p1854.home.chg.ru). *Deadline for response to first circular: Nov. 31, 1996.*

### September

- 1-7 Fifth International Eclogite Conference.** "Centro Stefano Franscini", Monte Verita, Ascona, Switzerland. *Details:* Dr. Rolf Schmid, Mineralogy, IEC 97, ETH-centre, NO E43, 8092 Zurich, Switzerland. Tel. direct: XX41 1 6323791, Tel. secr.: XX41 1 6323779; Fax: XX41 1 6321088; E-mail: [rolf@erdw.ethz.ch](mailto:rolf@erdw.ethz.ch); WWW: [http://www.erdw.ethz.ch/~rolf/pre\\_reg.html](http://www.erdw.ethz.ch/~rolf/pre_reg.html). *Preliminary registration: Oct. 31, 1996, Registration due: May 31, 1997; Abstracts due: May 31, 1997*

- 8-10 COM/IMA short course: "Modern Approaches to Ore and Environmental Mineralogy".** S. Mamede de Infesta, Portugal. *Details:* Dr. Orlando C. Gaspar, Laboratório IGM, Apartado 89,4465 S. Mamede de Infesta, Portugal. Tel. + 351 2 951 19 15, Fax + 351 951 40 40

### October

- 20-23 Geological Society of America Annual Meeting.** Salt Lake City, Utah. *Details:* GSA, P.O. Box 9140, Boulder, CO 80301. Tel.: (303) 447-2020.

## 1998

### August

- 9-15 17th General Meeting of the International Mineralogical Association.** Toronto, Canada. *Details:* A. J. Naldrett, Dept. of Geology, University of Toronto, Toronto, Canada M5S 3B1. Tel.: (416) 978-3030; Fax: (416) 978-3938; E-mail: [ima98@quartz.geology.utoronto.ca](mailto:ima98@quartz.geology.utoronto.ca).

### ***MSA-CMS symposium and theme session on environmental mineralogy***

MSA members are reminded about these environmental mineralogy sessions in the upcoming national GSA meeting. A wide range of topics will be addressed.

### **THE DEADLINE FOR THE NOVEMBER ISSUE OF THE LATTICE IS NOVEMBER 4**

Contributions may be sent to Darrell Henry via surface mail at Department of Geology and Geophysics, Louisiana State University, Baton Rouge, LA 70803 or via e-mail at [glenh@lsuvax.sncc.lsu.edu](mailto:glenh@lsuvax.sncc.lsu.edu)

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Areas of Interest: (Circle main, check secondary): ☐ Mineralogy (MI), ☐ Crystallography/Crystal Chemistry (CC), ☐ Material Properties (PP), ☐ Igneous Petrology (IP), ☐ Metamorphic Petrology (MP), ☐ Sedimentary Petrology (SP), ☐ Geochemistry (GE), ☐ Phase Equilibria (PE), ☐ Economic Geology (EG), ☐ Clay Mineralogy (CM), ☐ Industrial Mineralogy (IM), ☐ Environmental Mineralogy (EM), ☐ Gems GM, ☐ Planetary Materials (PM), ☐ Teaching (TC), ☐ Topologic Mineralogy (TP), ☐ Others (Please indicate) \_\_\_\_\_

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Signature of Applicant: \_\_\_\_\_ Date \_\_\_\_\_

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The applicant is known to me and is a bona fide student at \_\_\_\_\_

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Faculty Member (Please print and sign your name, you need not be a member of the Society)

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### Sponsorship (optional)

Two current members of the Society may sponsor your application. If you do not know two current members, please return the application to the Society Headquarters so that the Business Office may sponsor you.

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Signature \_\_\_\_\_

2. Name (Please Print) \_\_\_\_\_

Signature \_\_\_\_\_

## Welcome!

We welcome the following as members of the Society. The areas of interest on the application form have been increased in an attempt to cover the increasingly broader interests of our membership. They are: Mineralogy (MI), Crystallography/Crystal Chemistry (CC), Material Properties (PP), Igneous Petrology (IP), Metamorphic Petrology (MP), Sedimentary Petrology (SP), Geochemistry (GE), Phase Equilibria (PE), Economic Geology (EG), Clay Mineralogy (CM), Industrial Mineralogy (IM), Environmental Mineralogy (EM), Gems (GM), Planetary Materials (PM), Teaching (TC), Topologic Mineralogy (TP), and Others as indicated.

If you know of someone who would like to join MSA, or should join MSA, use the membership application appearing elsewhere in this issue of *The Lattice* or obtain one from either MSA's home page (<http://geology.smith.edu/msa/msa.html>) or the MSA Business Office, 1015 Eighteenth Street, N.W., Suite 601, Washington, DC 20036-5203.

**Armengol, Mr. Rafael**, 13840 SW 285 Terrace, Miami, FL 33033, USA. Affiliation: Fine Airlines. Ph: 305-247-5621. (M-96) PP CM IM EM. Sponsor: MSA.

**Barwood, Dr. Henry L.**, 611 N Walnut Grove, S-409A, Bloomington, IN 47405, USA. Affiliation: Indiana Geological Survey. Ph: 812-855-1378. E-mail: [hbarwood@indiana.edu](mailto:hbarwood@indiana.edu). (M-96) MI GE EG CM IM EM. Sponsor: MSA.

**Clowes, Mr. Mark Allen**, 40 Meadow Lane, Brewer, ME 04412, USA. Affiliation: Holtrachem Manufacturing. Ph: 207-989-6979. E-mail: [fishknot99@aol.com](mailto:fishknot99@aol.com). (M-96) CC PE GM MI PP. Sponsor: MSA.

**Criscenti, Ms. Louise J.**, Department of Earth & Planetary Sciences, Johns Hopkins University, 3400 N Charles St./Olin Hall, Baltimore, MD 21209, USA. Ph: 410-516-8362. E-mail: [crisc.lj@jhvmshcf.jhu.edu](mailto:crisc.lj@jhvmshcf.jhu.edu). (S-96) MI CC GE CM EM. Sponsor: MSA.

**Gramsch, Dr. Stephen Allen**, Department of Chemistry, Augustana College, 639 38th Street, Rock Island, IL 61201, USA. Ph: 309-794-7393. F: 309-794-7422. E-mail: [chgramsch@augustana.edu](mailto:chgramsch@augustana.edu). (M-96) CC MI PP GE PE. Sponsor: MSA.

**Hannigan, Dr. Robyn**, Department of Earth Sciences, University of Rochester, 227 Hutch Hall, Rochester, NY 14627, USA. Ph: 716-275-7611. F: 716-244-5689. E-mail: [robyn@siena.earth.rochester.edu](mailto:robyn@siena.earth.rochester.edu). (M-96) IP SP GE. Sponsor: MSA.

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**Kiefer, Mr. Boris**, Geophysical Laboratory, 5251 Broad Branch Road, NW, Washington, DC 20015-1305, USA. Ph: 202-686-2410, ext. 2497. F: 202-686-2419. E-mail: [boris@perovskite.ens.gatech.edu](mailto:boris@perovskite.ens.gatech.edu). (S-96) MI PP. Sponsor: MSA.

**Kim, Mr. Hyeoncheol**, Department of Geological Sciences, Seoul National University, 151-742 Seoul, SOUTH KOREA. Ph: 2-

887-1277. F: 2-871-3269. (S-96) MP PE. Sponsor: Moonsup Cho and MSA.

**Lane, Mr. Robert F.**, 6649 E. Rustic Drive, Mesa, AZ 85215, USA. (M-96) MI. Sponsor: MSA.

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**Mahmud, A. A.**, PO Box 1710, Agora Hills, CA 91376, USA. Sponsor: MSA.

**Mandeville, Dr. Charles William**, Mineral Resources Department, Geological Survey of Japan, 1-1-3, Higashi, Tsukuba, Ibaraki 305, JAPAN. Ph: 81-298-54-9279. F: 81-298-54-3634. E-mail: [cmandy@gsjrstn.gsj.go.jp](mailto:cmandy@gsjrstn.gsj.go.jp). (M-96) MI IP. Sponsor: MSA.

**McIntosh, Ms. Julie Marguerite**, Department of Earth and Ocean Sciences, University of British Columbia, 6339 Stores Road, Vancouver, BC, CANADA V6T 1Z4. Ph: 604-822-8238. F: 604-822-6088. E-mail: [jmcintos@geology.ubc.ca](mailto:jmcintos@geology.ubc.ca). (S-96) EM MI PP GE EG CM GM TC. Sponsors: Mati Raudsepp and Lee Groat.

**Meldrum, Mr. Al**, University of New Mexico, Department of Earth & Planetary Sciences, Northrup Hall, Albuquerque, NM 87131-1116, USA. Ph: 505-277-2661. F: 505-277-8843. E-mail: [ameldrum@unm.edu](mailto:ameldrum@unm.edu). (S-96) PP EM. Sponsors: Rodney C. Ewing and Peter C. Burns.

**Mojzsis, Mr. Stephen J.**, 9228-d Regents Road, La Jolla, CA 92037-1434, USA. Affiliation: Scripps Institution of Oceanography. Ph: 619-534-2961. F: 619-534-2961. E-mail: [smojzsis@ucsd.edu](mailto:smojzsis@ucsd.edu). (S-96) GE MI CC IP MP PM. Sponsor: MSA.

**Noguchi, Dr. Takaaki**, Department of Materials and Life Sciences, Ibaraki University, Bunkyo 2-1-1, Mito 310, Ibaraki, JAPAN. Ph: 029-228-8389. F: 029-228-8405. E-mail: [tngc@mito.ipc.ibaraki.ac.jp](mailto:tngc@mito.ipc.ibaraki.ac.jp). (M-96) MI CC IP MP. Sponsors: Michio Tagiri and Hirokazu Tabata.

**Poustovetov, Mr. Alexei**, Department of Geological Sciences, Queen's University, Kingston, Ontario, CANADA K7L 3N6. Ph: 613-545-2597. F: 613-545-6392. E-mail: 3aap3@qucdn.queensu.ca. (ST-96) MI IP. Sponsor: MSA.

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**Scaillet, Dr. Bruno**, CRSCM-CNRS, 1A Rue de la F  rellerie, 45071 Orleans Cedex 2, FRANCE. Ph: 33-38515340. F: 33-38642670. E-mail: bscaille@cnrs-orleans.fr. (M-96) IP MI CC PP MP GE experimental petrology. Sponsor: MSA.

**Sch  nleber, Mr. Andreas**, Gurlittstrasse 1, Zimmer 214, 24106 Kiel, GERMANY. Ph: 0431-332177. (S-96) MI CC IM. Sponsors: Christian Soltmann and Bjoern Winkler.

**Shimizu, Mr. Masahiro**, Institute of Geoscience, University of Tsukuba, 1-1-1 Tennoudi, Tsukuba, Ibaraki, 305, JAPAN. Ph: 0298-53-4544. F: 0298-51-9764. E-mail: shimizu@arsia.geo.tsukuba.ac.jp. (M-96) CC MI. Sponsors: Mitsuyoshi Kimata and MSA.

**Trainor, Mr. Thomas Patrick**, Department of Geological and Environmental Sciences, Stanford University, Building 320, Room 118, Stanford, CA 94305, USA. Ph: 415-723-7513. E-mail: trainor@pangea.stanford.edu. (S-96) GE EM. Sponsors: Gordon E. Brown, Jr., and MSA.

**Weston, Ms. Patricia E.**, Department of Earth & Space Sciences, UCLA, Los Angeles, CA 90024, USA. Ph: 310-206-1938. E-mail: pweston@ess.ucla.edu. (S-96) IP MP GE EM TC. Sponsor: MSA.

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**Young, Dr. Edward D.**, Department of Earth Sciences, University of Oxford, Parks Road, Oxford OX1 3PR, ENGLAND. Ph: 44-1865-272000. F: 44-1865-272072. E-mail: Ed.Young@earth.ox.ac.uk. (M-96) MP GE. Sponsor: MSA.

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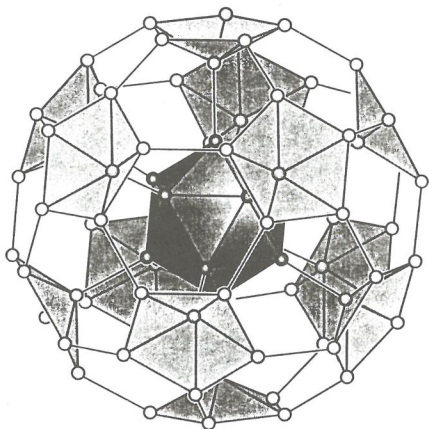
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Mineralogical Society of America  
MONOGRAPH

## Crystal Structures



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M. O'Keeffe & B.G. Hyde

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There is a new MSA Monograph: *Crystal Structures I. Patterns and Symmetry* by M. O'Keeffe and B. G. Hyde. The first three chapters of this volume are devoted to symmetry groups and their use in the description of crystal structures. The next chapter is devoted to crystallographic calculations including unit cell transformations and structure drawing. Three subsequent chapters are devoted to finite polyhedra, tilings, sphere and cylinder packings, three-dimensional nets and infinite polyhedra. Occurrences of these patterns in crystal structures are illustrated profusely and are used to introduce many of the more important simple crystal structure types. Appendices cover infinite-order symmetry groups, higher-dimensional structures, topology of nets, large polyhedra, and crystal structure data. Hardcover, 453 pp., ISBN 0-939950-40-5. Price is \$36, \$27 for members; shipping by book post included. Use the publication order form in this issue of the *Lithology* to obtain a copy.



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