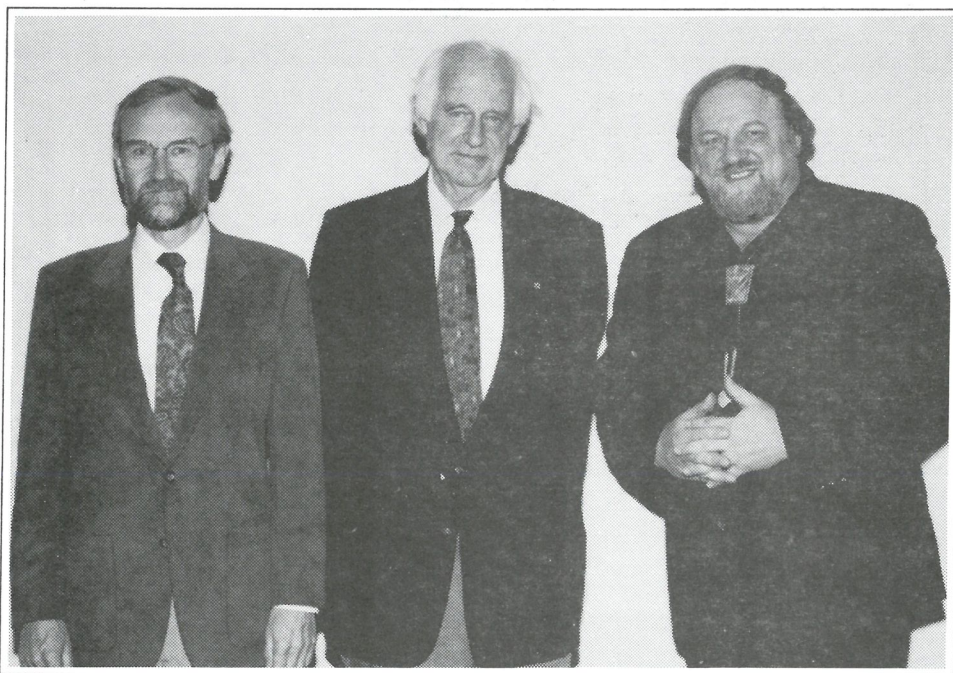


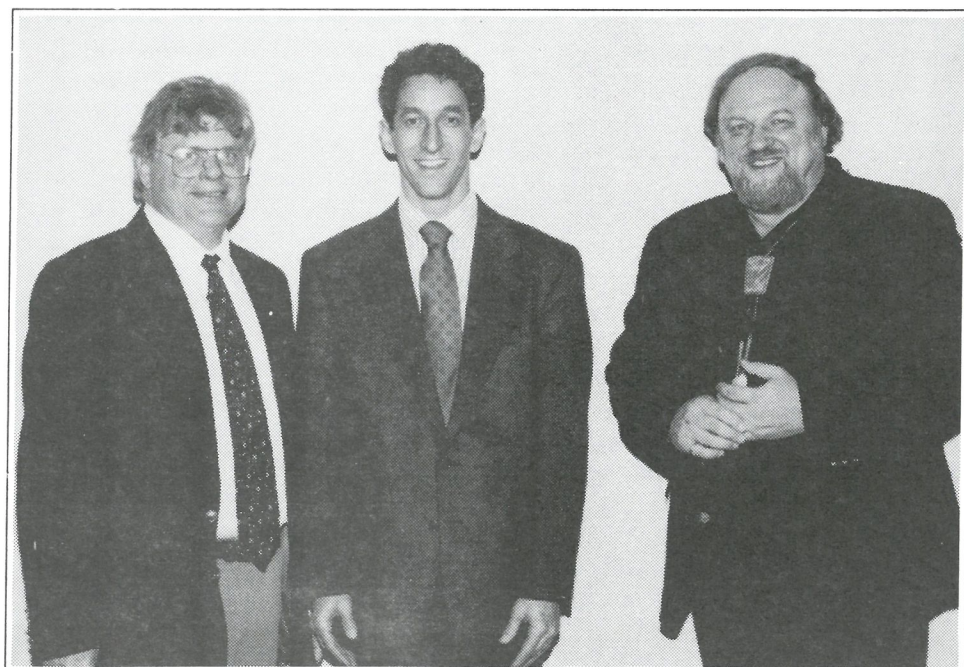
The Lattice

The Annual MSA Awards Luncheon, New Orleans, November 7, 1995



Roebbling Medalist William S. Fyfe with citationist, Bernard Evans (left), and President James Papike (right)

MSA Award recipient Zachary D. Sharp with citationist, Eric Essene (left) and President James Papike (right)



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From the President

I took over the MSA presidential gavel from Past President Jim Papike in New Orleans at the 1995 Annual Meeting of MSA and GSA. This meeting marked the 76th anniversary of our Society and offered an exciting MSA symposium on Weathering Rates of Silicate Minerals, as well as nine well-attended,

MSA-sponsored technical sessions. I would like to make special mention of the MSA technical session in memory of Henry O.A. Meyer, a past Secretary of MSA and very special MSA member and fellow, who died earlier this year. MSA members attending the GSA/MSA meeting enjoyed a joint Geochemical Society-MSA reception celebrating the 40th anniversary of the Geochemical Society.

A successful MSA short course on Chemical Weathering Rates of Silicate Minerals, attended by about 120 participants, was held in New Orleans on the weekend prior to the GSA Meeting. Art White (USGS) and Sue Brantley (Penn State) are thanked for organizing and running this short course as are the other lecturers and the 18 authors of chapters in Volume 31 of Reviews in Mineralogy. This volume is a bargain for MSA members and is filled with the latest information on silicate weathering mechanisms and rates, ranging from microscopic to global scales. Volume 32 of Reviews in Mineralogy on the Structure, Dynamics, and Properties of Silicate Melts will be available at the 1995 Fall AGU meeting in San Francisco. An MSA short course of the same title is being held on Dec. 9-10 at Stanford University, just before the AGU meeting. Over 100 students and professionals have registered for this course. I thank Jonathan Stebbins (Stanford U.), Paul McMillan (Arizona State U.), and Don Dingwell (U. Bayreuth) for organizing this short course and editing Volume 32.

Past President Jim Papike gave an excellent MSA presidential address in New Orleans on his ion microprobe studies of pyroxenes from the Earth, Moon, Mars, and asteroids. This was followed by the annual MSA business



Past-president James Papike happily passing the gavel to a circumspect President Gordon E. Brown, Jr.

meeting and luncheon. At the business meeting, MSA Treasurer Rosalind Helz informed members that the Society is in very good financial shape, thanks in large part to the excellent advice from our financial advisory committee, chaired by Dave Hewitt (VPI&SU). We heard the final report from MSA Secretary Steve Guggenheim (U. Illinois at Chicago), who has stepped down after 4 years of service to the Society. Thanks Steve. Barb Dutrow (LSU) is the newly elected MSA Secretary who will be taking over from Steve. Welcome Barb. MSA members also welcomed our new MSA Administrator Alex Speer, who is based in the new MSA Business Office in Washington, DC, as well as the new Editor of The Lattice, Darrell Henry (LSU). Welcome Alex and Darrell. I also wish to thank outgoing Lattice Editor Marta Flohr (USGS). American Mineralogist Editors Ted Labotka and Rich Reeder gave their annual report at the business meeting. The journal is in very good shape, with time between submittal and publication down significantly since last year. The MSA editorial office will be moving from Ann Arbor, Michigan to the MSA Business Office in Washington in 1996. We view this consolidation of MSA activities as a

very positive step but recognize the hard work ahead for Ted, Rich, and Managing Editor Tom Cichonski. Thanks to Ted, Rich, and Tom and the Associate Editors for your efforts to improve American Mineralogist. I would also like to express the Society's thanks to Jill Banfield (U. Wisconsin) and Peter Heaney (Princeton U.) for their service as the 1995 MSA Lecturers. Bill Carlson (U. Texas) and Peggy O'Day (Arizona State U.) are the 1996 MSA Lecturers. Thanks also to all the hard working members of MSA Committees, special interest groups, and IMA Commissions, as well as other members who volunteered their time to MSA this past year. If you are interested in volunteering for a particular MSA Committee for next year, please let me know.

Congratulations are due Zachary Sharp (U. Zurich), 1995 MSA Award winner, and Bill Fyfe (U. Western Ontario), 1995 Roebling Medalist. Both gave memorable acceptance speeches. Bill left us with the sobering thought "Evolve or Die" in his speech. I responded to Bill that MSA is embarking on a period of evolution that should leave us stronger and with broader appeal. Congratulations are also due 1996 MSA Award winner Don Dingwell (U. Bayreuth), 1996

MSA Roebling Medalist Don Lindsley (SUNY Stony Brook), and 1996 MSA Public Service Medalist Bob Tilling (USGS), as well as Ardeschir Vahedi-Faridi (Ph.D. candidate at the University of Illinois at Chicago), who is the winner of the 1995 Research Grant in Crystallography, and the 26 newly elected MSA Fellows. The 1996 MSA, Roebling Medal, and Distinguished Public Service Medal awards will be presented at the 1996 GSA/MSA annual meeting in Denver, Colorado (Oct. 28-31, 1996). The Denver meeting will also host the first annual MSA Symposium on Environmental Mineralogy and Geochemistry.

During my year as MSA President, I plan to focus much of my effort on public and professional outreach and have appointed an outreach committee to help MSA achieve greater public and professional visibility, as well as to serve members better. One of our main objectives will be to build on the work of John Brady (Smith College) who created and currently maintains the MSA Web site on the Internet. John, Jill Banfield, George Harlow, Peter Heaney, Peter Modreski, George Rossman, and others have joined me on this important committee which will work to develop the services, programs, and mineralogical data bases available to MSA members and the public through the MSA homepage. We are particularly interested in developing educational messages about the mineral sciences directed at the public and K-12 students. If you have any suggestions for the MSA Outreach Committee, please contact me (gordon@pangea.stanford.edu) or John Brady (jbrady@science.smith.edu). If you haven't found the MSA homepage in your Web surfing, the address is <http://geology.smith.edu/msa/msa.html>. If you wish to receive messages sent through the MSA homepage by MSA members, you can do so by becoming a member of the MSA List Server. Instructions for becoming a member can be found through the MSA homepage on the Internet. We would appreciate hearing any of your suggestions for improving or adding to the MSA homepage.

Please write me or send me e-mail if you have any suggestions or concerns about the Society. I look forward to my year as President and to working with you to build a better MSA.

Gordon E. Brown, Jr.



President

Members in the News

At the Clay Minerals Society annual meeting several MSA members were honored with plenary awards including: *David L. Bish* (Marion L. and Chrystie M. Jackson Mid-Career Clay Scientist Award); *Rustum Roy* (Pioneer in Clay Sciences Lecture); *Gerhard Lagaly* (George W. Brindley Lecture) and *William D. Johns* (Distinguished Member).

Kenneth M. Towe is the current President of the Clay Minerals Society and *Stephen Guggenheim* will be President in 1996.

Fellow *Gerald M. Friedman* will be the recipient of the Distinguished Educator Award of the American Association of Petroleum Geologists to be awarded at the Association's Annual Convention in San Diego, California in May 1996.

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
Mineralogical Society of America

1015 Eighteenth Street N.W., Suite 601
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Telephone: (202) 775-4344

FAX: (202) 775-0018

Teaching Mineralogy Workshop - June 1996

A summer workshop on the teaching of mineralogy at colleges and universities is being planned for 22-30 June 1996 at Smith College in Northampton, MA. The goals of the workshop include the demonstration of alternative ways of presenting course materials and the development of a variety of discovery-oriented laboratory exercises to make mineralogy more accessible and relevant to students. Workshop activities will include hands-on mineralogy laboratory sessions led by participants, group discussions of course goals, content and strategies, planning meetings to design new exercises and instructional materials, and field trips to mineralogically interesting localities in the Northeast. An MSA publication of new laboratory activities and materials in mineralogy is one expected outcome of the workshop.

Participants

Faculty members with undergraduate instructional responsibilities in the area of mineralogy at 2- and 4-year colleges or universities are invited to apply for a place in this workshop. Some of the participants will be expected to lead laboratory sessions or present other materials during the workshop. All of the participants will be expected to help in the development of new teaching materials during and after the workshop. Responsibilities will include "field testing" of exercises in participants' own courses, preparation of additional materials identified as important during the workshop, and preparation of exercises and related materials for publication.

Cost

An NSF Undergraduate Faculty Enhancement Program proposal to support this workshop, originally written by Dave Mogk, has been recommended for funding and awaits final approval. The NSF grant is expected to cover the expenses of the workshop for all participants once they arrive in Massachusetts. Additional support is available for participants whose attendance at this workshop creates financial hardship.

Applications

Faculty members wishing to participate in this workshop should send a letter of application and a brief curriculum vitae by 1 February 1996 to:

John Brady, Project Director
Teaching Mineralogy Workshop
Department of Geology
Smith College
Northampton, MA 01063

Letters should include (1) information about the applicant's duties and experience in the area of mineralogy teaching, (2) the applicant's motivation and goals for attending the workshop, and (3) a brief description of a laboratory session, lecture demonstration, or discussion session that the applicant could lead or help organize for the workshop. A total of 60

participants will be selected by the Workshop Advisory Committee with the goals of (1) assembling a group of participants representing a wide range of experiences and educational environments and (2) identifying participants who can inform and lead the group in innovative and effective classroom activities.

For further information about the workshop, contact John Brady (jbrady@science.smith.edu or 413-585-3953) or another member of the Workshop Advisory Committee: John T. Cheney (jtcheney@amherst.edu), Dexter Perkins (dperkins@vm.NoDak.edu), Peter Whelan (whelan@cab.mrs.umn.edu).

John B. Brady
Department of Geology
Smith College
Northampton, MA 01063
(413) 585-3953 FAX: (413) 585-3786

Book Reviews of MSA Publications

Pring, Allen, 1994. Book Review: Minerals and reactions at the atomic scale: transmission electron microscopy. Geological Magazine, volume 131, part 6.



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Awards Announcements

American Mineralogist Undergraduate Award. A reminder, deadlines for nominating students for the Society's American Mineralogist Undergraduate (AMU) Award are January 1 and July 1 of each year. To nominate a student, send a letter on departmental letterhead giving the student's full name (for the certificate), the student's address that will be current at the time the award will be made to which the *American Mineralogist* can be mailed, 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. Send the letter to Dr. J. Alexander Speer, MSA Business Office, 1015 Eighteenth St., NW, Suite 601, Washington DC 20036.

European Mineralogical Union Medal for Research Excellence. The European Mineralogical Union is seeking nominations for its annual medal for research excellence. This medal is normally awarded to a young scientist whose research is considered to be outstanding and who has strengthened european cooperation and collaboration. The EMU medal will be awarded during the EMPG-VI meeting in Bayreuth (April 10-13, 1996). Nominations should be received no later than December 31, 1995 by G. David Price, Dept. of Geological Sciences, University College London, Gower Street, London WC1E 6BT, United Kingdom.

Chrysalis Scholarship. The Association of Women Geoscientists will be awarding at least two Chrysalis Scholarships on March 31, 1996. The \$750 awards will be given to geoscience Masters or PhD candidates to cover expenses associated with finishing their theses. The Chrysalis Scholarship is for women who have returned to school after an interruption in their education of one year or longer. Applications should be made by February 28, 1996. *Details:* Chrysalis Scholarship, Association of Women Geoscientists, G&H Production Company, LLC, 518 - 17th Street, Suite #930, Denver, Colorado 80202, Tel: (303) 534-0708; Fax: (303) 623-6724.

ICDD Grants-in-Aid. The International Centre for Diffraction Data (ICDD) offers financial support in the form of Grants-in-Aid to a limited number of institutions. These grants are for the provision of high quality, demonstrably useful X-ray powder diffraction reference patterns. The grants are intended to supplement existing funded projects involving the preparation and recording of data from new materials. New proposals are due at ICDD by December 31 of each year. *Details:* Theresa Maguire, International Centre for Diffraction Data, 12 Campus Boulevard, Newtown Square, Pennsylvania 19073-3271. Tel.: (610) 325-9814; Fax: (610) 325-9823; e-mail: maguire@icdd.com.



Calcite. Photo by Wendell E. Wilson

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Review

Mineralogy Tutorials: Interactive Instruction on CD-ROM

by Cornelis Klein and The S.M. Stoller Corporation

John Wiley & Sons, Inc.

\$450. (ISBN 0-471-10996-7)

One of the main challenges in teaching mineralogy is helping students to "see" three-dimensional relationships such as symmetry operations, crystal structures, or composition space. For this reason, mineralogy labs tend to be full of models for students to hold, rotate, and contemplate. The Klein/Stoller CD-ROM is a new entry in the arsenal of mineralogy teaching aids and marks a significant advancement in instructional fire power. This is not the familiar uneven product of an imaginative faculty member turned computer programmer, but the well-executed outcome of a collaboration between graphic artists, professional programmers, and an experienced mineralogist. The CD-ROM is full of colorful diagrams, engaging animations, and attractive mineral photographs. Mineralogy teachers everywhere will want to have a copy of this CD-ROM.

The Mineralogy Tutorials CD-ROM is organized as screens in a branched file structure. Navigation through the tutorial is entirely by computer mouse clicks on "buttons" and "hypertext links" that move the user from one screen to another. The material is divided among four main topics ("modules"): (1) Crystallography -- external form, (2) Crystallography -- internal order, (3) Crystal and mineral chemistry, and (4) Systematic mineralogy. Users are guided through the hierarchically arranged modules by text and available buttons. A comprehensive graphical index with "clickable links" to other topics is accessible from most screens. The first three sections are tutorial in character, but the fourth is more of a reference section. However, even the systematic mineralogy is somewhat interactive with color polyhedral structure drawings in several orientations to complement the text and color photographs for most minerals.

The real strength of Mineralogy Tutorials is in the animations, which are most impressive: crystals rotate, motifs repeat to become patterns, phases transform, structures change from balls and sticks to polyhedra. Most of the animations are creative and well-executed so that you want to see them repeated several times. Many of the animations are in QuickTime windows with a control bar slider that allows the user complete control over the playing of the movie clip. I especially enjoyed making the rotations or transformations go backward and forward at speeds that I controlled. My favorite animations include: simple rotations of crystal models, inversion of a crystal face through a symmetry center, glide reflections in two and three dimensions, generation of plane patterns, changing anion coordination polyhedra as the cation grows, changing close-packed to ball-and-stick to polyhedral structure models, varying from corner- to edge- to face-sharing of polyhedra. These animations give substance to what previously had to be mental images based on snapshot sketches.

I have very few criticisms of Mineralogy Tutorials. Naturally I could think of some additional animations that I would like to see, but the authors' choices are very good. My only scientific complaint concerns a couple of the rotoinversion axis animations in which a 4-fold rotoinversion is incorrectly shown as a 90 degree rotation followed by a 180 degree rotation about a perpendicular axis. I could not get the screens to print in the required "landscape" orientation. And I found some of the color choices gaudy or hard to see. These are minor complaints for the first appearance of such a major effort.

Overall the software engineering is excellent. I have used the CD-ROM with equal success on both Macintosh and IBM computers, using QuickTime or QuickTime for Windows, respectively, which come with the CD-ROM. As with all software, it is more satisfying to run it on a faster computer and the speed of the CD-ROM drive is important. There is some waiting as screens are read from the CD-ROM, but I was quite happy with the speed on a PowerMac 7100. It would not work on a Mac-IIsi because the image was off center and the buttons out of mouse range.

At \$450, few will be able to justify personal copies. But when compared with other software and teaching aids like crystal structure models, the price is reasonable for an institutional purchase. I have used the CD-ROM as part of my mineralogy class this fall and student feedback has been very positive. It doesn't stand alone as a tutorial, but it is an excellent resource for both faculty and students as part of a mineralogy course.

--John B. Brady
Smith College

Zeolite RIM Volume Reprinted

The International Committee on Natural Zeolites has reprinted MSA Reviews in Mineralogy Volume 4, Mineralogy and Geology of Natural Zeolites. Reprinted versions may be obtained from the International Committee on Natural Zeolites, c/o F. A. Mumpton, Dept. of Earth Sciences, SUNY-College of Brockport, Brockport, New York 14420. The cost is \$16 with an additional \$3 for postage and handling.

Abstractors Wanted

MSA members are wanted as abstractors for Mineralogical Abstracts. Papers selected for abstracting generally relate to mineralogy, petrology, economic geology and geochemistry. If interested, contact Karl A. Riggs, Organizer for American Mineralogical Abstracts, Dept. of Geosciences, P.O. Drawer 5448, Mississippi State, Mississippi 39762. Tel.: (601) 325-3915; Fax: (601) 325-2907.

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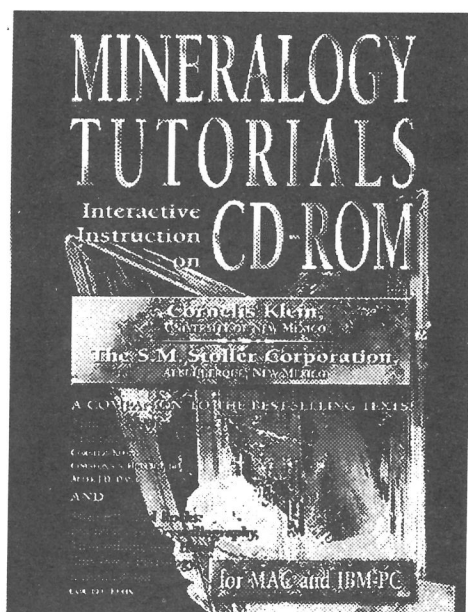
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WELCOME!

The following new members and students have joined MSA. An application for membership appears in the MSA Home Page and elsewhere in *The Lattice* or may be obtained from the MSA Business Office, 1015 Eighteenth Street, N.W., Suite 601, Washington, DC 20036.

Allan, David R., Bayerisches Geoinstitut, Universitat Bayreuth, D-95440 Bayreuth, GERMANY. O: 49-0-921-55-3730. F: 49-0-921-55-3769. (M-95) CC MI. Sponsors: R. J. Angel and N. L. Ross.

Bilal, Essaid, Department Geochimie, Center SPIN, Ecole des Mines de Saint-Etienne, 158 Cours Fauriel, Saint Etienne, FRANCE. O: 77420163. F: 77420000. (M-95) MI IP GE EG. Sponsor: MSA.

Chan, Gavin, Dept. Earth and Planetary Sciences, Washington University, One Brooking Dr., St. Louis, MO 63130, USA. O: 314-721-7347. F: 314-935-7361. (S-95) GE PE. Sponsors: Jill Dill Pasteris and Robert F. Dymek.

Chen, Xiaobing, 1104-5 Gribble Ave., Richland, WA 99352, USA. O: 509-376-5132. F: 509-372-0682. E-mail: X_Chen@pnl.gov (M-95) GE Industrial Mineralogy. Sponsor: MSA.

Gilliam, Carrie E., Dept. of Geology, University of Wisconsin, 1215 W. Dayton, Madison, WI 53706, USA. O: 608-263-3453. (S-95) GE IP. Sponsors: Jill Banfield and John Valley.

Gregory, David L., 8727 Huebner Rd., Apt. 505, San Antonio, TX 78240, USA. O: 210-690-3055. (S-95) MI hydrogeology. Sponsor: Robert K. Smith.

Hoskin, Paul W. O., Research School of Earth Sciences, The Australian National University, Canberra, ACT 2601, AUSTRALIA. O: 06-249-3416. F: 06-249-5989. (S-95) MI CC. Sponsors: Hugh St. C. O'Neill and John D. Fitzgerald.

Ji, Sang-Woo, 17 Haengdangdong Seong, Dong-ku, Seoul 133-791, KOREA. O: 02-297-6320. F: 02-290-0410. (S-95) MI GE. Sponsor: MSA.

Joy, Brian R., 1402 Silver Ave., SE, Albuquerque, NM 87106, USA. (S-96) Sponsor: MSA.

Klimasauskas, Edward, P.O. Box 2866 C/S, Socorro, NM 87801, USA. O: 505-835-5994. (S-95) IP GE EG. Sponsors: Andrew Campbell and Philip Kyle.

Miletich, Ronald, Bayerisches Geoinstitut, Universitat Bayreuth, D-95440 Bayreuth, GERMANY. O: 49-0-921-553735. F: 49-0-921-55843735. E-mail: ronald.miletich@uni_bayreuth.de (M-95) CC MI material properties. Sponsors: Patrick J. O'Brien and Ross J. Angel.

Rufe, Eric, 750 Tall Oaks Drive, Apt. 10900J, Blacksburg, VA 24060, USA. O: 540-231-3358. F: 540-231-3386. (S-95) Sponsors: P. H. Ribbe and Michael Hochella, Jr.

Schuh, Kathleen, 20 Old University Station Road, Chapel Hill, NC 27514, USA. (S-95) MI IP MP. Sponsors: Donna L. Whitney and Jonathan S. Miller.

Wasylenki, Laura, CalTech 170-25, Pasadena, CA 91125, USA. O: 818-395-6145. F: 818-568-0935. (S-95) IP GE. Sponsors: Michael B. Baker and John Beckett.

Weldon, Melanie B., 4376 Dartmouth, Apt. 4, Fairbanks, AK 99709, USA. O: 907-479-9080. (S-95) EG MI GE. Sponsor: MSA.

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Manitoba R3T 2N2, Canada. Tel.: (204) 474-8857; Fax: (204) 261-7581.

January

- 4-6 **Winter Meeting of the Mineralogical Society of Great Britain - Magmatic Processes 1996: Are the answers in the laboratory?**, Bristol, BS8 1RJ UK. *Abstract deadline: September 30, 1995.*

February

- 10 **Tucson Gem and Mineral Show Mineralogical Symposium - "Fluorescence and Luminescence in Minerals"**. Tucson, Arizona. *Details:* Peter Modreski, USGS, Mail Stop 905, Box 25046 Federal Center, Denver, CO 80225-0046. Tel.: (303) 236-5639; Fax: (303) 236-5603; e-mail: pmodreski@gccmail.cr.usgs.gov.

April

- 8-12 **Spring Meeting of the Materials Research Society**, San Francisco, California. *Details:* Materials Research Society, 9800 McKnight Rd., Pittsburgh, PA 15237. Tel.: (412) 367-4373; e-mail: info@mrs.org. *Abstract deadline: November 1, 1995.*
- 10-13 **EMPG-VI - "Sixth International Symposium of Experimental Mineralogy, Petrology, and Geochemistry."** *Details:* Organizing Committee, EMPG-VI, Bayerisches Geoinstitut, Universität Bayreuth, D-95440 Bayreuth, Germany. Tel.: 49-921-553700, Fax: 49-921-553769. *Registration and abstract deadline: December 1, 1995.*

May

- 6-8 **Rietveld Short Course**. Atlanta, Georgia. *Detail:* Dept. of Continuing Education, Georgia Institute of Technology, Atlanta, Georgia 30332-0385. Tel.: (404) 894-2547; e-mail: conted@gatech.edu.
- 19-21 **32nd Annual Forum on the Geology of Industrial Minerals**. Laramie, Wyoming. *Details:* Ray E. Harris, General Chairman, Wyoming State Geological Survey, P.O. Box 3008 University Station, Laramie, Wyoming 82071-3008. Tel.: (307) 766-2286; Fax: (307) 766-2605; e-mail: ray_harris@wgs.uwyo.edu.
- 20-24 **American Geophysical Union Spring Meeting**. Baltimore, Maryland. *Details:* AGU Web Site: <http://www.agu.org> Lattice. *Abstract deadline:* February 29, 1996.
- 27-29 **Geological Association of Canada - Mineralogical Association of Canada Joint Annual Meeting**. Winnipeg, Manitoba. *Details:* G. S. Clark, Dept. of Geological Sciences, University of Manitoba, Winnipeg,

May-June

- 30-1 **Pan-American Current Research on Fluid Inclusions (PACROFI VI)**. Madison, Wisconsin. *Details:* P. E. Brown, Dept. of Geology and Geophysics, 1215 W. Dayton, Univ. of Wisconsin, Madison, WI 53706, Tel: (608) 262-5954; Fax: (608) 262-0693; e-mail: pbrown@geology.wisc.edu.
- 31-5 **5th International Congress on Applied Mineralogy**. Warsaw, Poland. *Workshops:* "Isotopic Methods" and "High Resolution TEM in Mineralogy". Symposia on extractive mineralogy, energy technology and environmental and waste management. *Details:* Prof. Andrzej Szymanski. Fax: +48 2 628 2741; e-mail: aszym@plwatu21.bitnet. Secretariat team 96; Fax: +48 3912 1040; e-mail: hitech@sam.nask.com.pl.

June

- 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, in the Great Smoky Mountains Headquarters - Park Vista Hotel. *Symposia:* Colloidal Transport in Geomedia, Clay Minerals in Relation to Environmental Restoration Programs. *Workshop:* The Isotope Geology of Clay Minerals: From Isotope Crystal Chemistry to Petrogenesis. *Workshop Conveners:* Fred J. Longstaffe and T. Kurtis Kyser. *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.

July

- 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.: 011322 333 241; Fax: 01132 33 240.

August

- 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)-1-8327772; Fax: (86)-1-8328928. *Abstract deadline:* Nov. 1, 1995.

- 28-31 Degassing History of the Earth.** Bristol, U. K. Support available for students. *Details:* B. J. Wood, Dept. of Geology, University of Bristol, Bristol BS8 1RJ England. e-mail: b.j.wood@bristol.ac.uk.

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.

- 11-13 What Drives Metamorphism and Metamorphic Reactions: Heat Production, Heat Transfer, Deformation and Kinetics?** Surrey, United Kingdom, Kingston University. *Details:* Peter J. Treloar, School of Geological Sciences, 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.

October

- 28-31 Geological Society of America Annual Meeting.** Denver, Colorado. *Details:* GSA, P.O. Box 9140, Boulder, CO 80301. Tel.: (303) 447-2020.

1997

June

- 15-21 The 11th International Clay Conference and The 34th Annual Meeting of the Clay Minerals Society.** Ottawa, Ontario, Canada. *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.

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.

WINNIPEG '96 – SHORT COURSE UNDERSATURATED ALKALINE ROCKS: MINERALOGY, PETROGENESIS, AND ECONOMIC POTENTIAL

24-26 May 1996

A three-day course organized by Roger H. Mitchell and sponsored by the Mineralogical Association of Canada to be held immediately preceding the GAC/MAC Annual Meeting in Winnipeg, Manitoba. The course will deal with the classification, terminology, occurrence, and genesis of undersaturated and leucite-bearing alkaline rocks. Topics will include: nepheline-phonolite volcanism; carbonatite volcanism; nepheline syenite-bearing plutonic complexes; urtite-ijolite-carbonatite complexes; sodic alkaline rocks of the melilitite clan; potassic Roman-province-type volcanism; kamaufugites; potassic leucitites; potassic plutonic rocks; kimberlites; orangeites; lamproites; and mineral deposits associated with alkaline rocks. This course is intended to introduce alkaline rocks to the neophyte rather than for specialists in the field. Speakers will be D.S. Barker, A.D. Edgar, R.H. Mitchell, J. Pell, R.G. Platt, and B. Scott Smith. Registration \$320 CAD for professionals, \$160 for students.

For additional information,

Prof. R.H. Mitchell, Geology Dep.
Lakehead University
Thunder Bay, Ontario P7B 5E1
ph. 807-343-8287; fax 807-343-8023
email rmitchel@flash.lakeheadu.ca

Bill Brisbin, Dep. Geol. Sci.
University of Manitoba
Winnipeg, Manitoba R3T 2N2
ph. 204-474-7343; fax 204-261-7581
email wpg_gacmac@umanitoba.ca

Ohio MSA members

The Ohio Academy of Science wishes to work directly with Ohio members of MSA as association partners. The Academy is seeking MSA members to provide judges and resources for sponsored awards for nearly 1,000 outstanding science and math students at State Science Day. Science-oriented volunteers are also needed for other activities including women in science mentoring, workplace access for the Scientific Work Experience Program for Teachers, mentors for a program to use the Internet for telementoring between students and professionals in academia, industry and government. *Details:* Lynn E. Elfner, The Ohio Academy of Science, 1500 West Third Avenue Suite 223, Columbus, Ohio 43212-2817. Tel./Fax: (614) 488-2228, 1-800-OHIOScience; e-mail: oas@iwaynet.net.

Useful List servers and Home Pages

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>

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Contributions may be sent via e-mail to Darrell Henry
at glhenr@lsuvax.sncc.lsu.edu

MSA Membership Application

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(Ms., Mr., Dr.) First Middle Last

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☐ Student Member
☐ Life Member

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Telephone: _____

FAX: _____

E-mail: _____

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Birth Date: _____ Highest Degree earned ☐ Doctorate ☐ Masters ☐ Bachelors ☐ No College Degree

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Signature

1996 Fee Schedule

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<i>Mineralogical Abstracts</i> , published quarterly by the Mineralogical Society of Great Britain & Ireland	\$34.00
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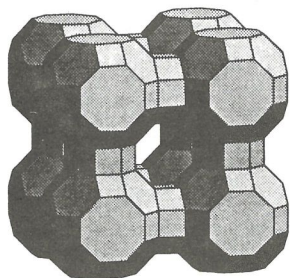
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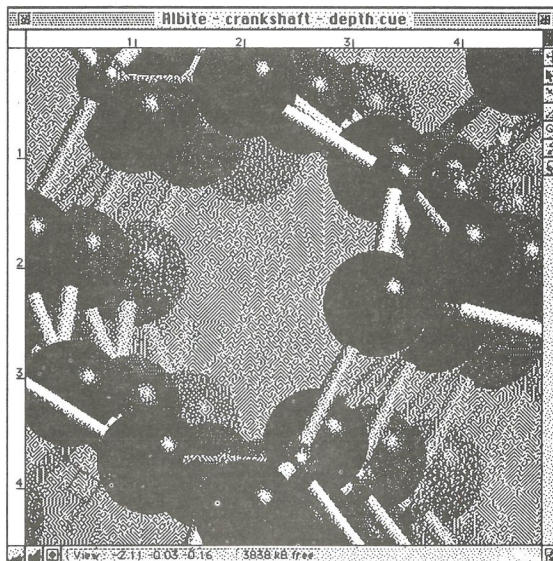


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