Newsletter of the Mineralogical Society of America Vol. 11, No. 1, February, 1995

The Lattice

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

MSA members have taken advantage of the Society's American Mineralogist Undergraduate (AMU) Award program to recognize nine 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 *American Mineralogist*, for 1995.

Deadlines for nominating students are January 1 and July 1 of each year. Please mark these dates on your calendars so you can be watching for that exceptional student. To nominate a student, send a letter on departmental letterhead giving the student's full name (for the certificate), the student's address to which the *American Mineralogist* can be mailed, year in school, interest area, 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, 1130 Seventeenth Street, NW, Suite 330, Washington DC 20036.

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.

Kenneth Raymond D. Dmitroca
The University of Calgary
Sponsored by Peter Bayliss

Cheryl L. Essenburg
Calvin College
Sponsored by Davis A. Young

Susan Leigh Folkert
University of Arkansas
Sponsored by Spencer J. Cotkin

Kelly K. Greaser
Old Dominion University
Sponsored by Francis O. Dudas

Stacey Hemb
University of Wisconsin-Madison
Sponsored by Jill Banfield

Tara S. Kirkpatrick
Mount Holyoke College
Sponsored by Steven R. Dunn

Scott R. Miller
George Washington University
Sponsored by Richard P. Tollo

John S. Phipps
Williams College
Sponsored by R. A. Wobus

Allison Rust
University of Toronto
Sponsored by J. Jeffrey Fawcett

Benefactor Program

MSA has had a Benefactor Program since 1992. We are asking for financial aid from companies that employ or provide services to our members. The purpose of the program is to enlist help from industry to enable the Society to successfully perform the educational, publication and outreach functions that we would like to do. In return, Benefactors gain visibility among our membership. Each Benefactor will be listed on the cover of *American Mineralogist*, receive a ticket to the annual luncheon at the Annual Meeting of GSA, and receive a copy of *The Lattice*. Sponsoring Benefactors will also receive a subscription to the *American Mineralogist*.

There are three categories of Benefactors:
Sustaining Benefactors - contributions of $200 to $499
Contributing Benefactors - contributions of $500-$999
Sponsoring Benefactors - contributions of over $1000

Please bring this program to the attention of influential people for whom or with whom you may be working.

Reminder - MSA List Server

MSA members who receive electronic mail can get Society notices and participate in Society discussions by subscribing to the MSA List Server. To subscribe, send your name to "msa-request@smith.edu". Any subscriber may send an e-mail message to all other subscribers by using the following address: msa@smith.edu

From the President

A fair amount has happened since I last wrote you in the October, 1994 *Lattice*. First and most importantly, we completed a very successful search for the first Scientific Administrator of MSA Dr. J. Alexander Speer (Alex) assumed the new position on January 3, and already we can see his impact in improving the efficiency with which our Society operates. Alex came to MSA with seventeen years experience as a teacher, researcher, and manager in academics and industry. He has wide ranging analytical skills and expertise in studying both earth and manufactured materials with application to geologic, environmental, and manufacturing problems. Alex will play a major role in spearheading aspects of MSA outreach programs and also provide a steady hand in helping with our corporate memory and continuity in our various societal initiatives.

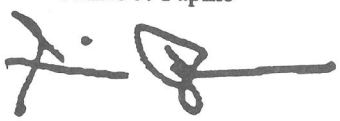
I am also pleased to announce the arrival of our new *American Mineralogist* Managing Editor, Tom Cichonski. Tom is extremely well-qualified for the position and looks forward to helping with our new "Better, Faster, Cheaper" methods of producing *American Mineralogist*.

My comments concerning the suggestion, from our past presidents, that we consider changing the name of "American Mineralogist" to "Earth and Planetary Materials" generated a large number of responses, all in opposition to the idea. In reading the mail, fax, e-mail responses on that subject, I was reminded of a similar situation a few years ago when a well-known soda company announced that they were going to change the "original recipe." It is clear that the title "American Mineralogist" is well-respected nationally and internationally and that the most important aspect of the journal is what is between the covers. It was extremely gratifying to see strong support from our international members with letters from Australia, Canada, England, India, New Zealand, and Scotland. The MSA membership can be assured that your council will do nothing in haste and that it understands the importance of continuity in the name of our journal.

In the spirit of increased efficiency of the administration of MSA and the very important responsibility of producing our journal, we are investigating new office space in the Washington D.C. area to accommodate both our business office and our managing editor's office. The business office could move as early as late summer or early fall of this year and the editorial office could move as early as spring 1996.

In assessing the health of our society, I feel that we are moving in the right directions to ensure continued national and international impact on our science and outreach programs. However, there is still one thing that concerns me and that is our interaction with national and international meetings. MSA now interacts with a number of meetings including the annual GSA meeting, spring and fall AGU meetings, and the Goldschmidt conferences. Please give us your input on what we should be doing differently if anything. Are we involved in too many meetings? Should we continue to have our awards luncheon at GSA or should we consider another meeting such as fall AGU or the Goldschmidt Conference? Is our impact now too diluted in the many meetings in which we participate? Should we have our own meeting? With the increased popularity of e-mail communications, I expect to receive a great deal of input from you on these subjects. You can be assured that your input is most welcomed and will be considered very seriously.

James J. Papike



President

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 1995 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, 1995 will be sent all back issues of the journal for volume 80, 1995.

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 1995 volume of American Mineralogist for the annual rate of $260 in the US, $270 in Canada and Mexico and $280 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.

Suggestion Box

To the Editor:

I enjoyed reading President Papike's column in the November issue of *The Lattice*. However, I was somewhat concerned that, in his review of the Society's Interest Groups, he omitted to mention the oldest and most active of these, the Pegmatite Interest Group. While appreciating the fact the MSA and its august President might not wish to acknowledge such a biological-sounding group as PIG, I think that such prejudice is out of place in the 1990s. I am interested to know if this omission was a subtle rejection of Hal Helgeson's suggestion for the redefinition of a mineral in that issue's Suggestion Box. PIG fully endorses the view that we should "tear down the archaic wall...separating...animal...and mineral". Our hope is that others can be persuaded to this more liberal view, and that PIG will be readmitted into the mainstream of Mineralogy.

Frank C. Hawthorne
University of Manitoba

To the Editor:

I support Hal Helgeson's suggestion that including organic material in rocks under the umbrella of the MSA will help to broaden our society. Organic constituents are part of rocks, and they take part in numerous organic-inorganic reactions that control the observed mineral occurrence.

Organic constituents may include: (1) kerogen, a rock-like material (in that it consists of a collection of macerals) that occurs as lithic clasts, (2) macerals, mineral-like organic matter (in that macerals are solid-solutions) including vitrinite, exinite, inertite, etc., (3) petroleum, the liquid produced by thermal metamorphism of kerogen, and (4) asphalt, pyrobitumen, and other types of solid to semi-solid petroleum.

I already include organic matter in abstracts I prepare from papers published in the AAPG as part of MSC's contribution to Mineralogical Abstracts.

Jeffrey L. Warner
Chevron Petroleum Technology Company

To the Editor:

On philosophical grounds I fully agree with the notion expressed in Dr. Helgeson's letter. As part of my research on interplanetary dust particles I developed an interest in the crystalline carbon phases in these materials but I have encountered great difficulty to have my work accepted for mineralogically- or petrologically-minded journals. For example, a few weeks ago *Earth and Planetary Science Letters* rejected my transmission electron microscopy study on experimentally shocked pregraphitic carbons (no hard feelings though). After editing the rejected manuscript to suit the format of the journal *Carbon* the manuscript was accepted with no alterations necessary within three weeks after submission.

I would like to submit the following for consideration:

(1) Excellent mineralogical and petrological research on "carbons" (used here in its broadest context) has been, and still is, published in topical journals. Whilst these professional journals are out of the intellectual mainstream of many MSA members, the MSA should support any effort that will ultimately create a provincially-minded climate among its members. Most "carbon-specific" journals are available in university libraries.

(2) I believe MSA should consider an active promotion campaign to attract papers on crystalline carbons within a clearly defined mineralogical context. The MSA should avoid opening a can of worms and not indiscriminately sponsor carbon research. Topical journals (e.g., *Carbon*, and *Fuel*) and others (e.g., *Geochimica et Cosmochimica Acta*) already provide an excellent service. The MSA should not compete with these journals.

While it remains difficult to draw the line (e.g., crude oil might be pushing the issue a bit too far), it is high time that mineralogists and petrologists are reminded of the fact that "carbons" and "minerals" happily (co-)exist in many environments. Our colleagues in geochemistry made this link a long time ago. The MSA should follow in their footsteps.

Frans J.M. Rietmeijer
The University of New Mexico

IN MEMORIAM

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

Sturges W. Bailey
Life Fellow, 1948

Robert Roy Coats
Life Fellow, 1938

Joseph D.H. Donnay
Life Fellow, 1930

MSA Short Courses

[Registration forms will be published in the May *Lattice*]

STRUCTURE, DYNAMICS, AND PROPERTIES OF SILICATE MELTS

Dates: December 9-10, 1995 (just before AGU meeting)
Location: San Francisco area, California
Conveners:

D.B. Dingwell, Bayerisches Geoinstitut, Universitat Bayreuth, 95440 Bayreuth, Germany; don.dingwell@uni-bayreuth.d400.de
P.F. McMillan, Dept. of Chemistry, Arizona State University, Tempe, AZ 85287, USA; mcmillan@asuchm.la.asu.edu
J.F. Stebbins, Dept. of Geological and Environmental Sciences, Stanford University, Stanford, CA 94305, USA; stebbins@pangea.stanford.edu

Silicate melts are the essential phase of all magmatic processes. As such, melts play a key role in the chemical and physical differentiation of the Earth and terrestrial planets, as well as in more local phenomena of volcanism, plutonism, and heat and mass transfer in the crust and mantle. Equally important to this field has been the impetus provided by the use of silicate liquids and glasses in various industries. The past ten years have witnessed a tremendous growth of the literature on the structure, properties, and dynamics of silicate melts, stimulated by a number of breakthroughs in fundamental understanding.

This short course will attempt to brings these new results and approaches to students and other researchers in the earth and the materials sciences. Emphasis will be placed on new findings from high T studies of liquids, on the dynamical processes that distinguish liquids from glasses, and the links between thermodynamic and transport properties.

Preliminary list of topics:

C.A. Angell (Arizona State University): Phenomenology of strong and fragile liquids and the glass transition
G.E. Brown (Stanford University), G. Calas (University of Paris): X-ray spectroscopic studies of silicate melts
S. Chakraborty (Universitat Koeln): Diffusion in silicate liquids
J. Dickinson (Corning, Inc.): Oxide glasses and melts: technological perspectives
D.B. Dingwell (Bayerisches Geoinstitut): Rheology and relaxation in melts
P. Hess (Brown University): Thermodynamic mixing properties and the structure of silicate melts.
P.F. McMillan and G.H. Wolf (Arizona State University): Vibrational studies of silicate liquids
C. T. Moynihan (R.P.I.): Structural, electrical relaxation, and the glass transition
A. Navrotsky (Princeton University): Energetics of silicate melts
P. H. Poole (Dalhousie University), G.H. Wolf, and P.F. McMillan (Arizona State University): Computer simulations of melts
P. Richet, Y. Bottinga (University of Paris): Configurational entropy and viscosity of silicate melts
J.F. Stebbins (Stanford University): Dynamics and structure of silicate melts: nuclear magnetic resonance studies
S. Webb and D.B. Dingwell (Bayerisches Geoinstitut): Anelasticity
G.H. Wolf and P.F. McMillan (Arizona State University): Pressure effects on melt structure and dynamics

WEATHERING KINETICS OF SILICATE MINERALS

Dates: November 4-5, 1995 (preceding GSA meeting)
Location: French Quarter, New Orleans
Conveners:

Art White, U.S. Geological Survey, Water Resources Division, MS 420, 345 Middlefield Road, Menlo Park, CA 94025;
Susan Brantley, Pennsylvania State University, College of Earth and Mineral Sciences, 209 Deike Bldg., University Park, PA 16802

Topics and Speakers/Authors

1. FUNDAMENTAL APPROACHES IN DESCRIBING SILICATE DISSOLUTION-*Antonio Lasaga, Yale University*
2. MINERAL DISSOLUTION AS A LIGAND-EXCHANGE REACTION-*William Casey, University of California, Davis and Christian Ludwig, University of Bern*
3. ROLE OF SURFACE CHEMISTRY IN DISSOLUTION KINETICS OF SILICATE MINERALS-*Mike Hochella, Jr., Virginia Polytechnical Institute*
4. DISSOLUTION KINETICS OF QUARTZ-*Patricia Dove, Georgia Institute of Technology*
5. REACTION KINETICS OF SHEET SILICATES-*Kathy Nagy, Sandia National. Laboratory*
6. DISSOLUTION KINETICS OF FELDSPARS-*Alex Blum, U. S. Geological Survey and Lisa Stillings, University of Wyoming*
7. DISSOLUTION KINETICS OF PYROXENES AND AMPHIBOLES-*Susan Brantley, Pennsylvania State University*
8. INTEGRATION OF LABORATORY AND FIELD KINETIC DATA FOR SILICATES-*Herald Sverdrup, Lund University*
9. SILICATE WEATHERING RATES IN SOILS-*Art White, U. S. Geological Survey*
10. SILICATE WEATHERING RATES IN WATERSHEDS-*James Drever, University of Wyoming*
11. RIVER AND CONTINENTAL SCALE WEATHERING RATES-*Robert Stallard, U. S. Geological Survey*
12. CHEMICAL WEATHERING AND GLOBAL CHANGE-*Robert Berner, Yale University*

The MSA Short Course will be held in conjunction with a planned GSA Symposium on chemical weathering which will provide addition opportunities for course participates to present and discuss research topics.

NSF Proposal - *Teaching Mineralogy*

A proposal to the NSF Undergraduate Faculty Enhancement Program to support a summer workshop on "Teaching Mineralogy" is currently being planned. This workshop is intended to be a practical follow-up to the very successful theme session sponsored by MSA at the 1994 GSA meeting and the recent formation of the MSA interest group on teaching mineralogy. The tentative venue for this workshop will be Montana State University in the early summer of 1996.

This workshop will showcase hands-on, practical laboratory assignments with an emphasis on discovery-based learning exercises. Participants will be asked to submit examples of their best, innovative lab exercises prior to the workshop. These exercises will be compiled and many of these exercises will then be used as the curriculum that will be taught to the other participants at the workshop. Areas of topical interest related to mineralogy (e.g. public health, environmental or materials sciences) will also be selected for development of additional exercises. Materials available for use at the workshop will include mineral collections, crystal structure models, and XRD and SEM-EDS instruments. Field trips can also be arranged to areas of local geologic interest (e.g. Yellowstone, Stillwater Complex, Beartooth highway, local mines, etc.). The teaching exercises developed for this workshop will be compiled and distributed to MSA members and beyond.

The NSF grant (if successful) will provide funds for subsistence (meals and lodging) and materials used at the workshop. Your home institution should bear the cost of travel to and from the workshop, and Montana State University will provide the facilities and equipment necessary to conduct the workshop. To help us prepare a more competitive proposal, and to better plan the activities at the workshop, we need to have some indication of the level of interest in either attending or contributing to this workshop. MSA members are asked to respond to the following questions:

a) Would you be interested in attending this workshop? If so, are any specific dates preferred or dates that directly conflict with other professional activities?

b) Would you be willing to develop a teaching exercise to present at the workshop? If so, what would be the topic, and would you require any special materials?

c) Are there any specific activities you would like to see developed for this workshop, either alternative approaches to the standard curriculum or new material added?

The deadline for this proposal is May 1, 1995, so any responses prior to April 1, 1995 would be greatly appreciated. Please send your responses to:

David Mogk
Dept. Earth Sciences
Montana State University
Bozeman, MT 59717

E-mail: uesdm@msu.oscs.montana.edu.

Advertisements in *The Lattice*

The Lattice now accepts prepaid advertisements at the following 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
1130 Seventeenth Street N.W., Suite 330
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*:

Marta Flohr
U.S. Geological Survey
National Center MS 959
Reston, VA 22092

Telephone: 703-648-6761
Fax: 703-648-6789

Advertisements for the May issue of *The Lattice* must be received by April 24.

Members in the News

John Sinkankas' book, *Gemology: An Annotated Bibliography*, has received the Geoscience Information Society's Mary B. Ansari Best Reference Work Award for 1994.

MSA Directory Update

Please make the following changes to your 1994-1997 Directory of Members.

Telephone and E-mail changes:
Member: Bideaux, Richard A
Telephone: (602) 297-4862
E-mail: BIDEAUXRA@DELPHI.COM

Temporary change:
Peter R. Buseck is serving as Special Assistant to the Director of the National Science Foundation. He may be reached at the following address through next summer:

National Science Foundation
Office of the Director
4201 Wilson Blvd., Suite 1205
Arlington, VA 22230
Telephone: 703-306-1002
Fax: 703-306-0109
E-mail: pbuseck@nsf.gov

Congress Threatens to Abolish U.S. Geological Survey and U.S. Bureau of Mines

Craig M. Schiffries
American Geological Institute

The U.S. Geological Survey and the U.S. Bureau of Mines are facing one of the most serious challenges in their history. Both agencies have been targeted for complete elimination according to an attachment to the Contract with America. The Contract contains a package of 10 bills that 224 Republican members of Congress have pledged to introduce in the first 100 days of the new Congress. The attachment identifies $176 billion in possible spending cuts over five years. Although many programs would be reduced, restructured, or frozen, the USGS and the USBM are among a handful of organizations that would be abolished.

"We are deeply concerned about the Contract with America proposal, because it reflects a lack of understanding about the broad range of scientific activities conducted by the U.S. Geological Survey, as well as our active role within all 50 states," says Gordon P. Eaton, director of USGS. "We serve as the archivist of this nation's Earth resources -- monitoring the rivers, for example, and helping to maintain healthy water standards. Our geoscientists help citizens prepare for emergencies such as earthquakes and floods; and we address the challenges of sustainable development of our oil, gas, and minerals resources. In fact, the USGS touches the lives of every American citizen every day."

The geosciences would absorb a disproportionate share of spending cuts relative to other scientific disciplines, and the U.S. Geological Survey and the U.S. Bureau of Mines would take the most direct hits. Abolishing the USGS ranks as the fifth largest cut among all discretionary programs in the federal budget. Eliminating the USGS represents the largest single reduction for any science and technology program.

Congressional staff members indicate that abolishing the U.S. Geological Survey might be accomplished by transferring some of its functions to other organizations. They suggest that some programs in the water resources division might go to the Environmental Protection Agency. Likewise, certain functions of the national mapping division might move to the Defense Mapping Agency or to the private sector, while some functions of the geologic division might be transferred to universities. But shifting programs from one agency to another would offset some of the proposed savings, and no estimate of the net savings has been made available. It is unlikely that other organizations would pick up these programs at no expense to the nation.

Rep. John R. Kasich (R-Ohio) is a key figure behind the proposal to abolish the USGS and the USBM. Last year, Rep. Kasich sponsored an amendment that would have eliminated the two agencies, a proposal included in a package of numerous budget cuts. Although his amendment was rejected by the House of Representatives last year, Kasich is in a much stronger position to pass these measures now that he has become chairman of the House Budget Committee and Republicans control both the House and the Senate.

The Clinton Administration has made clear its support of the USGS and the USBM. Secretary of the Interior Bruce Babbitt has said, "The USGS is the nation's premier water and earth-science information agency, and its role is increasingly important at a time when we are facing many critical decisions on the environment." Last August, Secretary Babbitt stated, "This Administration is firmly committed to maintaining a strong, viable, U.S. Bureau of Mines in the Department of the Interior." In October, when Rhea L. Graham was sworn in as director of the USBM, she said, "I believe that the agency has a vital role to play in helping the nation solve its mineral-related problems -- problems that involve our environmental and economic goals as well as basic human issues such as worker health and safety."

It is ironic that Congress is considering legislation to abolish the USGS and the USBM at a time when the United States is beginning to recognize its increasing vulnerability to earthquakes, floods, droughts, water pollution, volcanic eruptions, global environmental change, contamination from waste disposal, and reliance on unstable sources of foreign oil and minerals.

Geoscience research and information play vital roles in an ever-growing range of societal problems. Federal investments in geoscience research and information continue to pay enormous dividends. Although the rationale for supporting the USGS and the USBM remains strong, Congress and the public are not generally aware of their relevance to a broad range of national goals. Over 100 years ago, the USGS was established without fanfare -- created by an amendment to another bill. Today, the agency stands in danger of being dismantled in much the same way it was created.

(Reprinted with permission from *Geotimes*)

Possible Spending Cuts for the Contract with America
(projected savings in billions of dollars over five years)

Proposal	Estimated Savings
Abolish the U.S. Geological Survey	3.261
Abolish U.S. Bureau of Mines	0.872
Abolish National Biological Survey	0.139
Eliminate the Advanced Technology Program	0.819
Downsize Minerals Management Service	0.465
Reduce funding for Energy Technology Development	2.139
Reduce overhead rate for university research	1.620
Freeze funding for NOAA	0.805
Halt purchases of oil for Strategic Petroleum Reserve	0.362
Restructure the Naval petroleum reserves (Elk Hills)	0.143
Restructure Bureau of Reclamation	0.427
De-Emphasize permanence in Superfund clean-ups	1.140
Limit rate of growth of National Science Foundation	0.346

Source: House Budget Committee Republican Staff
(Reprinted with permission from *Geotimes*)

The Mineralogical Society of America Announces the 1996

BIENNIAL GRANT FOR RESEARCH IN CRYSTALLOGRAPHY

From the Edward H. Kraus Crystallographic Research Fund with contributions from MSA members and friends

This award is to assist with the expenses of research in crystallography. It is in the amount of $3500 and is made in even-numbered years. The award is made on the basis of written proposals submitted by the applicants in the preceding, odd-numbered year. The recipient will be chosen by the MSA council at its third council meeting to be held in the Fall, 1995 on recommendations from the MSA Research Grant Committee. The only restrictions on eligibility for the grant is that the applicant must have reached his or her 25th birthday but not have yet reached his or her 36th birthday on the date the grant is awarded, and that the person is not a MSA Counsellor. There are no restrictions on how the award money is to be spent, as long as it is spent in the support of research. Application forms for the award can be obtained from Dr. J. Alex Speer, MSA Business Office, 1130 Seventeenth Street, N.W., Suite 330, Washington, DC 20036. Completed applications need to be returned to the MSA Business office by June 1, 1995 for forwarding to the Research Grant Committee.

Previous recipients:

1973 - Shu-Chen Yu
1977 - Louise Levien
1980 - Rodney J. Hill
1982 - R. N. Abbott and G. A. Lager
1984 - Melinda Darby Dyar
1986 - William Joseph Dytrych
1988 - Laura Pringle Goodell
1990 - Ross John Angel
1992 - Roberta L. Millard
1994 - Peter Carman Burns

Planetary Impact Events: Materials Response to Dynamic High Pressure

Date: August 27 - September 1, 1995
Place: Cancun, Mexico
Abstract Deadline: May 31, 1995

A special two-day symposium of the ***IV International Conference on Advanced Materials*** addressing issues related to the shock-induced modification of minerals associated with natural impacts and the understanding of planetary impact processes.

Symposium Topics will include: Cratering processes, Chicxulub impact and the K/T extinction, Diaplectic phases, Experimental shock-loading, Impact-induced hydrothermal alteration of minerals, Mineralogical changes during impact, Modeling planetary impacts, Spectroscopy of shocked materials.

The Organizing Committee: Laura J. Crossey, University of New Mexico, Albuquerque; Randall T. Cygan, Sandia National Laboratories, Albuquerque; Luis Ernesto Marin Stillman, Universidad Nacional Autónoma de México, México City.

For additional information and abstract forms contact:
Randall T. Cygan
Geochemistry Department
Sandia National Laboratories
Albuquerque, New Mexico 87111-0750 USA
E-mail: rtcygan@sandia.gov
Telephone: (505) 844-7216; Fax: (505) 844-7216

Environmental Materials: Issues and Developments

Dates: August 27 - September 1, 1995
Place: Cancun, Mexico
Abstract deadline: May 31, 1995

This symposium on "Environmental Materials: Issues & Developments" will be held at the ***IV International Conference on Advanced Materials***. The symposium will present a diverse program of speakers working in a wide variety of materials research areas with applications to the minimization and disposal of hazardous, radioactive and mixed waste. We particularly encourage contributions from speakers who propose new processing technologies or new and novel materials for the minimization and disposal of waste.

For meeting announcements and additional details contact:
Rod Ewing
Department of Earth & Planetary Sciences
University of New Mexico
Albuquerque, NM 87131

E-mail: rewing@unmb.unm.edu
Telephone: (505) 277-4163; Fax: (505) 277-0090

MEETING CALENDAR 1995-1996

1995

April

17-21 **Spring Meeting of the Materials Research Society,** San Francisco, CA. *Details*: Materials Research Society, 9800 McKnight Road, Pittsburg, PA 15237-6006. Telephone: (412) 367-3012; Fax: (412) 367-4373.

May

17-19 **Geological Association of Canada-Mineralogical Association of Canada Joint Annual Meeting,** Victoria, British Columbia, Canada. *Details*: Chris Barnes, General Chair, SEOS, University of Victoria, P.O. Box 1700, Victoria, B.C. V8W 2Y2, Canada. Fax: (604) 721-6200.

21-26 **Basement Tectonics 12th International Conference,** Norman, Oklahoma, USA. *Details:* M.C. Gilbert, Conference Chair, School of Geology and Geophysics, University of Oklahoma, 810 Sarkeys Energy Center, Norman, OK 73019-0628. Telephone: (405) 325-3253; Fax: (405) 325-3140. *Abstract deadline: March 1, 1995.*

24-27 **1995 V. M. Goldschmidt Conference,** University Park, Pennsylvania. *Details:* Technical Program Chair - Mike McKibben: Telephone: (909) 787-3444, Fax: (909) 787-4324, e-mail: MCKIBBEN@UCRAC1.UCR.EDU; General Chairs - Hu Barnes and Peter Deines, Telephone: (814) 865-7573; Fax: (814) 863-2001, e-mail: BARNES@GEOSC.PSU.EDU.

May-June

29-2 Joint **AGU/MSA/GS Spring Meeting,** Baltimore, Maryland. *Abstract deadline: March 9, 1995; Preregistration deadline: April 28, 1995.*

June

2-6 **10th Annual Meeting of the Society of the Preservation of Natural History Collections - SPNHC'95** *Preserving the Record of Nature through Countless Ages,* at the Royal Ontario Museum, Toronto, Canada. *Details:* Janet Waddington, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario, M5S 2C6 Canada.

3-8 **The Clay Minerals Society 32nd Annual Meeting,** Baltimore, MD. *Symposium:* Clays, Surfaces, and the Environment - organized by Allan Stone and Donald L. Sparks. *Workshop (Sat., June 3):* Reactions of Organic Pollutants with Clays - organized by B.L. Sawhney. *Field trip:* Clay minerals in Soil-Geologic Columns of Maryland's Piedmont and Inner Coastal Plain - leader is Martin C. Rabenhorst. *Details:* Dr. Delvin S. Fanning, Dept. of Agronomy, U. of Maryland, College Park, MD 20742; Telephone: (301) 405-1344; Fax: (301) 314-9041.

7-9 **Mineral Exploration '95,** The Third Annual International Geological Forum addressing all aspects of mineral exploration, Cornwall, UK. *Details*: Dr. Phil Newall and Dr. Alan Butcher, *Mineral Exploration '95,* CSM Associates Ltd., Pool, Redruth, Cornwall TR15 3SE, UK; Telephone: +44-0-209-717724; Fax: +44-0-209-710893. *Abstract deadline: late December 1994.*

July

23-28 **American Crystallographic Association Annual Meeting,** Montreal, Canada. *Details:* M. Cygler, Biotechnology Res. Inst., National Research Council of Canada, 6100 Royalmount Ave., Montreal, Quebec H4P 2R2, Canada; Telephone: (514) 496-6321; Fax: (514) 496-5143; e-mail: mireck@bri.nrc.ca. *Abstract deadline: March 28, 1995.*

August

7-12 **Sixth International Kimberlite Conference,** Novosibirsk, Russia. *Details*: Dr. N.P. Pokhilenko, Secretary, Sixth International Kimberlite Conference, United Institute of Geology, Geophysics, and Mineralogy, Russian Academy of Sciences, Siberian Branch, 630090 Novosibirsk-90 Russia. Telex: 133123 KORA SU; Fax: 007-3832 352692; e-mail: chief@diamond.nsk.su

19-25 **Euroclay '95 - Clays and Clay Materials Science Conference,** Leuven, Belgium. *Details*: Prof. P. Gorbet, Centrum voor Oppervlaktechemie en Katalyse, K.U. Leuven, K. Mercierlaan 92, B-3001 Heverlee, Belgium.

August-September

28-1 **Tectonics and Metallogeny of Early/Mid Precambrian Orogenic Belts,** Montreal, Canada. *Details*: J.A. Percival, Geological Society of Canada, 601 Booth St., Ottawa, Ontario, Canada, K1A 0E8. Telephone: (613) 995-4723, Fax: (613) 995-9273; e-mail: jpercival@601C.gsc.emr.ca.

28-2 **Third Hutton Symposium: The Origin of Granites,** College Park, Maryland. *Details:* Michael Brown, Dept. of Geology, University of Maryland, College Park, MD 20742. Telephone: (301) 405-4082, Fax: (301) 314-9661.

September

4-8 **Third International Dyke Conference,** Jerusalem, Israel (Mineralogical research is most welcome). Organizing Committee (IDC-3), Geological Survey of Israel, 30 Malkhe Yisrael Street, Jerusalem 95501, Israel, Fax: 972-2-380688, e-mail: DIKECONF@VMS.GSI.GOV.IL; Dr Peter C. Rickwood (same e-mail address), Tel: International 61-2-3854264, Interstate 02-3854264 (Sec.x.4262), Fax: International 61-2-3855935, Interstate 02-3855935. *Abstract and registration deadline (for reduced fees): May 31, 1995.*

(Meeting Calendar continued on next page)

MEETING CALENDAR *(continued from p. 8)*

October

9-13 **10th International Conference of the Geological Society of Africa,** Nairobi. With a Special Symposium dedicated to IGCP Project 314: *Alkaline and Carbonatitic Magmatism*. Post conference field excursion to Longonot and Suswa volcanoes, with a possible extension to Oldoinyo Lengai. *Details:* Abigail Church, Dept. of Mineralogy, The Natural History Museum, Cromwell Road, South Kensington, London, SW6 5BD, Great Britain. Telephone: 071 938 9385; Fax: 071 938 9268.

November

6-9 **Annual GSA/MSA Meeting,** New Orleans, Louisiana.

1996

April

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. Telephone: +49-921-553700, Fax: +49-921-553769. First circulars will be distributed in March 1995, second circulars including registration forms in September 1995. *Deadline for registration and submission of abstracts is December 1, 1995.*

May

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

June

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. Telephone: (615) 574-6316. Fax: (615) 576-8646. E-mail: syl@ornl.gov.

THE DEADLINE FOR THE MAY ISSUE OF *THE LATTICE* IS APRIL 24TH

Reminder - contributions may be sent by e-mail: mflohr@lithos.er.usgs.gov

WELCOME!

The following new members and students have joined MSA. Current members: Applications for membership may be obtained from the MSA Business Office, 1130 Seventeenth Street, N.W., Suite 330, Washington, DC 20036. Get and keep a few on hand.

Ahn, Jinho, Department of Geological Sciences, ENCES, Seoul National University, Seoul, 151-742, REPUBLIC OF KOREA. O:(822)887-1277. F:(822)871-3269. (ST-95)MP CC. Sponsors: Moonsup Cho and Seung Ryeol Lee.

Alper, Allen M., Osram Sylvania, Hawes St., Towanda, PA 18848, USA. O:(717)268-5100. (M-95)MI CC GE PE. Sponsor: MSA.

Bickmore, Barry R., Department of Geological Sciences, Virginia Tech, Blacksburg, VA 24061, USA. O:(703)231-3358. F:(703)231-3386. (ST-94)MI GE. Sponsors: Gerald V. Gibbs and Jodi Junta.

Brenner, Frank, Heimstaettenstr. 2B, D-64354 Reinheim, GERMANY. O:(6162) 2770. (ST-95)MP PE. Sponsors: Joerk Jarick and Jurgen Reinhardt.

Burch, Tim, Chemical & Analytical Sciences Division, Oak Ridge National Laboratories, P.O. 2008, Bldg. 4500S, Oak Ridge, TN 37831-6110, USA. O:(615)574-5034. F:(615)574-496x. (M-95)GE MI CM. Sponsor: MSA

Carroll, Maureen, 380 Daleville Rd., Apt. 84, Willington, CT, 06279, USA. O:(203)429-8412. (ST-95)IP MI. Sponsor: MSA.

De Silva, Shanaka, Department of Geography and Geology, Indiana State University, Terre Haute, IN 47809, USA. O:(812)237-2269. F:(812)237-8029. (M-95)MI IP. Sponsor: MSA.

(continued on next page)

Welcome! (cont. from p. 9)

Edwards, Ben, Department of Geological Sciences, University of British Columbia, 6339 Shores Rd., Vancouver, BC V6J 1Z4, CANADA. O:(604)822-9635. (ST-95)IP GE. Sponsor: MSA.

Froeba, Michael, Lawrence Livermore National Laboratory, L-369, P.O. Box 808, Livermore, CA 94551, USA. O:(510)423-0175. F:(510)422-2118. (M-94)MI CC. Sponsor: MSA.

Heinrich, Wilhelm, GeoForschungsZentrum, Postfach 60 07 51, D-14407 Potsdam, GERMANY. O:(0331)288-1410. F:(0331)288-1402. (M-95)MI MP. Sponsors: Dominique Lattard and Gerhard Franz.

Kaduk, Jim A., Amoco Research Center, 150 West Warrenville Rd., Naperville, IL 60566-7011, USA. O:(708)420-4547. F:(708)420-5252. (M-94). Sponsor: MSA.

Kaszuba, John P., Department of Geology, Colorado School of Mines, Golden, CO 80401, USA. O:(303)273-3066. (ST-95)GE IP. Sponsors: Richard F. Wendlandt and Wendy J. Harrison.

Kim, Taehong, 124-2 Marshall Dr., West Lafayette, IN 47906, USA. O:(317)746-3209. (ST-95)GE MP Isotope Geology. Sponsors: Richard O. Sack and Henry O. A. Myers.

Labiosa, William, Department of Geological and Environmental Sciences, Mitchell Building, Room 138, Stanford University, Stanford, CA 94305-2115, USA. O:(415)723-4152. (ST-95)GE CC. Sponsor: MSA.

Mancino, James C., 1914 E Mercer St., #4, Seattle, WA 98112, USA. O:(206)329-1843. (ST-95)GE IP. Sponsor: MSA.

Markl, Gregor, Institut fur Mineralogie, Albertstrasse 23 B, D-79104 Freiburg, GERMANY. O:(0761)203-6414. F:(0761)203-6407. (ST-95)IP MP GE EG. Sponsors: John C. Schumacher and Kurt Bucher-Nurminen.

McCrary, Clifford Ray, III, 124 Fidelity St., Apt. 28, Carrboro, NC 27510, USA. O:(919)924-2207. (ST-95)MP IP PE. Sponsors: Donna L. Whitney and Jonathan S. Miller.

Ni, Yunxiang, Department of Geology, Miami University, Oxford, OH 45056, USA. O:(513)529-3228. (ST-95)MI CC GE. Spnsor: MSA.

Pan, Yuanming, Department of Geology, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0, CANADA. O:(306)966-5699. F:(306)966-8593. (M-95)MP MI. Sponsor: MSA.

Price, Jonathan D., 810 Sarkeys Energy Center, 100 East Boyd St., Norman, OK 73019-0628, USA. O:(405)447-2017. (ST-95)IP GE. Sponsors: John P. Hogan and M. Charles Gilbert.

Sato, Hisao, Department of Earth and Planetary Materials, Earth Science Faculty of Science, Tohoku University, Aoba-ku, 980 Sendai, JAPAN. O:011-81-22-222-1800. F:011-81-22-262-6609. (ST-94)GE. Sponsor: MSA.

Swope, R. Jeff, P.O. Box 44, Jamestown, CO 80455. O:(303)449-8654. (ST-95)MI CC. Sponsor: MSA.

Taylor, Marjorie E., 120 Dean St. #1, West Chester, PA 19382, USA. (ST-95)MI GE. Sponsors: Bernard W. Evans and M. Darby Dyar.

Vetter, Scott, Department of Geology, Centenary College, Shreveport, LA 71134, USA. O:(318)869-5055. F:(318)869-5795. (M-95)IP GE. Sponsor: MSA.

Voigtlander, Henning, Olshausenstrasse 40, D-24098 Kiel, GERMANY. (ST-95)MI IP. Sponsor: Charles A. Leiger and Michael Czank.

Waters, David J., Department of Earth Sciences, Oxford University, Parks Rd., Oxford OX1 3PR, UNITED KINGDOM. O:0-1865-272000 F:0-1865-272072. (M-95)MP MI. Sponsor: MSA.

Weidler, Peter Georg, Widmerstrasse 68, CH-8038 Zurich, SWITZERLAND. O:00411 633 6018. F:00411 633 1118. (M-95)CC GE. Sponsors: Helge Stanjek and Enver Murad.

Williams, Bill V., Box 174, Elmer City, WA 99124, USA. O:(509)633-3457. (M-95)MI CC IP MP SP GE CM. Sponsor: MSA.

Williamson, Kathleen, 224 Puffton Village, 1040 N. Pleasant St., Amherst, MA, 01002, USA. O:(413)545-2286. F:(413)545-1200. (ST-95)MI IP. Sponsors: S. A. Morse and Peter Robinson.

Yang, Tsanyao F., 245 Choushan Rd., Taipei 10770, TAIWAN. F:(8864)2-363-6095. (M-95). Sponsor: MSA.

Yi, Kee-Wook, Department of Geological Sciences, ENCES, Seoul National University, Seoul, KOREA. O:(822)887-1277. F:(822)871-3269. (ST-95)MP SP. Sponsors: Moonsup Cho and Seung Ryeol Lee.

Young, Jeff, Department of Geological Sciences, University of Manitoba, Winnipeg, Manitoba R3T 2N2, CANADA. O:(204) 474-7342. (M-95)MI IP EG. Sponsor: MSA.

Yuisman, Tom, Earth Magazine, 21027 Crossroads Circle, Waukesha, WI 53187, USA. (M-95). Sponsor: MSA.

Ziegenbein, Dieter, Institut fur Mineralogie, Welfengarten 1, D-30167 Hannover, GERMANY. O:(511)762-2223. F:(511)762-3045/3456. (M-95)MI GE PE. Sponsors: Benita Putlitz and I-Ming Chou.

Consider for the Fall

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This 560-page volume provides a basic treatment of the nature of crystalline materials for students of mineralogy, materials science, chemistry, and solid state physics. Its chapter titles are: External Symmetry; Crystal Classes, Axes, Systems; Crystal Nomenclature and Calculations; Crystal Projections; Crystal Forms and Class Determination; Translational Symmetry; Lattices; Internal Symmetry; Space Groups; Crystal Chemistry; Principles of Crystal Structures; Structural Variations; Composition, and Stability; Physical Properties (discussions of tensors and tensor properties are excellent!); Crystals and Light; Introductory X-ray Crystallography.

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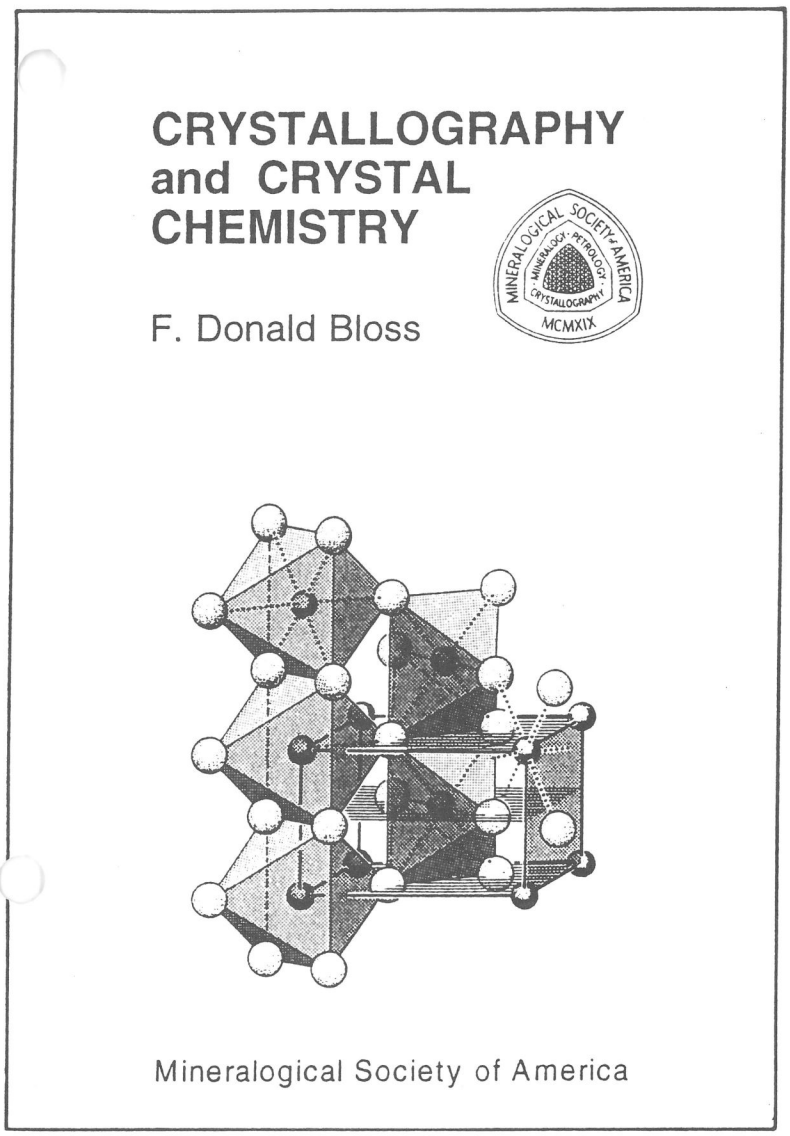

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News from the International Centre for Diffraction Data

Crystallography Scholarship Awards - The ICDD is pleased to announce the awarding of three Crystallography Scholarships for 1995: Arturas Vaillionis (Royal Institute of Technology, Sweden), Leonard R. MacGillivray (University of Missouri-Columbia, USA), and Kevin F. Peters (Northwestern University, USA). Vaillionis is "Developing Theory and Computer Codes for Interpreting Diffraction Data from Multicomponent Layered Materials of BSCCO Compounds." MacGillivray is exploring the "Solid-State Self Assembly of Molecules and Ions Isolated from Liquid Clathrate Media." Peters is studying the "Melting Behavior of Nanometric-sized Crystals using X-ray Diffraction Techniques in Controlled Environments."

Changes in Staff - Julian Messick, Corporate Secretary and General Manager of ICDD has announced his retirement after 29 years of service with the International Centre. Julian has served the ICDD in many capacities and has held the Secretary/General Manager position for the past 13 years. Effective 1 January 1995 Dan Richardson assumed this position. He is a graduate of the U.S. Naval Academy, retiring from the Navy with the rank of Rear Admiral after thirty years of service. Under the new administration, the Centre looks forward to continued growth and cooperation with its scientific and business associates. Julian Messick will continue as a corporate liaison for the immediate future.

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