

The Lattice

MSA AT THE 1996 TUCSON GEM AND MINERAL SOCIETY (TGMS) SHOW

For many years the MSA has participated in the TGMS show as a cosponsor of the Tucson Mineralogical Symposium. This year's symposium theme was Luminescence in minerals. There were many excellent talks on all aspects of luminescence, including original research by the speakers, and many were presented by MSA members. For the third year running the MSA also had a display booth at the show. This year we were located on the mezzanine level of the Tucson Convention Center where all who attended the show were able to see the booth. The floor space and booth was graciously donated to the MSA by the TGMS.

The purpose of the booth is outreach to the mineral enthusiast community as well as Society advertisement and sales. This year's effort was very successful. Hundreds of people found out about the MSA for the first time, and many members who do not attend regular professional meetings stopped by to talk and express their opinions and thoughts about the current direction of the society and the American Mineralogist. Many people commented that they were pleased to see the MSA making an effort to continue to foster relations with the mineral enthusiast community, and that the booth was a great means by which to do this. Such outreach is dependent

on the interest and participation of MSA members and many professional members who attend the show volunteered their time to help run the booth. These include James Hurlbut, Bob Bodnar, Glenn Waychunas, Pete Modreski, Dave Mitcheltree, and myself. Also, many MSA members who are curators of Major Mineral Museums and are widely recognized in the collecting community participated in public relations at the booth. These individuals include, Carl Francis and Bill Metropolis (Harvard Mineralogical Museum), Susan Erikson (Museum of Geological Sciences V.P.I.), Tony Kampf and Dorothy Ettensohn (Natural History Museum of L.A. County), Marc Wilson (Carnegie Museum of Natural History), and George Harlow (American Museum of Natural History).

The MSA plans to continue this effort in the future and any members who plan to be at the show and would like to get involved by volunteering a few hours of their time can contact the MSA business office.

John Rakovan
Department of Geological Sciences
Virginia Polytechnic Institute

MSA-SPONSORED SYMPOSIA AND THEME SESSIONS AT GSA

MSA will sponsor a short course and several symposia and theme sessions at the 1996 GSA meeting in Denver, Colorado. Following the MSA Short Course on Reactive Transport in Porous Media on October 25-27 (see this *Lattice* issue for details), MSA is sponsoring a symposium and an associated theme session on the topic of the Short Course: on Monday, October 28.

On Wednesday October 30 MSA and the Clay Minerals Society are jointly sponsoring a symposium and theme session on Environmental Mineralogy. The symposium will include overview presentations on several topics related to environmental mineralogy. These topics include: Minerals, microbes and metals;

Acid-mine drainage; Radionuclides and metals in soils; Weathering of monuments; Hazardous airborne minerals; Tailored minerals for environmental applications; Mineralogical issues in concrete; and Minerals in radioactive waste disposal. If you are interested in contributing a talk on this topic, contact George Guthrie at the Los Alamos National Laboratory at 505-665-6340 or gguthrie@lanl.gov. Please remember to also check the appropriate boxes on your submitted abstract forms. Abstract deadline is July 9.

The MSA Planetary Materials Interest Group (PMIG) is organizing a theme session entitled "Mineralogy of Planetary Surfaces Using In-situ Analysis

and Remote Sensing". The session will be sponsored jointly by MSA and the Planetary Geology Division of GSA. The theme session will focus on applications of current and developing technologies for automated mineralogical investigations of planetary surfaces, emphasizing Moon, Mars, and Earth. If interested, contact Brad Jolliff (Dept. of Earth & Planetary Sciences, Washington Univ., St. Louis, MO 63130; E-mail: blj@levee.wustl.edu; Tel: 314-935-5622).

Also in this issue

President's column: G. E. Brown, Jr.
Letters to the Editor
Information on the Reactive Transport Short Course
Meeting calendar and more

From the President

On November 8, 1895, Wilhelm Conrad Roentgen, Rector of the University of Würzburg, noticed a barium platinocyanide screen fluorescing in his laboratory as he generated cathode rays in a Crookes tube located some distance away. Roentgen's discovery of X-rays just over one hundred years ago and the subsequent discovery of X-ray diffraction by Max von Laue in Munich in 1911 have had a profound effect on science in general and on mineral sciences in particular.

X-ray science has changed considerably since the days of Roentgen and Laue. When my professional career in mineralogy began in 1966, I spent several months in laboratories at Pennsylvania State University and later at Virginia Polytechnic Institute and State University taking X-ray precession photographs and measuring X-ray diffraction intensities of a single crystal of the mineral osumilite on 1.5 kW X-ray generators to determine its crystal structure. The X-ray intensity data required for my study could now be measured in much less than an hour at a second-generation synchrotron radiation source. The development of these extremely intense X-ray sources in the early 1970's, with X-ray fluxes of 4 to 6 orders of magnitude greater than sealed X-ray tubes, resulted in a major revolution in many areas of science, including the mineral sciences. This increase in X-ray flux, coupled with dramatic improvements in X-ray detectors, electronics, computers, and X-ray optics now permit hundreds of X-ray diffraction intensities from inorganic and organic crystals to be measured in a few minutes or less. In addition to revolutionizing X-ray crystallography, particularly in the study of protein structure and function and diffraction from very small single crystals, synchrotron X-ray sources have made practical a number of extremely useful spectroscopic and imaging methods, including X-ray absorption spectroscopy, X-ray fluorescence microprobe analysis, X-ray microscopy, and X-ray

tomography. Synchrotrons have also resulted in dramatic improvements in powder X-ray diffraction and in structural studies of solids and liquids under extreme conditions of pressure and temperature. Mineralogical and geochemical studies using these methods have resulted in many new insights about earth materials and earth processes, and such studies are certain to continue yielding new discoveries.

On May 1, 1996, I participated in the formal dedication ceremonies of the Advanced Photon Source (APS) at Argonne National Laboratory, representing the geological, soil, and environmental sciences at a press conference. This new third-generation synchrotron X-ray source and other third-generation sources in Europe (ESRF) and Japan (SPRING-8) are approximately 10,000 times more brilliant than second-generation sources and about a billion times more brilliant than sealed X-ray tubes. These improvements in brilliance (high power density in a very small spot size), the ability to tune the wavelength of synchrotron X-rays over a broad spectral range, and other unique properties of synchrotron light will lead to significant improvements in X-ray microprobe analysis, micro-spectroscopy, and X-ray microscopy. They will also make time-resolved structural studies possible and are certain to lead to new applications of X-rays that no one has yet imagined.

Earth scientists have played a major role in the planning and development of the APS through GeoSync - a U.S. national synchrotron user organization in the earth sciences and a standing subcommittee of the AGU Mineral and Rock Physics Committee - and an organization known as the Consortium for Advanced Radiation Sources (CARS), which is based at the University of Chicago. With major funding from the National Science Foundation, the Department of Energy, and the Keck Foundation, CARS is building two beam lines at the APS for use by geological, soil, and environmental scientists. The GeoSoilEnviroCARS group, as we are

known, was formed about 6 years ago to represent the national synchrotron user communities in these closely related disciplines and to take advantage of the new scientific opportunities provided by the APS. As a member of the CARS Board of Governors, I urge any interested MSA members, including those who reside outside of the U.S., to consider applying for beam time at the GeoSoilEnviroCARS sector in the future. For more information, you can contact CARS, The University of Chicago, 5640 South Ellis Avenue, Chicago, IL 60637, U.S.A. Better yet, please join us at the next meeting of the GeoSync Committee at the Fall AGU in San Francisco. Design and construction of the GeoSoilEnviroCARS facilities are well underway, and we anticipate full use of this facility will begin in early 1998.

These are exciting times in science, particularly in those areas of science that make use of X-rays, but they are very different times than 100 years ago when Roentgen was able to work alone in his own laboratory at the University of Würzburg to make his monumental discovery. Many mineral scientists also operate singly or in small groups, and this style of operation is certain to continue. However, we now have the opportunity to participate in research teams with others from different disciplines to tackle very complicated problems and to develop and make use of major national and international research facilities, such as the APS, ESRF, and SPRING-8, which are needed to solve these problems. Because of our experience with complex materials and with many of the microscopic characterization methods needed to probe their atomic-level structures and properties, mineral scientists are in a prime position to contribute to the growing movement of multidisciplinary/interdisciplinary research.

Before closing, I would like to report on the few responses to my request thoughts on where MSA's annual meeting should be held in the future. The sentiment is strongly in favor of keeping

our annual business meeting and other MSA functions at the annual meeting of the Geological Society of America and to continue our less formal affiliations with AGU, EUG, the Geochemical Society, the Clay Minerals Society, and the American Crystallographic Association, among others. However, it is also clear from these responses that many of us have interests that cut across major disciplinary boundaries, including chemistry and materials science. Thus, MSA members will continue participating in the American Chemical Society, the Materials Research Society, and other scientific societies. One of the reasons I continue to be excited about the mineral sciences is the growing relevance we have in these different disciplines. Be assured that the MSA Administrator and Council are working with GSA officials to ensure that MSA interests are carefully considered in planning the annual GSA meetings. I look forward to seeing many of you at the Denver GSA/MSA Meeting in October where MSA will have an exciting series of special sessions and a symposia.

Gordon E. Brown, Jr.



President

Member Volunteers needed for Fall AGU

MSA will attend the Fall AGU Meeting in San Francisco for the first time on December 15-19, 1996. One Business Office staff member will be there to set up and oversee the MSA booth in the Exhibit Hall. However, he could use help. The booth is to showcase the Society, its programs (Awards, Lecture Program, Short Courses, Research Grants, etc.), publications, and encourage people to become members. If you are attending the AGU meeting and are interested in helping with the MSA booth, please contact J. Alex Speer, MSA Business Office, 1015 Eighteenth St., NW, Suite 601, May, 1996

Washington, DC 20036-5203, USA,
phone 202-775-4344, E-mail:
MinrISocAm@aol.com.

New 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/comments at glhenr@lsuvax.sncc.lsu.edu.

IN MEMORIAM

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

George E. Ericksen, Life Fellow, 1954
Jean Girault, Life Member, 1950

THE DEADLINE FOR THE AUGUST ISSUE OF THE LATTICE IS JULY 26th

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 glhenr@lsuvax.sncc.lsu.edu

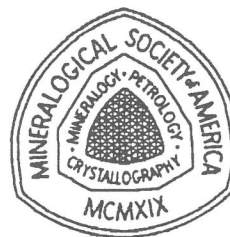
Advertisements in The Lattice

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.
Stanford University

Past-President: James J. Papike
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Letters to the Editor

Lost Authors and Lost Publications

As an editor of an annual abstract volume (Fluid Inclusion Research), and as a user of bibliographic indices and data bases, I am very aware of a non-trivial problem in the authorship of scientific papers: which of several listed names is the author's family name (i.e. surname) and hence establishes the correct alphabetization? This simple problem results in a small but significant loss of information to science, and a relatively large loss for the individual author concerned.

Little ambiguity exists when one of the two names is a well known given name in Western cultures and the other is highly unlikely to be a given name; thus a "John Schwarzenegger" poses no problems. Trouble arises when both (or neither) of the two names are typical given names. This situation is all-too-common with authors from some non-European cultures, particularly Asian. Thus, if a Chinese has a short and a long name, the short one is more likely to be the family name, but short Chinese given names are not rare either. In addition, Chinese customarily list family name first, followed by the given name, but without a comma between. However, in writing for Western journals they may (or may not) invert the sequence to conform to the Western style. The editor receiving the paper may have to guess, and may even reinvert. I have seen published abstract volumes in which the same abstract was entered alphabetically in two places; obviously one of two editors guessed wrongly.

Prefixes in names, such as Van or De, whether attached or separated, may cause problems. Should these be alphabetized under V (or D), or should the prefix be dropped in alphabetization? I know of some authors who prefer to have them dropped, and many others who do not.

Latin names present special problems in alphabetization. Generally, if two of three Latin names are hyphenated, an editor may assume that these two are both family names, and that the first is the patronymic, and hence appropriate for alphabetization. But in some Latin circles, this format is reversed, and the first name, before the hyphen, is the metronymic. Further ambiguity arises when there is no hyphen -- which of three names is the correct family name? Thus there are four different possibilities for a person with three names and no hyphen.

A journal editor receiving a paper must decide how to list the names in the format of his title page. He may have to look for clues, such as the way the author cites his own works, and the format and placement he uses for such citations in the References (if these are indeed

alphabetical). The individuals who later enter the paper into the volume index, a bibliography, or a data bank, have to decide which format the editor used, assuming that he has been consistent from one paper to the next, and in the use of that all-important hyphen.

On checking the entries for ambiguous author's names in alphabetized data banks, it is not rare to find various papers by the same individual in different places. To avoid missing such items, all possible choices for alphabetization sequence must be checked, a tiresome chore that few will do. Relying in the assumption that "everybody knows what is standard practice" (in that locale or for that editor) is simply not adequate. If an author really wants to communicate, to have his work found and used by his peers, he and his editors must agree in what name is to be used in alphabetization.

Edwin Roedder
47 Salt Island Road
Gloucester MA 01930

Study Material for the "Lowell" Effect

In 1987, I noticed an optical effect in quartz, a adularescence probably caused by polysynthetic twinning. No one has actually determined the exact physical structure of this quartz, which is associated with basalts and commonly amethyst. The Gemological Institute of America named it the Lowell effect after myself after determining that it was not previously described in literature.

This quartz has been found in Uruguay, Brazil, India, and Turkey. It shows some new habits of quartz, perhaps a new twin law. The optical effect is fascinating and resembles the Northern Lights. A brief description of it appeared in *Gems and Gemology* and *Lapidary Journal* but there have been no publications of organized studies.

If you are interested in possibly doing some research or investigation of the quartz, please contact me. Please indicate what aspect you would study and, if possible, give me a brief resume and the equipment at your disposal. I will send samples. I will provide free study material, including destructible crystals after you write.

Jack Lowell
PO Box 424.
Tempe, AZ, 85280
602-966-6626
e-mail: atjlowell@aztec.asu.edu

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

Fees:		before 8/31/96		after 9/1/96	
		Member	Non-member	Member	Non-member
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.

Short Course Description

Heat and mass transport and the interaction of fluids with solids in the Earth's crust are responsible for a large variety of geochemical phenomena. These interactions may involve such diverse processes as mineral dissolution and precipitation, adsorption and desorption, microbial reactions, and redox reactions. Efforts over the past few years have successfully merged hydrology and geochemistry providing a new quantitative tool to analyze the consequences of reactive chemical transport in multicomponent, multiphase and multidimensional systems. This short course provides a comprehensive review of reactive chemical transport modeling in porous media applied to geochemical systems. Emphasis will be placed in two major areas: 1) presentation of the governing physical and chemical equations, and 2) the application of this theoretical framework to fundamental geologic processes as well as more practical aspects involving both environmental and industrial related problems. Applications include the transport and containment of radioactive and toxic wastes, early and late diagenesis of sediments, the migration and accumulation of petroleum, metasomatic processes in metamorphic environments, and the formation of hydrothermal ore deposits. The focus of the short course will be to present the physical, chemical, and

mathematical basis for reactive transport in geological systems and the application of these mathematical models to describing natural systems. This involves developing techniques and approximations to integrating mass conservation equations over the long time spans appropriate to such processes as well as short time scales such as characterize environmental problems related to contaminant migration. The course will include discussions of numerical/computational, experimental, and field issues relating to reactive transport in the Earth Sciences.

The course is accompanied by a one day computer software jamboree at the Colorado School of Mines Computer Center, 8:30 to 3:30 Sunday October 27, where software developers will demonstrate a number of publicly available geochemical transport codes. These software developers/ presenters will include both the lecturers at the MSA short course and speakers in the associated MSA Symposium at the GSA meeting on "APPLICATION OF REACTIVE TRANSPORT MODELING TO NATURAL SYSTEMS". The short course is co-sponsored by the Colorado School of Mines Department of Geology and Geological Engineering.

Topics and Speakers/Authors

1. *CONTINUUM REPRESENTATION OF REACTIVE TRANSPORT IN POROUS MEDIA*, P. C. Lichtner, CNWRA, Southwest Research Institute.
2. *APPROACHES TO MODELING REACTIVE TRANSPORT IN POROUS MEDIA*, C.I. Steefel, University of South Florida, S.B. Yabusaki, P.C. Lichtner.
3. *REACTIVE TRANSPORT OVER GEOLOGIC TIME SCALES*, P.C. Lichtner.
4. *REACTIVE TRANSPORT IN HETEROGENEOUS SYSTEMS*, A. F. B. Tompson, Lawrence Livermore Laboratory.
5. *REACTIVE TRANSPORT IN PARTIALLY SATURATED POROUS MEDIA*, D. Suarez, Simunek, Salinity Laboratory.
6. *SUMMARY AND REVIEW OF THE PHYSICAL AND CHEMICAL PROPERTIES OF ROCKS AND FLUIDS RELEVANT TO TRANSPORT CALCULATIONS*, Eric H. Oelkers, Universite Paul Sabatier, France.
7. *REACTIVE TRANSPORT MODELING OF ACIDIC METAL-CONTAMINATED GROUND WATER AT A SITE WITH SPARSE SPATIAL INFORMATION: PREDICTION OR FANTASY?*, P. Glynn, J. Brown, N. Plummer, USGS.
8. *BIOCHEMICAL CYCLING IN SURFACE SEDIMENTS: TOWARDS A GENERAL DESCRIPTION OF MULTICOMPONENT REACTIVE TRANSPORT IN EARLY DIAGENETIC SYSTEMS*, P. Van Cappellen, Georgia Institute of Technology, J. F. Gaillard, Northwestern University.
9. *MICROBIOLOGICAL PROCESSES IN REACTIVE TRANSPORT MODELING*, B. Rittman, J. VanBriesen, Northwestern University.
10. *MULTICOMPONENT ION EXCHANGE AND CHROMATOGRAPHY IN NATURAL SYSTEMS*, Appelo, Free University, Vrije Universiteit, The Netherlands.
11. *INFILTRATION AND DIFFUSION METASOMATISM IN METAMORPHIC SYSTEMS*, L. Baumgartner, University of Wisconsin.

We are interested in what you think about the course. Please send comments and suggestions to: lichtner@swri.edu or steefel@margaux.cas.usf.edu.

Further information and updates are available on the internet site of this short course: <http://geology.smith.edu/msa/ShortCourse/announ.html>

Registration Form

Mineralogical Society of America Short Course Reactive Transport in Porous Media Golden, Colorado - October 25-27, 1996

Complete and return this registration form to the MSA Business Office, 1015 Eighteenth Street, N.W., Suite 601, Washington, D.C. 20036-5203, USA. Telephone: 202-775-4344. FAX: 202-775-0018. Please type or print. Use one form per registrant. Payment must accompany this form. Registration is limited to 100 people on a first-come, first-served basis. Payment must accompany this form, which will be fully refunded if cancellation is received in writing prior to September 27, 1996.

Name _____ (first) _____ (middle) _____ (last)

Address _____

_____ (city) _____ (state) _____ (zip/postal code) _____ (province) _____ (country)

Telephone: (Voice) _____ (Fax) _____

E-mail: _____

Registration fee includes MSA short course sessions, break refreshments, banquet, and *Reviews in Mineralogy* volume. All MSA short course sessions are at the Table Mountain Inn, Golden, Colorado. There is an informal welcoming reception 5:30 pm Thursday evening, October 25 on a self-pay basis at the Table Mountain Inn. The Computer Jamboree follows the short course sessions on October 27, 1996. It is sponsored by the Colorado School of Mines (CSM) Department of Geology and Geological Engineering at the CSM Computer Center. Registration fee does not include room, other meals, or transportation costs to or from Golden. Blocks of rooms have been reserved at the hotels listed in the accompanying short course description. Participants must contact the hotel or motel of their choice to make reservations and pay for rooms. Information on the short course, lodging, ground transportation, and course updates are on the MSA Home Page (<http://geology.smith.edu/msa/msa.html>).

Registration. Mark the appropriate registration category [X] and write the appropriate fee on the cost line:

	before 8/31/96	after 9/1/96	cost
Professional Registration:			
[] Member	\$320	\$370	_____
[] Speaker	no cost	no cost	_____
Student Registration:			
[] Member	\$220	\$270	_____
[] Non-member	\$280*	\$330*	_____

* includes MSA membership dues for 1997.

Total Due \$ _____

Amount Enclosed (Indicate payment method and amount of payment enclosed)

[] Enclosed is a check (in US \$ drawn on a US bank) or money order in the amount of \$ _____

[] Charge my: _____ Visa _____ Mastercard _____ Diner's Club _____ American Express card
(Your credit card will be charged when the registration form is received) in the amount of \$ _____

_____ (card number) _____ (name on card -- please print)

_____ (signature) _____ (exp. date)

MEETING CALENDAR 1996-1998

1996

June

9-13 Mineralogy and Museums 3. Budapest, Hungary. *Details:* M&M3 Secretariat, c/o Department of Mineralogy, Eötvös University, Budapest Múzeum krt. 4/A, H-1088, Hungary. E-mail: mm3org@ludens.elte.hu.

10-21 26th Lehigh Microscopy Short Courses - 1996. Bethlehem, Pennsylvania. The courses include: SEM and X-ray Microanalyses (June 10-14); Advanced Scanning Electron Microscopy, Quantitative X-ray Microanalysis and Analytical Electron Microscopy (June 17-20) and Atomic Force Microscopy (June 18-21). *Details:* David B. Williams, Dept. of Materials Science and Engineering, 5 E. Packer Avenue, Lehigh University, Bethlehem, PA 18105, Tel.: (610) 758-5133; Fax: (610) 758-4244, e-mail: interSEM@lehigh.edu.

15-20 The Clay Minerals Society 33rd Annual Meeting. Gatlinburg, Tennessee. (See announcement in *The Lattice* for further detailed information). *Details - General Chair:* Dr. S. Y. Lee, Environmental Sciences Division, Oak Ridge National Laboratory, P. O. Box 2008, Bldg. 1505, MS-6038, Oak Ridge, TN 37831-6038 USA. Tel.: (615) 574-6316. Fax: (615) 576-8646. E-mail: syl@ornl.gov.

June-July

30-4 Composition, Structure, and Dynamics of the Earth's Interior. Gordon Research Conference - Plymouth, New Hampshire. *Details:* G. Schubert, University of California, Los Angeles, Dept. ESS, 3806 Geology Bldg., Box 951567, Los Angeles, CA 90095-1567. Tel.: (310) 825-4577; Fax: (310) 825-2779; e-mail: gschubert@mgnvax.ess.ucla.edu; WWW: <http://artemis.ess.ucla.edu>.

July

22-26 59th Annual Meeting of the Meteoritical Society. Berlin, Germany. *Details:* D. Stoffler Museum für Naturkunde, Humboldt-Universität, Invalidenstrasse 43, D-10115 Berlin, Germany. Tel.: 49-30-2897-2544, Fax: 49-30-2897-2561, e-mail: dieter-stoeffler@museum.hu-berlin.de; WWW: <http://cass.jsc.nasa.gov/htbin/ils/ann-meetings.sh>.

22-28 4th International Symposium on Geochemistry of the Earth Surface. Ilkley, Yorkshire, England. *Details:* GES-IV Conference Secretariat, Dept. of Continuing Professional Education, Leeds University, Leeds LS2 9JT. Tel.: 01132-333-241; Fax: 01132-333-240.

August

3-8 XVII Congress of the International Union of Crystallography and Denver X-ray Conference. Denver, Colorado. *Details* of special session on "Phase Quantification": David Bish, Los Alamos National Laboratory, Mail Stop D469, Los Alamos, NM 87545. Tel.: (505) 667-1165; e-mail: bish@lanl.gov.

4-14 30th International Geological Congress. Beijing, China. *Details:* Zhao Xun, Deputy Secy. General, 30th I.G.C., P.O. Box 823, Beijing 100037, P. R. China. Tel.: (86)-1-832-7772; Fax: (86)-1-832-8928.

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 or 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.

5-9 Crater Lakes, Terrestrial Degassing and Hyper-acid Fluids in the Environment - Chapman Conference. 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.

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; or Paddy O'Brien, Geol. Inst., Univ. Bayreuth, Postfach 101251, D-95440 Bayreuth, Germany. WWW: http://www.king.as.uk/~gl_s041/geolhmpg.htm.

October

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. *Application deadline:*
March 15, 1996.

7 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; Carl I. Steefel, University of South Florida, e-mail: steefel@margaux.cas.usf.edu; Eric H. Oelkers, Université Paul Sabatier, e-mail: oelkers@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; 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; WWW: http://www.aescon.com/geosociety/index.html *Abstract deadline:* July 9, 1996.

December

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 or Eric H. Oelkers, Université Paul Sabatier, e-mail: oelkers@lucid.ups-tlse.fr; WWW: http://www.research/geochem/expt.htm.

1997

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.

20-25 "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 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

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: mreed@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; or Robert Schafer, BHP Minerals International Exploration, Inc., 5330 South 900 East, Suite 200, Salt Lake City, Utah 84117, Tel.: (801) 261-1103.

19-20 IMA Working Group in Mineral Equilibria and Data Bases. Helsinki, Finland. *Details:* Pentti Holtta, Geol. Surv. Finland, SF-02150 Espoo, Finland. Tel.: 358-0-469323-12; Fax: 358-0-462205; e-mail: pentti.holtta@gsf.fi or Leonid L. Perchuk, Geological Faculty, Moscow State Univ., Vorobievsky Gory 119899, Russia. Tel.: 7-095-913-2112; Fax: 7-095-939-1395; e-mail: llp@geol.msu.ru or llp@p1854.home.chg.ru. *Deadline for response to first circular:* Nov. 31, 1996.

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.

Members in the News

George M. Friedman, Professor of Geology at Brooklyn College, was elected an honorary Fellow of the Geological Society (of London, England).

Useful List servers and Home Pages

Lattice: http://scribe.geol.lsu.edu/henry's/lattice.html
MSA list server: 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

WELCOME!

The following new members and students have joined MSA. We welcome them to 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. If you are curious about the interests of the new members: 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, a membership application appears elsewhere in this issue of *The Lattice* or may be obtained 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.

Anderson, Susan D., 806 S. Carrollton Ave., New Orleans, LA 70118, USA. O: 504-866-9969 (M-96) MP MI. Sponsors: Barb Dutrow and Darrell J. Henry.

Bagdassarov, Nikolai, Inst. für Geophysik, Universität Frankfurt, Feldbergstraße, 47, 60323 Frankfurt, GERMANY. O: +49 69 79823376 F: +49 69 79823280 Email: nickbagd@geophysik.uni-frankfurt.de (M-96) PP IP PM. Sponsor: MSA.

Ballou, Stephen Michael, 3110 South Marigold Rd., Beloit, WI 53511, USA. O: 605-362-9433 Email: ballous@beloit.edu (ST-96) Sponsor: Cameron M. Davidson.

Bradley, Susan M., Department of Chemistry, University of British Columbia, 2036 Main Mall, Vancouver, B.C., CANADA V6T 1Z1. O: 604-822-3399 F: 604-822-2847 Email: sbradley@chem.ubc.ca (M-96) Sponsor: MSA.

Brown, Timothy L., 6715 Caribou Court, Indianapolis IN 46278, USA. O: 317-297-4038 (M-96) Sponsor: MSA.

Chatzitheodoridis, Elias, 29 Erethiou Street, GR-18121 Korydallos, GREECE. O: +301-5617168 Email: athelia@hol.gr (M-96) GE CC PM. Sponsor: MSA.

Christensen, Constance M., Department of Geology & Geophysics, Louisiana State University, Baton Rouge, LA 70803-4101, USA. O: 504-766-1018 Email: connie@hermes.geol.lsu.edu (ST-96) MP IP GE EM PM. Sponsors: Barb Dutrow and Darrell J. Henry.

Cole, David Robert, Geochemistry Group, Chemical & Analytical Sciences Division, Oak Ridge National Laboratory, Building 45005, MS 6110, Oak Ridge, TN 37831, USA. O: 423-574-5473 F: 423-574-4961 Email: me@cole.chem.ornl.gov (M-96) GE MI CC. Sponsors: Lawrence M. Anovitz and Jeffry C. Seitz.

De, Suman Kumar, Dept. of Earth & Atmos. Sci., University of Alberta, Edmonton, Alberta, CANADA T6G 2E3. O: 403-492-1118 F: 403-492-2030 (ST-96) GE MI mineral-surface sci. Sponsor: MSA.

Evensen, Joey M., Dept. Geology & Geological Engineering, Colorado School of Mines, 1500 Illinois Street, Golden, CO 80401, USA. O: 303-384-9291 Email: jevansen@mines.edu (ST-96) IP MI Sponsor: MSA.

Farver, John R., Department of Geology, Bowling Green State University, Bowling Green, OH 46403-0218, USA. O: 419-372-7203 F: 419-372-7205 Email: jfarver@bgnet.bgsu.edu (M-96) Sponsor: MSA.

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Hannula, Kimberly A., Department of Geology, Science Center, Middleburg College, Middleburg, VT 05753, USA. O: 802-388-3711 x5652 F: 802-388-0739 Email: hannula@panther.middlebury.edu (M-96) MP TC Sponsor: MSA.

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Horan, Shannon L., Department of Marine Geology & Geophysics, Rosenstiel School of Marine & Atmospheric Science, 4600 Rickenbacker Causeway, Miami, FL 33149, USA. (ST-96) GE IP MI Sponsor: MSA.

Jacobsen, Steven Dollard, Department of Geological Sciences, University of Colorado, Campus Box 250, Boulder, CO 80309, USA. O: 303-492-1696 Email: jacobsen@xtl1.colorado.edu (ST-96) CC TC Sponsor: R. Jeffrey Swope and Joseph R. Smith.

Jobin-Bevins, L. Scott, 169-146 Portsmouth Blvd., Winnipeg, Manitoba, CANADA R3P 1B6. O: 204-897-3462 F: 204-897-5676 Email: sbevans@cc.umanitoba.ca (ST-96) IP EG Sponsor: MSA.

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Kharisun, Kharisun, South Australia Museum, North Terrace, Adelaide, South Australia 5000, AUSTRALIA. (ST-96) Sponsor: Allan Pring.

Kimura, Jun-ichi, Regional Sciences laboratory, Dept. of Education, Fukushima University, Asakawa Sugumichi 2, Fukushima City 981-85, JAPAN. O: +81 245 485151 F: +81 245 483181 Email: jkimura@mech.educ.tokushima-u.ac.jp (M-96) IP MI Sponsor: Takeyoshi Yoshida.

King, Elizabeth Maria, Department of Geology, 1215 West Dayton Street, Madison, WI 53706, USA. O: 608-233-5264 Email: king@geology.wise.edu (ST-96) MP GE Sponsor: MSA.

Leask, John Christopher, 103 Batchelder Rd., Mason, NH 03048, USA. O: 603-878-4588 F: 603-878-9855 Email: cleask@igc.apc.org (M-96) PP MI Sponsor: MSA.

Liermann, Hanns-Peter, Department of Geosciences, University of Arizona, Gould-Simpson Building, Tucson, AZ 85721, USA. O: 520-621-6006 F: 520-621-2672 Email: liermann@ccit.arizona.edu (M-96) MI CC IP GE CM PM Sponsor: MSA.

Lind, Thomas, Diedesbach 2, 55743 Idar-Oberstein, GERMANY. O: +49 6781 31005 F: +49 6781 31838 (M-96) CC gemology spectroscopy Sponsor: MSA.

Lombardo, Walter S., 4728 Elm Avenue, Las Vegas, NV 89110, USA. O: 702-453-5718 F: 702-453-5718 (M-96) MI EG Sponsor: MSA.

Lopez, Fatima A., 1740 W. Greenleaf Drive, Tucson, AZ 85746, USA. O: 520-294-9932 Email: lopezf@ccit.arizona.edu (M-96) CC GE Sponsors: John Rakovan and Peter J. Modreski.

Loveday, John Stephen, R3, Rutherford Appleton Laboratory, Chilton, Didcot, Oxon, OX110QX, ENGLAND. O: +44 1235 446873 F: +44 1235 445720 Email: jsl01@isise.rl.ac.uk (M-96) CC MI Sponsors: Larry W. Finger and Russell J. Hemley.

Lumpkin, Gregory R., Materials Division, ANSTO, Private Mail Bag 9, Menai, NSW 2234, AUSTRALIA. O: 02 717-3475 F: 02 543-7179 Email: grl@ansto.gov.au (M-96) MI CC PP IP MP Sponsor: MSA.

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Rex, Earl G., 19712 E. Cameron Ave., Covena, CA 91724, USA. O: 818-967-1244 (M-96) Sponsor: MSA.

Rheinlander, Mathias, Rosenstr. 7, D-37136 Seeburg - Bernshausen, GERMANY. O: +49 5528-3565 F: +49 5528-8019 (M-96) MI CC Sponsor: MSA.

Schneider, Jens, Institut für Geowissenschaften, und Lithosphärenforschung, der Justus-Liebig-Universität, Senckenbergstraße 3, D-35390 Giessen, GERMANY. O: +49 641-702-8280 F: +49 641-39265 Email: schneider@geo.uni-giessen.de (ST-96) MI IP EG CM isotope geology Sponsor: MSA.

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Schwab, Brandon Edward, Department of Geological Sciences, 1272 University of Oregon, Eugene, OR 97403-1272, USA. O: 541-343-3144 Email: schwab@oregon.uoregon.edu (ST-96) IP MP Sponsors: A. Dana Johnston and Jack M. Rice.

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Shiraki, Koichi, c/o Direction de l'Exploration, B.R.P.M., B.P. 99, Rabat, Morocco. O: +7 794237/794926 F: +7 795765 (M-96) CM CC Sponsor: MSA.

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Taylor, Thomas Alan, 311 Harvey Circle, Kennett Square, PA 19348, USA. O: 610-444-1198 F: 610-363-2170 (M-96) MI CC GE PE IM sponsors: Lee Ann Srogi and Robert E. Jenkins, II.

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Zhao, Donggao, Department of Geological Sciences, University of Michigan, 2534 C.C. Little Building, Ann Arbor, MI 48109-1063, USA. O: 313-764-8243 F: 313-763-4690 Email: dzhao@umich.edu (ST-96) IP MI CC GE PE Sponsors: E. J. Essene and Stephen D. Keane



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