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The Lattice

The Newsletter of the Mineralogical Society of America

Subscription and membership information is on page three.

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MSA Awards Luncheon at 2003 GSA Meeting

By Andrea Koziol

The eighty-fourth annual awards luncheon of the Mineralogical Society of America was held on November 4, 2003, during the 2003 Geological Society of America meeting in Seattle, Washington. Medallists were Guillaume Fiquet (MSA Award), George E. Harlow (Distinguished Public Service Medal) and Charles T. Prewitt (Roebling Medal).

Douglas Rumble, as master of ceremonies, first recognized the contributions of the MSA Distinguished Lecturers for 2002 – 2003, Thomas Armbruster, Mickey E. Gunter, and Robert Hazen. Thomas Armbruster, who was not able to be at the luncheon, spoke on *Natural Zeolites: From Structure to Applications* and *From Construction Kits and Building Blocks to Complex Mineral Structures: How Mineralogists Learn what Children Knew for Centuries*. Mickey Gunter gave talks on *Health Effects of Inhaled Dust: Idaho Farmers, Libby Miners, and New York Firefighters* and *The Future of Polarized Light Microscopy: Dim, Bright, or Extinct?* Robert Hazen spoke on *Life's Rocky Start: Possible Roles of Minerals in the Origin of Life* and *Emergence: Minerals and the Rise of Complexity on the Archaean Earth*.

MSA President: Doug Rumble. Distinguished Public Service Medalist: George E. Harlow. Citationist for Distinguished Public Service Medalist: Jeffrey Post. (L to R).

Guillaume Fiquet received the Mineralogical Society of America Award for outstanding research early in one's research career. He was born in 1965 in Valence, France. He graduated in Geology from University Claude Bernard in Lyons in 1987 before moving on to the University of Rennes, where he earned a M.Sc. degree in 1988 and a Ph.D. degree in Earth Sciences in 1990. Dr. Fiquet's thesis concerned anharmonicity in thermodynamic properties of upper mantle minerals and was advised by Philippe Gillet. Following this, he was a post-doctoral fellow at the Max Plank Institute in Mainz. He then was at the Earth Sciences Department of Ecole Normale Supérieure in Lyons, where he was hired by CNRS (the French National Research Center) in 1992. Since 2000 he has been in charge of the high-pressure group at the Laboratoire de Minéralogie et Cristallographie de Paris. Dr. Fiquet's research area is experimental mineral physics, especially application of synchrotron radiation to the determination of physical properties of lower mantle and core

MSA lecturers: Mickey Gunter (left) and Bob Hazen (right).

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Letter from the President

Times of change and opportunity for MSA

by Michael Carpenter

Over the last few years MSA has been adapting to the dramatic changes in publishing that have accompanied the arrival of the electronic era. Everyone expects that, sooner rather than later, most scientific publications will be entirely electronic from submission through to publication and dissemination. It seems likely that hard copies of journals will quickly disappear from our libraries and office shelves.

At its November meeting in Seattle, Council took an important decision that will ensure that the American Mineralogist remains one of the most prominent and advanced journals in geosciences in these rapidly changing times. The society will be joining the electronic publishing aggregate GeoScience World as a founding member alongside six other societies (AAPG, GSA, SEG, AEPM, GSL, AGI, and including GeoRef). The benefits to authors and readers should be immediate and substantial. In particular, full searchability and cross-referencing will ensure that our work reaches a much wider and interdisciplinary audience than now occurs. GSW is expected to go live in September 2004, and, in the first instance, will include our publications back to the year 2000. Both the American Mineralogist and the RiMG series will be included. It is planned that, as soon as funding permits, back issues will be converted to the electronic format required for inclusion in the aggregate. Members should be aware that Alex Speer has been closely involved in the development of GSW. His influence has ensured that details of the management structure, financing and operation are compatible with the purpose and ambitions of MSA.

In another major initiative for the society, Council voted unanimously to support the launch of a new magazine as a joint publication with some of our sister societies. This development is due to the vision of outgoing past president Rod Ewing and should also be a new benefit to members. The magazine will contain short review articles on topical themes in the broad fields of mineralogy, petrology and geochemistry. It will also contain news and views for the combined membership of the participating societies and will replace their newsletters (including *The Lattice*). The other societies involved will have made final decisions on

their participation by the time of the next issue of *The Lattice*, so "watch this space" for more information.

Over the last few years Council has spent a great deal of time considering the schedule of scientific meetings. There was a widespread feeling that the long established rotation of Spring AGU and Fall GSA meetings was not really serving the interests of MSA members. As a consequence, discussions were held with the Geochemical Society about holding joint meetings. The first of these in which MSA acted as a co-sponsor was the 2001 Goldschmidt Conference held in Hot Springs, Virginia. Anyone who went to that meeting will remember it as one of the most diverse and vibrant that they have attended. Following this success, Council has arranged that MSA will be a co-sponsor of the Goldschmidt Conference to be held in Copenhagen, June 5–11, 2004. Information on this meeting is now available via the MSA website or, more directly, at www.goldschmidt2004.dk. The submission date for abstracts is January 26, 2004, and the early registration deadline is April 2, 2004. MSA members are eligible for a reduced registration rate. Participation in a meeting outside the US is a new departure for MSA and the meeting should appeal, particularly, to our many international members. The range of scientific sessions will appeal to all our members. Jim Kirkpatrick will be presented with the Dana Medal and will deliver his Dana Medal Lecture at a special session during the meeting. Make a note in your diary and plan to come—it should be a good meeting.

Every year there is a rotation of members of Council. This year we thank departing Councilors Kathy Nagy and Craig Manning for their contributions over the last three years. Past president Rod Ewing also departs from Council, but will continue to serve the society while he oversees the development of the new magazine. Finally members of the society owe a great debt of thanks to outgoing Secretary, Dave Jenkins. If you get the chance, please thank Dave personally. I know from first-hand experience that he has done a demanding job quietly, efficiently and with great care.

To close on a personal note, I feel honored to have an opportunity to serve the society. I will welcome input at any time on how you think the society should be running, so please feel free to contact me by email or give me a call.

Contact details for Michael Carpenter: Dept. of Earth Sciences, Downing Street, Cambridge, CB2 3EQ, UK. Email: mc43@esc.cam.ac.uk. Phone: 44-1223-333483.

The Lattice is published quarterly (February, May, August, November) by the Mineralogical Society of America. It is distributed to MSA members and subscribers as a service. Articles and letters 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 and Geochemistry* series*; The Lattice*; special subscription rates for *Mineralogical Abstracts, Physics and Chemistry of Minerals*, *Journal of Petrology*, *Rocks and Minerals,* and *Mineralogical Record*; 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 2003: professional members $50; student members $5. American Mineralogist subscription: members add $35 (paper and electronic); $10 electronic. Membership is on a calendar year basis. Individuals who join after January 1, 2003 will be sent all back issues of volume 88 for 2003.

Additional membership information and an application, and/or a price list of the Society's publications are elsewhere in this newsletter, or contact the Business Office.

Institutions may subscribe to the 2003 volume of *American Mineralogist* for the annual rate of $580 in the US and $600 for non-US addresses. The subscription price includes any new volumes of the *Reviews in Mineralogy and Geochemistry* series and issues of the *Lattice* published during the calendar year of the subscription. Payment must be received in full before a subscription will be started.

2003 President: *Doug Rumble,* Carnegie Institution
Past-President: *Rodney C. Ewing*, Univ. Michigan
Vice President: *Michael A. Carpenter*, University of Cambridge
Secretary: *David Jenkins,* Binghamton Univ.
Treasurer: *James G. Blencoe,* Oak Ridge Nat. Lab.
Editor of *The Lattice*: *Andrea Koziol,* University of Dayton
MSA Executive Director: *J. Alexander Speer*
Production Manager: *Rachel A. Russell, Eric T. Baker*

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Notes from Washington

by J. Alexander Speer, MSA Executive Director

• MSA 2004 membership renewals were mailed in early October 2003. If you have not renewed your MSA membership, and have not received a paper notice by the time you read this, please contact the Business Office. You can also renew online. As always, you can save your Society money by renewing early whether you chose to use the electronic or the traditional paper method. As encouragement there will again be a $5 discount on the professional membership dues for renewals received before December 31, 2003.

Hardcopy renewals were mailed to all members. This was followed by an electronic notice for online membership renewal. This is a switch from the previous few years of sending out an electronic notice for online renewal in the hopes of avoiding a large hard copy mailing. The number of members willing to renew online remains at about one-third, and the processing of online renewals before preparing and sending the hard copy notices made for tight timing if all members are to be given the opportunity to take advantage of the $5 discount on professional membership dues for renewals received before December 31, 2003. The tight timing also contributed to the large number of renewals received in a very short time span at the end of the year that the office had difficulty processing in a timely manner.

Members and Fellows who are in the senior, honorary, and life categories were also sent renewal notices. They need not renew. They were sent notices because this seems the best way to prompt an update of membership information, particularly mailing addresses.

• In this issue of *The Lattice* there is an announcement of the 2005 Grant for Research in Crystallography from the Edward H. Kraus Crystallographic Research Fund and the 2005 MSA Grant for Student Research in Mineralogy and Petrology Research from an endowment created by contributions from the MSA membership. For the 2004 grants there were 50 applicants, down slightly from 56 for 2003. Only three could be funded, though many more were deserving.

• MSA does its membership figures for the current year just before renewal notices for the next year are received. New membership applications received after October 1 are entered as following year memberships. There was continued good news this year. MSA had more members than last, and the highest number since 1994. If you know someone who ought to be a member of MSA, invite him or her to join.

63% of MSA members subscribed to the journal in some form in 2003. This is a large drop from last year's 79%. I attribute the decrease to membership renewal formats that made it obvious that MSA members need not subscribe to the journal, a larger number of senior members who usually do not subscribe, and the option for members to electronically access the journal through their institutional library subscriptions. The finances of the journal are such that a drop in member subscriptions has no impact on its financial support. The same cannot be said for institutional subscriptions. The decrease in the number of institutional subscribers was 32 compared to previous year-to-year losses of 13, 32,

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History of Membership

Category	1995	1996	1997	1998	1999	2000	2001	2002	2003
					Membership				
Members									
regular	1300	1227	1191	1157	1152	1113	1180	1178	1201
life	84	78	72	72	71	72	68	62	60
Fellows									
regular	318	356	334	310	328	313	297	280	271
life	156	152	148	143	144	142	138	133	125
Senior									
member	22	22	25	23	20	22	49	59	63
fellow	28	34	45	51	56	57	75	84	99
Students	287	252	252	237	220	213	320	351	295
Honorary	4	4	3	3	3	3	3	3	3
Spouse	5	4	---	---	---	---	---	---	---
Compl.								7	7
TOTAL	**2204**	**2129**	**2070**	**1996**	**1994**	**1935**	**2137**	**2157**	**2234**
					Journal Subscriptions				
Members									
member	1792	1743	1658	1549	1545	1537	1451		
student	287	252	252	237	202	213	213		
paper								1446	1103
electronic								266	323
subtotal	**2079**	**1995**	**1910**	**1786**	**1747**	**1750**	**1664**	**1712**	**1426**
Institution									
domestic	592	596	600	594	584	601	585	584	559
foreign	512	458	425	384	328	304	288	276	269
subtotal	**1104**	**1054**	**1025**	**978**	**912**	**905**	**873**	**860**	**828**

Awards, Continued from page 1

materials. Citationist Jay Bass emphasized the importance of his research in understanding the phase Mg, Si perovskite as part of the stable mantle assemblage.

The Distinguished Public Service Award was presented to George E. Harlow for his work as lead curator for several exhibitions at the American Museum of Natural History including *The Nature of Diamonds* and *Tiffany: 150 Years of Gems and Jewelry*. His citationist was Jeffrey Post. George Harlow was born in 1949 in Paterson, New Jersey. He graduated with a B.A. in geology from Harvard College in 1971 and a Ph. D. in geology from Princeton University in 1977. His dissertation research dealt with the low- and high-temperature structures of anorthoclase feldspars, with Dave Waldbaum, Dan Appleman, and Eric Dowty as thesis advisors. He joined the American Museum of National History in 1976 as assistant curator. He is now Curator of Minerals and Gems. Dr. Harlow's research interests include experimental crystal chemistry and the mineralogy and petrology of jadeitites and related rocks.

Left to right: MSA President: Doug Rumble. MSA Award. Recipient: Guillaume Fiquet. Citationist for MSA Award Recipient: Jay Bass.

Charles T. Prewitt was awarded the Roebling Medal, the Society's highest honor, in recognition of lifetime scientific achievement. Charles T. Prewitt was born in 1933 in Lexington, Kentucky. He earned all his degrees at MIT with a S.B. awarded in 1955, a S.M. in 1960, and a Ph.D. in 1962. He then joined the DuPont Company's Central Research Department in Wilmington, Delaware. In 1969 he joined the faculty of the Department of Earth and Space Sciences at SUNY Stony Brook and initiated a research program that emphasized crystallographic studies of minerals and related materials at high temperatures and pressures. He served as President of MSA in 1983-84. In 1986 he was appointed Director of the Geophysical Laboratory of the Carnegie Institution of Washington, completing his term in 1998. Dr. Prewitt's research interests include applications of synchrotron radiation to geological problems, and the role of hydrogen in planetary evolution. Alexandra Navrotsky was Dr. Prewitt's citationist. In his acceptance speech, Dr. Prewitt cited Bill Dennen and Martin Buerger as influential teachers.

Left to right: Dana Medal Recipient: Mark S. Ghiorso. MSA President: Mike Carpenter.

Doug Rumble ended the program with special words of thanks for J. Alex Speer, executive director of MSA, who manages the day-to-day business of the society.

Finally, Doug Rumble passed the gavel of the MSA presidency to Michael Carpenter, who then closed the 2003 MSA Awards luncheon.

Left to right: MSA President: Doug Rumble. Citationist for Roebling Medalist: Alexandria Navrotsky. Roebling Medalist: Charles Thompson Prewitt.

Left to right: Outgoing MSA President: Doug Rumble. Incoming MSA President: Michael Carpenter.

All About Keywords and Indexing

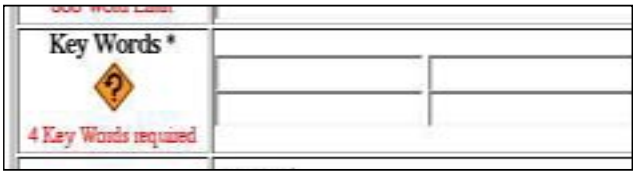
by Rachel A. Russell, *American Mineralogist* Managing editor

Every year I seem to get a question along the lines of "how come my paper wasn't indexed under …." And I reply because you didn't tell us to index it there. Every accepted paper is asked to supply us with keywords according to our grid, or fitting that pattern (a task that most authors rightly try to get out of the way at submission). We use these keywords to create the yearly subject index that appears in every Nov/Dec issue of the journal. (We do not use these words in a line below or connected with the abstract.) So if you do not supply us with keywords, or enough keywords, or the best keywords, then your article is not going to be adequately indexed.

Indexing is going to become increasingly important as more and more attention is paid to, and revenue is generated by, papers that have a lot of readers. It isn't a matter of having every paper indexed in every possible place but of thinking about the "ideal reader" — how can you help him or her find your paper? What category will that reader be searching in the index and what sub-term will best led him or her to your article?

At submission, supplying us with four well-chosen keywords will take care of this challenge right up front (and aid us in finding appropriate reviewers and associate editors as well). Put the category in all caps first. For example, "ANALYSIS CHEM: zircon" would be clear to us. During submission in the AllenTrack system, the how-to info and now the question mark help box next to the keyword entry section leads the reader to our basic list of categories for keywords. You can follow this pattern to make new main category words, of course. And you are not limited to four words (or phrases), but that seems to be the average.

Our basic list of Index topics (although you can create new one if you need to) is found at http://www.allentrack.net/amin/key_word_instructions.pdf. If you just put a category



(FLUID PHASE), then we put your page number next to that term in the index. If you put a word, then that becomes a sub-category and its own category. For example, if you put "zircon" under "Analysis, Chem." and your article starts on page 99, then you will have an entry like this:

Analysis, Chem.
zircon 99

and in the z's

Zircon 99

American Mineralogist
Journal of the Mineralogical Society of America

For Key Words, select the proper topic heading below. When asked for Key Words on the submission screen, enter the topic heading in ALL CAPS, followed by colon (:) and space, followed by the appropriate minerals, rock types, or compositions:

CRYSTAL STRUCTURE: augite
DIFFUSION: Fe in quartz
ELECTRON MICROSCOPY: diamond

Entries that you supply in Key Words will appear in the end-of-year index under the topic heading and as separate entries (e.g., under "augite" as well as under "CRYSTAL STRUCTURE"). List minerals, rock types, etc., studied in any of the following ways:

AFM/SFM/STM	MECHANICAL PROPERTIES
ANALYSIS, CHEMICAL (MINERAL)	MEDICAL MINERALOGY
ANALYSIS, CHEMICAL (ROCK)	MELT PROPERTIES
CALORIMETRY	METAMORPHIC PETROLOGY
COMPRESSIBILITY MEASUREMENTS	METEORITE

Another example: If this "All about Keywords" article were to be indexed, I would expect a reader trying to find it would look up the word "Index," or "keyword", or "American Mineralogist." Therefore I would choose keywords such as: "AM MIN: indexing," or "PUBLISHING TIPS: indexing," or "AM MIN: keywords," or "INDEXING: keywords."

Handy Am Min and IMA Information

It is required for authors to use IMA-approved names for minerals in papers of the *American Mineralogist*. Now there is a handy place to go to double-check those names: http://www.geo.vu.nl/users/ima-cnmmn and we want to strongly encourage authors to do so. All our editors, reviewers, and readers appreciate those who take the time to use this universal nomenclature to ensure understanding across journals and across sub-fields. If your particular mineral is one of the difficult ones, then please alert us to this with brackets upon first usage of your term, e.g., "Rachelite [IMA = technical name here] is a pretty blue color…." The editors and reviewers can then be better able to work with your submission.

Am Min Stats at a Glance (for Oct.)

No. of Pending Manuscripts (on 13-Nov-2003): 115
No. of New Manuscripts Submitted: 27
No. of Accepted Manuscripts: 39 (queued)
No. of Declined Manuscripts: 5
No. of Withdrawn Manuscripts: 6
No. of revisions pending: 49

Submit papers at http://minsocam.allentrack.net
--Register and log in
--Have your paper ready to cut-and-paste title, abstract
--Have contact info for all authors ready
--Handy instructions and help files for each step
--Most file formats accepted!

Secretary's report to the 84th MSA Business meeting

David M. Jenkins, MSA Secretary

The 84th annual business meeting of the Mineralogical Society of America was held on November 4, 2003, at 5:00 PM in the Seattle, Washington, Convention Center. What follows is a brief overview of the main actions taken by council and the executive committee, society election results, and other actions since the last business meeting.

Membership

As of Sept. 30, 2003, the total membership of the society stands at 2234. This represents a steady rise from 2000 when the membership fell to its lowest level in several decades. The current enrollment is back to about the same level as 1994, with the Senior Member and Fellow category showing the largest percentage increase. Please continue inviting your colleagues and especially students to join MSA. The society offers two options for renewing memberships: either by mail (renewal notices will be mailed to everyone this fall) or through the MSA website. As in the past several years, members will receive a $5 discount on their membership dues if they renew before December 31, 2003.

Current MSA membership	
Regular members:	1201
Life members:	60
Fellows	271
Life fellows	125
Senior members	63
Senior fellows	99
Students	295
Honorary members	3
Spouses	none
Complimentary	7
Total	2234
Domestic Institutions	559
Foreign institutions	269
Total	828

The strong figures on membership enrollment are, unfortunately, offset to some extent by the decline in institutional subscriptions to the American Mineralogist that has occurred over the past decade. This year MSA experienced a noticeable drop in domestic subscriptions (by 25) to 559, with foreign subscriptions declining only slightly (by 7) to 269. Any influence that you can exercise at your host institutions in restoring dropped subscriptions would be greatly appreciated by the society.

New Fellows

The society is pleased to announce the following eleven new Fellows of the Society:

Craig R. Bina
Moonsup Cho
Lee Groat
Eiji Ito
Bor-ming Jahn
Akira Kato
Gregory R. Lumpkin
Craig Manning
Satoshi Matsubara
Kazuhiro Ozawa
Elena Sokolova

The society extends its congratulations to these individuals! Let me remind you that the Committee for Fellows always welcomes your nominations of society members for this particular honor.

Medallists/Award winners

It is also a pleasure to announce the following Medallists and Research Grant Recipients

Roebling Medallist is Francis R. (Joe) Boyd

Distinguished Public Service Medallist is Robert F. Martin

Dana Medal Award recipient is William (Bill) Carlson (for 2005)

MSA Award recipient is Kevin M. Rosso

2003/2004 Kraus Crystallographic Research Grant recipient is:

Yongjae Lee for the proposal "Investigation of pressure-induced hydration (PIH) in natrolite at elevated temperatures: Hydrothermal diamond-anvil cell (HDAC) and monochromatic synchrotron X-ray powder diffraction experiments." This study will be conducted at the Brookhaven National Laboratory.

2003/2004 Mineralogy/Petrology Research Grant recipients are:

Kurt James Steffen for the study "Modeling the interaction of metamorphism and deformation using numerical techniques," which will be conducted at the University of New Mexico.

and

Jennifer Mae Jackson for the study "Sound velocities of aluminous $MgSiO_3$ perovskite under high-pressure and high-temperature conditions using Brillouin spectroscopy and laser heating," which will be conducted at University of Illinois (Urbana), Stony Brook, and the Geophysical Laboratory.

After a short hiatus in the selection process, the Best Paper Award Committee and Council has recommended that the Best Paper Award for 2000 go to:

Yujiro Nishimura, Douglas S. Coombs, Charles. A. Landis, and Tetsumaru Itaya for the article "Continuous metamorphic gradient documented by graphitization and K-Ar age, southeast Otago, New Zealand," which appeared in the American Mineralogist, Volume 85, pages 1625–1636.

The Best Paper Award for 2002 goes to: John Lusk, Brian O. E. Calder, and Terence E. Freeman for the article "Temperatures from triple-junction angles in sulfides" which appeared in the American Mineralogist, Volume 87, pages 1390–1400.

Congratulations to all of the award and research-grant recipients. Council encourages society members to nominate individuals for the various awards; detailed information can be found on the MSA website (www.minsocam.org). Please

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Goldschmidt Geochemistry

Copenhagen 2004

Processes in Geochemistry

Forces, Fluxes and Structure

Conference Themes

The Dynamic Solid
The Dynamic Interface
Fluids of the Earth
The Earth's Surface
The Deep Earth
Early Earth, Moon, Planets

University of Copenhagen
Denmark

5 to 11 June 2004

Sponsored by
European Association for Geochemistry
Geochemical Society
Mineralogical Society of America
Geochemical Society of Japan

Hosted by
The Nordic Countries

Abstract Deadline: 26 January 2004
Early Registration Closes: 2 April 2004

Goldschmidt 2004
Geological Institute, University of Copenhagen
Øster Voldgade 10
DK-1350 Copenhagen K, Denmark

goldschmidt@geol.ku.dk

www.goldschmidt2004.dk

Rosenborg Castle, 5 minute walk from the Geological Institute
(Photo and Design: Svane)

Notes from Washington, continued from page 4

7, 64, 47, 29, and 50. The losses were predominately to US addresses. The decrease is likely the result of tight library budgets. The main problem is that subscription rates are determined by dividing the total journal expenses by the number of subscribers. Dropping subscriptions means a much larger subscription price increase for the remaining subscribers, in addition to the inflation increases.

• There are two Mineralogical Society of America and Geochemical Society short courses in 2004:

Epidote Group Minerals organized by Axel Liebscher (GeoForschungsZentrum Potsdam, Germany) and Gerhard Franz (Technische Universitaet Berlin, Germany). The course will be held in the Geocenter Copenhagen, Denmark June 3-4, 2004 before the XIV Goldschmidt Conference in Copenhagen (Denmark). Course sponsors are the GeoForschungsZentrum Potsdam, Germany; the Mineralogical Society of America; and The Geochemical Society.

Geochemistry of Non-Traditional Stable Isotopes organized by Clark Johnson (Univ. of Wisconsin-Madison), Francis Albarede (Univ. of Lyon, France), and Brian Beard (Univ. of Wisconsin-Madison). The course will be held in Montreal, Canada on May 15-16, 2004, before the Joint American Geophysical Union and Canadian Geophysical Union Meeting.

More information about these short courses and registration are elsewhere in this Lattice issue and on the MSA (www.minsocam.org) and GS (http://gs.wustl.edu) websites.

Mineralogical Association Canada Short Course
INFRARED SPECTROSCOPY IN GEOCHEMISTRY EXPLORATION GEOCHEMISTRY & REMOTE SENSING

GOALS.....To update graduate students researchers & professional geologists on the current theory & practice in infrared spectroscopy (IR) from the molecular to planetary scale.

TOPICS .....
- Fundamentals & instrumentation used in IR spectroscopy
- IR spectroscopy of minerals & glasses
- IR spectroscopy in ore deposit exploration
- IR spectroscopy in environmental remediation & much more....

SPEAKERS .....
James Crowley- USGS Reston; Carol Hirschmugl- Univ. Wisconsin Milwaukee; Anne Hofmeister- Washington Univ; Vladimir Khomenko- Ukrainian Acad. Sci.; Jeff Johnson- USGS Flagstaff; Penny King- Univ. Western Ontario; Gordon Moore- Arizona State Univ.; Sandra Perry- Perry Remote Sensing; Mike Ramsey- Univ. Pittsburgh; Benoit Rivard- Univ. Alberta; Dar Roberts- UC Santa Barbara; Gregg Swayze- USGS Denver.



WHEN?..... May 10 - 11, 2004
WHERE?..... University of Western Ontario London Ontario, Canada

OPPORTUNITIES TO PRESENT YOUR RESEARCH ....
A special session at the GAC-MAC annual meeting (St. Catharines, Ontario, May 12-14) will complement the short course.

For further information please contact:
P. King, Univ. Western Ontario, London ON, Canada
penny.king@uwo.ca.
M. Ramsey, Univ. Pittsburgh, Pittsburgh PA, USA
ramsey@ivis.eps.pitt.edu
G. Swayze, USGS, Denver CO, USA
gswayze@usgs.gov
Additional information will be posted on the MAC web site:
www.mineralogicalassociation.ca

• The Spring 2004 Council Meeting and Dana Medal presentation will be at the Goldschmidt Conference June 6-11, 2004 in Copenhagen, Denmark. More information about the conference is on the MSA website under meetings or and in this Lattice issue.

• There are several journals and magazines available at reduced rates to MSA members if ordered through the society. The existing printed journal of one of these, *Mineralogical Abstracts,* will be replaced by a new *online* service to be known as *MINABS Online*. This new service will include all the existing data published in issues of *Mineralogical Abstracts* as far back as 1982. Abstracts will be available much sooner after their publication. There will be an electronic search capability with access of the full text of many papers via the CrossRef system. The subscription to *MINABS Online* for 2004 is $45.00 to MSA members.

• There several new publications available from MSA. New in the Reviews in Mineralogy and Geochemistry series are volume 53 *Zircon*, John M. Hanchar and Paul W. O. Hoskin, editors, and volume 54 *Biomineralization*, Patricia Dove, James J. DeYoreo and Steve Weiner, editors. There is one new European Mineralogical Union Notes volume, volume 4. *Energy Modeling in Minerals*, from an EMU workshop organized by Carlo Maria Gramaccioli, Lake Garda, Italy, 8-14 June, 2003. MSA is also distributing the *Extended Abstracts of the Eighth International Kimberlite Conference* held June 22-27 2003 in Victoria, British Columbia, Canada. If you are interested in any of these publications, you can order them online or with the order form in this issue.

• Gordon Nord, the MSA web person, reports that there were 4,600,000 requests made for pages of the MSA website between December 2002 and September 2003. Of those 1,500,000 were successful. The unsuccessful requests were spiders, robots, etc. attempting illegal access, and fumbling little fingers typing incorrect addresses for the various K-12 pages. The 1,500,000 successful requests were distributed:

Subject Pages	percent
K-12 pages	41%
American Mineralogist	16%
Collector's Corner	15%
Geological Materials Research	1%
Handbook	1%
All Others	26%

Between January 1 and October 6, 2003 there were 3,663 downloads of pdf *American Mineralogist* articles by members with user ID and password paid access. From April 23 to October 6, 2003 there were 1,559 pdf downloads from institutional subscribers with IP address paid access. 2003 is the first year that the institutional or library *American Miner-*

Continued on page 17

Mineralogical Society of America Short Course

EPIDOTE GROUP MINERALS

June 3-4, 2004

Geocenter Copenhagen, DK-1350 Copenhagen K, Denmark

Our understanding of rock forming geological processes and thereby of geodynamic processes depends largely on a sound basis of knowledge of minerals. Due to the application of new analytical techniques the number of newly discovered minerals increases steadily, and what used to be a simple mineral may have turned into a complex group. Therefore a continuous update is necessary. The epidote mineral group consists of important rock-forming minerals as zoisite, clinozoisite and epidote, geochemically important accessory minerals such as allanite, and minerals typical for rare bulk compositions such as piemontite. Epidotes and zoisite occur in a wide variety of rocks, from near-surface conditions up to high- and ultrahigh-pressure metamorphic rocks and as liquidus phases in magmatic systems. They can incorporate the geochemically relevant minor and trace elements Sr, Pb, REE, V, and Mn. The epidote-group is undoubtedly very important from a petrogenetic and geochemical point of view, and has received a lot of intention in the last years from several working groups in the field of experimental studies and spectroscopic work, and the thermodynamic database of epidote minerals has been significantly enlarged during the last decade. Recent studies have revealed the importance of zoisite in subduction zone processes as a carrier of H_2O and suggested zoisite to be the main H_2O source in the pressure interval between about 2.0 and 3.0 GPa. A lot of studies showed that an understanding of trace element geochemical processes in high-pressure rocks is impossible without understanding the geochemical influence of the epidote minerals. Recent advances in microanalytical techniques showed that epidote group minerals record detailed information on their geological environment.

This short course will present the many diverse aspects of epidote group mineralogy and aims to establish the state of the various fields and to show new avenues for research. It is equally suitable for scientists who already work on epidote group minerals as for newcomers in the fascinating epidote universe. Especially for undergraduates and graduates this short course provides a unique opportunity to get a comprehensive but profound overview over the different techniques and subdisciplines in modern petrology and we strongly encourage them to participate.

General Aspects of Epidote Minerals

- Nomenclature, crystallography, and mineral chemistry of the epidote group – *G. Franz (TU Berlin) and A. Liebscher (GeoForschungsZentrum Potsdam)*
- Thermodynamic properties of epidote minerals – *M. Gottschalk (GeoForschungsZentrum Potsdam)*
- Spectroscopy of epidote minerals – *A. Liebscher (GeoForschungsZentrum Potsdam)*
- Experimental studies on epidote minerals – *S. Poli (University of Milan) and M. W. Schmidt (ETH Zürich)*
- Isotope geochemistry of epidote minerals (stable and radiogenic) – *J. Morrison (University of Southern California)*
- Trace element geochemistry of epidote minerals – *D. Frei (GEUS), G. Franz (TU Berlin), and A. Liebscher (GeoForschungsZentrum Potsdam)*
- Fluid inclusion studies in epidote group minerals – *R. Klemd (University of Würzburg)*

Epidote Minerals in Natural Rocks

- Epidote minerals in hydrothermal systems – *D. Bird and A. R. Spieler (Stanford University)*
- Epidote Minerals in low- to medium pressure rocks – *R. Grapes and P. Hoskin (University of Freiburg)*
- Epidote Minerals in high- to ultra high pressure rocks – *M. Enami (Nagoya University) and J. G. Liou and C. Mattinson (Stanford University)*
- Epidote Minerals in partial melting processes and as magmatic phase – *M. W. Schmidt (ETH Zürich) and S. Poli (University of Milan)*

Special Epidote Minerals

- Piemontite – *P. Bonazzi and S. Menchetti (University of Firenze)*
- Allanite – *R. Giere (Purdue University) and S. Sorensen (Smithonian Institution)*

Conveners: *Axel Liebscher*, GeoForschungsZentrum Potsdam, Section 4.1 Experimental geochemistry and mineral physics, Telegrafenberg, D-14473 Potsdam, Germany, *Gerhard Franz*, Technische Universität Berlin, Institute for applied earth sciences, Ernst-Reuter-Platz 1, D-10587 Berlin, Germany

Fees & Registration: Registration fee covers short course sessions and *Reviews in Mineralogy and Geochemistry* volume. Professional Registration on or before 5/1/04: Member $100; Non-member $165; Student Registration: Member $65; Non-member $85. You can register online at the MSA Home Page (http://www.minsocam.org). Forms are are available from the MSA Business Office, 1015 Eighteenth Street NW Suite 601, Washington, DC, 20036-5212, USA. Tel: 202-775-4344, Fax: 202-775-0018, e-mail: business@minsocam.org.

The course is sponsored by the GeoForschungsZentrum Potsdam

Registration Form
Mineralogical Society of America Short Course

EPIDOTE GROUP MINERALS

University of Copenhagen Geocenter, Copenhagen, Denmark – June 3-4, 2004

Complete and return this registration form to the MSA Business Office, 1015 Eighteenth St NW Suite 601, Washington, D.C. 20036-5274, USA. Voice: (202) 775-4344. Fax: (202) 775-0018. Please type or print. Use one form per registrant. 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 May 1, 2004.

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Address _____

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Registration fee covers Short Course session costs and the *MSA/GS* volume. Accommodation, meals, and refreshments are NOT included in the registration fee. Adjacent to the lecture room is a cantine that offers meals and refreshments. All Short Course sessions will be held at the Geocenter Copenhagen, Öster Volgade 10, DK-1350 Copenhagen K, Denmark. Information on the Short Course location and course updates are on the MSA Home Page (http://www.minsocam.org).

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

Professional Registration:	*on or before 5/1/04*	*after 5/1/04*	**Cost**
[ ] Member	$100	$130	$_____
[ ] Non-member	$165*	$195*	$_____
[ ] Speaker	no cost	no cost	$_____
Student Registration:	*on or before 5/1/04*	*after 5/1/04*	
[ ] Member	$65	$85	$_____
[ ] Non-member	$80*	$100*	$_____

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Mineralogical Society of America/Geochemical Society Short Course

GEOCHEMISTRY OF NON-TRADITIONAL STABLE ISOTOPES

May 15-16, 2004

Preceding the AGU/CGU Meeting, Montréal, Canada

Studies of the stable isotope variations of elements such as H, C, N, O, and S have been pursued for several decades, and have provided important constraints on the sources of these elements in natural rocks, minerals, and fluids. The range of problems that these studies have focused on include planetary geology, the origin and evolution of life, crust and mantle evolution, and the genesis of natural resources. Much less attention, however, has been paid to stable isotope variations of other elements that are also geochemically important such as the metals and halogens. In part this has been due to analytical challenges, although the first-order variations for several systems have been constrained using long-standing analytical methods such as gas- and solid-source mass spectrometry. With the advent of breakthrough analytical instrumentation such as multi-collector ICP-MS, large portions of the Periodic Table are now accessible to stable isotope studies, and this Short Course, and its associated Reviews in Mineralogy and Geochemistry volume, provide insight into these new or "non-traditional" stable isotope systems, as reviewed by the current leaders in the field.

We begin with several broad topics, including an overview of stable isotope variations in the cosmos, which forms the baseline with which to view terrestrial systems. Calculation of stable isotope fractionation factors for these new isotope systems is critical for providing a framework for interpreting measurements of natural materials, particularly where experimental studies are few, and the second topic reviews different theoretical approaches for predicting isotopic fractionations. Next we discuss the variety of analytical approaches that may be taken in measuring stable isotope variations of "non-traditional" elements in natural materials, highlighting issues that are important in producing the highest quality data.

The later part of the Course summarizes what is known about stable isotope variations for specific "non-traditional" elements that have received the most intensive study, working up the mass range from Li to Mo. These elements cover a wide range of chemical behavior, and include alkali (Group I) and alkaline-earth (Group II) metals, the Group VI elements, the halogens (Group VII), and several examples from the first and second transition elements. In addition to participation in a variety of bonding environments, many of the elements discussed are involved in redox reactions, and are therefore involved in a wide variety of geochemical and biological processes that are sensitive to redox conditions.

Overview, theory, and analytical methods

- An overview of isotopic variations and their nucleosynthetic heritage - *Jean Louis Birck (Institut de Physique du Globe de Paris)*
- Applying stable isotope fractionation theory to new systems - *Edwin Schauble (University of California, Los Angeles)*
- Analytical methods for measurement of non-traditional stable isotope systems - *Francis Albarède (Ecole Normale Supérieure de Lyon) and Brian Beard (University of Wisconsin, Madison)*

Specific isotope systems

- Developments in the understanding and application of Lithium isotopes in the Earth and Planetary Sciences - *Paul Tomascak (University of Maryland, College Park)*
- The isotope geochemistry and cosmochemistry of Magnesium - *Edward Young (University of California, Los Angeles) and Albert Galy (University of Cambridge)*
- The stable-Chlorine isotope composition of natural and anthropogenic materials - *Michael Stewart (University of Illinois, Urbana-Champaign) and Arthur Spivack (University of Rhode Island, Narragansett)*
- Calcium isotopic variations produced by biological, kinetic, radiogenic and nucleosynthetic processes - *Donald DePaolo (University of California, Berkeley)*
- Selenium and Chromium isotopes - *Thomas Johnson (University of Illinois, Urbana-Champaign) and Thomas Bullen (United States Geological Survey, Menlo Park)*
- Iron isotope variations in the modern and ancient Earth and other planetary bodies - *Brian Beard (University of Wisconsin, Madison) and Clark Johnson (University of Wisconsin, Madison)*
- Isotopic constraints on biogeochemical cycling of Iron - *Clark Johnson (University of Wisconsin, Madison), Brian Beard (University of Wisconsin, Madison), Eric Roden (University of Alabama, Tuscaloosa), Dianne Newman (California Institute of Technology), and Ken Nealson (University of Southern California)*
- The stable isotope geochemistry of Copper and Zinc - *Francis Albarède (Ecole Normale Supérieure de Lyon)*
- Molybdenum stable isotopes: observations, interpretations and directions - *Ariel Anbar (University of Rochester)*

Conveners: *Clark Johnson*, University of Wisconsin - Madison, USA; *Brian Beard*, University of Wisconsin - Madison, USA; *Francis Albarède*, Ecole Normale Supérieure de Lyon, France.

Fees & Registration: Registration fee covers short course sessions (including lunches) and *Reviews in Mineralogy and Geochemistry* volume. Professional Registration on or before 3/1/04: Member $160; Non-member $225; Student Registration: Member $40; Non-member $55. You can register online at the MSA Home Page (http://www.minsocam.org). Forms are available from the MSA Business Office, 1015 Eighteenth Street NW Suite 601, Washington, DC, 20036-5212, USA. Tel: 202-775-4344, Fax: 202-775-0018, e-mail: business@minsocam.org.

The course is partially supported by the U.S. Department of Energy.

Registration Form

GEOCHEMISTRY OF NON-TRADITIONAL STABLE ISOTOPES

May 15-16, 2004 - Preceding the AGU/CGU Meeting in Montréal, Canada

Complete and return this registration form to the MSA Business Office, 1015 Eighteenth St NW Suite 601, Washington, D.C. 20036-5274, USA. Voice: (202) 775-4344. Fax: (202) 775-0018. Please type or print. Use one form per registrant. Registration is limited to 110 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 April 1, 2004.

Name _____
(first) (middle) (last)

Address _____

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

Telephone: (Voice)_____ (Fax) _____ E-mail: _____

Registration fee covers MSA/GS short course sessions and MSA/GS short course volume, as well as lunch for both days and light snacks and beverages at breaks during the course. Accommodations, breakfast, and dinner during the short course are NOT included in the registration fee. All Short Course sessions will be held at Short course will be held at the Delta Centre-Ville Hotel (AGU/CGU headquarters hotel) May 15-16, 2004; these dates precede the AGU/CGU Meeting in Montréal, Canada. Information on the Short Course location and course updates are on the MSA Home Page (http://www.minsocam.org).

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

Professional Registration:	*on or before 3/1/04*	*after 3/1/04*	**Cost**
[ ] Member	$160	$190	$_____
[ ] Non-member	$225*	$255*	$_____
[ ] Speaker	no cost	no cost	$_____
Student Registration:	*on or before 3/1/04*	*after 3/1/04*	
[ ] Member	$40	$60	$_____
[ ] Non-member	$55*	$75*	$_____

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Secretary report, Continued from page 7

encourage students to apply for the Krause Crystallographic and Mineralogy/Petrology research grants, which provide funding of up to $5000 each.

As a reminder, MSA offers the Undergraduate Award to outstanding undergraduates recommended by faculty members. In addition to providing recognition to deserving students, these awards can help make the society a more tangible entity for undergraduates and the population at large. Details on nominating undergraduates can be found on the MSA website.

SHORT COURSES

The society remains very active in sponsoring short courses. In 2003, there was, or will be, these courses:

Zircon, which was organized by John Hanchar and Paul Hoskin and was held at Freiburg, Germany, in conjunction with the joint assembly of the EGS, AGU, and EUG meeting held this past April at Nice, France.

Uranium Series Geochemistry was co-sponsored by the Geochemical Society and was also held in conjunction with the EGS-AGU-EUG meeting at Nice, France. MSA is now selling Volume 52 of the RiMG series stemming from this short course.

Biomineralization is co-sponsored by the Geochemical Society and is being convened by Patricia Dove, James De Yoreo, and Steve Weiner. This short course will take place on December 6th and 7th, prior to the Fall AGU meeting, in Napa Valley, California.

In 2004 there will be:

Epidote Group Minerals which is being organized by Axel Liebscher and is scheduled to be held June 3rd and 4th in Copenhagen, Denmark, prior to the Goldschmidt Conference.

Geochemistry of Non-traditional Stable Isotopes - Stable Isotopes of Intermediate to Heavy Mass Elements, is being organized by Clark Johnson, Francis Albarède, and Brian Beard for the joint AGU-CGU meeting in Montreal, Quebec, in May of 2004.

In 2005 there will be

Molecular Geomicrobiology: from genes to geochemical cycles (Geomicrobiology II) which is being organized by Jill Banfield, Ken Nealson, and Javiera Cervini and is tentatively scheduled to be held prior to the Fall AGU meeting.

Low-Temperature Thermochronometry: Techniques, Interpretations, and Applications is being organized by Peter W. Reiners and Todd A. Ehlers and is tentatively scheduled to be held prior to the Fall AGU meeting.

MSA gratefully acknowledges the financial support that it has received from the Department of Energy for nine short courses that have been, or will be, held in the period from 2001 to 2004. The support for each short course is generally in the range of $10,000–15,000 and is mostly intended to reduce student registration fees.

RiMG PUBLICATIONS:

The following RiMG volumes are either now in print or are planned for publication in 2003:

Volume #52 titled *Uranium Series Geochemistry* edited by Bernard Bourdon, Gideon Henderson, Craig Lundstrom, and Simon Turner, which is now on sale as mentioned above.

Volume #53 titled *Zircon* edited by John Hanchar and Paul Hoskin is almost ready for sale.

Volume #54 titled *Biomineralization* edited by Patricia Dove, James De Yoreo, and Steve Weiner is being prepared under a tight production schedule for the short course in Napa Valley.

Jodi Rosso has been appointed as the new *Reviews in Mineralogy and Geochemistry Series* editor, effective May of this year, to take over the editorial duties that had been done by Paul Ribbe for over 28 years. Our thanks go to Paul for his many years of service to the society and our thanks also go to Jodi for stepping in as the new editor.

MSA LECTURE PROGRAM

The Lecture Program continues to be one of the more visible and most successful endeavors of the Mineralogical Society of America. This year MSA's lecturers are:

Bradley Hacker, University of California, Santa Barbara, who is speaking on *Antipodal Fates of Continental Crust: Ultrahigh Pressure and Ultrahigh Temperature Metamorphism* and *Why Subduction Zone Earthquakes? A Deep Relationship with Metamorphism*.

25th FM-TGMS-MSA Mineralogical Symposium: Gold

in conjunction with the
Tucson Gem and Mineral Show
Saturday February 14, 2004

The twenty-fifth annual Mineralogical Symposium will be held on February 14, 2004 at the Tucson Gem and Mineral Show. The Friends of Mineralogy (FM), the Tucson Gem and Mineral Society (TGMS), and the Mineralogical Society of America (MSA) cosponsor it. The topic of the symposium is Gold, the Tucson Show's theme for 2004. Papers on descriptive mineralogy, paragenesis, classic and new locations, and related subjects about gold are welcome. An audience of amateur and professional mineralogists and geologists is expected.

Anyone wanting to present a paper should submit a 200 to 300 word abstract to: Dr. Robert B. Cook, Auburn University, Department of Geology and Geography, Auburn University, AL 36849-5305: phone (334) 844-4891; fax: (334) 844-4486, e-mail: cookrob@ auburn.edu.

Presentations will twenty minutes, followed by a period for questions. Abstracts must be submitted by September 21, 2003.

Jill Dill Pasteris, Washington University, St. Louis, who is speaking on: *Minerals: They do a Body Good* and *Broadening our View of Minerals: Importance of Natural, Biological and Synthetic "Minerals"*.

David Vaughan, University of Manchester, England, who is speaking on: *Minerals, Metals, and Molecules: Ore and Environmental Mineralogy in the 21st Century* and *Mineralogy: a Key to Sustaining the Health of Earth and Humanity.*

MSA sincerely thanks these folks for their time and effort in speaking to colleges and universities around North America and Europe, and to Helen Lang for coordinating this program.

We also thank last year's speakers Thomas Armbruster, Mickey Gunter, and Robert Hazen who collectively set a new lecture-tour record of speaking at 40 institutions.

Deaths

I would like to ask the audience to please rise at this time to honor those fellows and members of the society who have passed away this year. Please remain standing and observe a moment of silence after the names have been read.

Jose L. Amorós, Life Fellow, 1953
C. A. Botner, Life Member, 1954
Roland E. Bounds, Member, 1975
Vladimir J. Bouska, Life Fellow, 1957
James Finch, Life Member, 1947
Clifford Frondel, Life Fellow, 1934
Richard T. Liddicoat, Life Fellow, 1953
Takashi Miyano, Member, 1982
Mary E. Mrose, Life Fellow, 1946
George Phair, Life Fellow, 1943
Harry Francis West Taylor, Life Fellow, 1959
Russell G. Wayland, Life Fellow, 1942
Hatten S. Yoder, Jr., Life Fellow, 1948
Pieter C. Zwaan, Fellow, 1961

Thank you. Please be seated.

Anyone who wishes to prepare a memorial, please contact Alex Speer, in the Business Office, who serves in the capacity of editor for memorials in the *American Mineralogist*.

Committees

MSA's endeavors depend primarily on the volunteer work of its members serving on the many committees that are in place. Speaking on behalf of the Committee on Committees, let me extend a special thanks to all who take the time to help MSA by serving on these various committees. Without your help, MSA could not undertake its many functions to educate, grant money, recognize deserving individuals with awards, and otherwise continue to serve our profession. Those who would like to volunteer their time and effort to serve on a committee are welcome to contact the new Secretary, George Harlow, the Executive Director, Alex Speer, or the in-coming chair of the Committee on Committees and vice-President, Robert Hazen.

New developments

(a) GeoscienceWorld

After a lot of hard work on the part of our Executive Director, Alex Speer, and much discussion, council has agreed to enter into a non-exclusive publishing agreement with the electronic publishing aggregate called GeoscienceWorld. Similar to the already existing electronic consortium known as BioOne, GeoscienceWorld provides full-text searching capabilities of the publications of participating societies and on-line access to the full article. This will serve to greatly expand the exposure of the American Mineralogist to the geological community. It is also planned that electronic versions of new volumes of Reviews in Mineralogy and Geochemistry will be available through this service. In short, the purpose of this aggregate includes, among other things, providing academic institutions and others easy access to the most comprehensive collection of peer-reviewed geoscience journals that are currently published. It is hoped that, by pooling the efforts of many societies, we will be able to advance scientific communications in the geological sciences in ways that may not be possible by the efforts of individual organizations. The participating societies are: American Association of Petroleum Geologists, Geological Society of America, Geological Society of London, Mineralogical Society of America, Society for Sedimentary Geology, and the Society for Exploration Geophysicists, as well as the American Geological Institute. The target date for having this aggregate in full service is September, 2004.

(b) Multi-society Magazine

Past-President Ewing has been instrumental in looking for ways to broaden the range of communication between the various mineralogical and geochemical societies, and, perhaps eventually, to the general scientific community. To this end, he has initiated dialog with a large number of sister organizations and has developed a draft proposal for the general content and cost of publishing such a magazine. In brief, the magazine would be designed to present thematic issues with articles written for a broader geological audience, would not compete with journals of individual societies, and would retain information on the activities of the participating societies. Although Rod Ewing, on behalf of MSA, has taken the lead in developing this magazine, the magazine is not intended to be dominated by any one society; rather, it is envisioned that participating societies would be equal partners in this effort. Initially, funding would come primarily from participating societies who would re-direct funds used for individual society newsletters to the production of a multi-society magazine. Eventually the magazine should become self-sustaining from its advertising revenue by developing a larger readership and circulation base than any individual newsletter, similar to magazines such as *Geotimes*, *Materials Research Society Bulletin*, or *Physics Today*. Council has voiced strong support for this magazine. If an agreement can be reached between participating societies, the target date for beginning this magazine is January, 2005, with an inaugural issue planned for the end of 2004.

Continued on page 17

A Tribute to Gary, Charlie, and Don

S. A. Morse, GSA/MSA Seattle 2003

Ladies and gentlemen, I will assert that I have enough antiquity to deal with these three guys as a group. I hope to show you why with some brief memories. First, three brief characterizations.

Gary Ernst, of course, is a towering figure in our science. If you don't know why, go talk to him and see if you don't find yourself looking up.

Charlie Prewitt and Don Lindsley owe their early notoriety to being the most famous second authors in their respective fields. In the one case, just about everyone here can recognize Prewitt by sight, but who has seen R. D. Shannon? In 1969, Shannon and Prewitt grabbed the attention of the whole world of crystal chemistry with their careful, site- and valance-evaluation of ionic radii in crystals.

As to Don, who of us, when asking an innocent question about something tricky in Buddington and Lindsley (1964), has not heard the weasel-worded defense, "But you realize I'm only the second author on this paper?" Nobody in his right mind ever supposed that could mean that Bud overruled Don.

(And I AM old enough to call him Bud, because that's how he signed his long and interested letters to me after every edition of the *Nain Anorthosite Field Report* from Labrador.)

Back to Gary, the tall and formidable IGNEOUS petrologist. "Surely you jest," you will say, but I say nay, I jest not. His report (written from the Geophysical Lab, by the way) in a virgin issue of *Journal of Petrology* on the Endion Sill in Minnesota gave us a seminal look at the origin of granophyre, either (as I reckon) as a result of compositional convection or (as I would grant also with Tony Philpotts) as a segregation resulting from compaction supported by plagioclase networks. My reprint shows a scribble at the bottom of p. 299 saying that the proposed origin of the granophyre by up-dip migration is "equivalent to sidewall fractional crystallization with liquid collection. A good fellow, Wallace G.!" I won't reveal his other names.

Gary has no second author prize, being cancelled out by endless switching with Louie, or a thousand other bright-eyed collaborators. But he did write *Phase Equilibria* all by himself, and started the Amphibole Revolution all by himself (I think sometimes to his regret, but for heroism he gets the medal). And he was also there in the front lines at the Franciscan, the Dabie-Shan, and the tectonics of it all. Never mind being Dean, running a school, and being a now-ancient trustee of Carnegie.

And I am sure, with the rest of us, Gary is a very happy camper with the great career of Charlie Prewitt as Director of the Gee-Whiz Lab. And pleased as any trustee could be with the flowering of high-pressure research that Charlie brought with him (at the end of a good strong cable) from Stony Brook. Charlie leaves behind an almost-new CCD diffractometer, a burgeoning synchrotron-diffraction industry, a revived interest in potassium and phosphorus in the core, and a host of hydrous alphabet phases that may or may not be found where they count. Most especially, he leaves behind a Geophysical Laboratory that actually does geophysics! And big time.

And now back to Don, the rock magnetist gone bad. Obviously the simultaneous solution of oxygen fugacity and temperature must rank as one of the seminal and mind-boggling discoveries of our science. And that effort spawned all the rest of the thermo, Schreinemakers space, mineralogy, crystal chemistry, and brilliant petrology that followed since from him. His treatment of P-T-f_{O_2} relations in the system Fe-Si-O resonates especially with those of us who witnessed its development in an evening seminar, replete with degeneracies, singular points, and a ruled surface. And then he decided that the field study of anorthosite was in fact the great challenge of our age. Who could argue with that?

Above all, these three guys have been teachers of extraordinary caliber, in and out of school. We are all indebted to them for their gentle example.

And now for the prize. In a recent book review, I saw that Karl Popper, who taught us not just to test hypotheses but actively to try and FALSIFY them, also sowed an evil seed. This seed grew up to help bring us the deconstruction of Science into a game that knows no objective truth, only perception. The "bitter pill" as the reviewer says, in Popper, is the notion that ALL DATA ARE THEORY DRIVEN.

Obviously, the study of the Earth was a matter beyond Popper's imagination.

To us, all data are problem-driven, because the Earth throws problems in our face. Go into the field or the crystal or the phase equilibrium and discover something, just because you were trying to GET the data, and see what we get: amphiboles, blueschists, UHP rocks, and now water resources (!); new phases with or without water (ferrosilite III and Neunerketten indeed!); diamonds in supracrustal rocks that have been down to 200 km or more AND QUICKLY CAME BACK; QUILF equilibria that take the guesswork out of silicate liquid notions; too many ages for anorthosites; delights in rocks from Mars; and all the rest of the business of reading Nature's secrets.

We are the lucky ones, to have Earth as our teacher, and to have these so-called retirees as our role models. With the Earth and with them as our teachers, we can thumb our nose at mere philosophers, and know what it means to get on with the true work of science – to ask the right questions when our nose is being rubbed in the dirt.

And that is why we are so glad to celebrate the careers of these magnificent scientists.

IN MEMORIAM

Roy A. Bailey (Senior Fellow - 1954)
Howard W. Jaffe (Life Fellow - 1945)
Karl Jasmund (Fellow - 1962)

Secretary Report, Continued from page 15

2003 Election results

It is a pleasure to announce the results of the Spring 2003 elections;

The new President of the Society is Michael Carpenter
our new Vice President is Robert M. Hazen
our new Secretary is George Harlow
James Blencoe remains in office as Treasurer
The new Councilors are Mickey Gunter and David London.

They will join the continuing councilors: Peter Heaney, Nancy Ross, Barb Dutrow, and Rebecca Lange.

We thank the out-going councilors Craig Manning and Kathryn Nagy for 3 years of dedicated service to the society.

A total of 622 ballots were received by the August 1st deadline, representing 26.5% of the eligible voting membership. You are strongly urged to vote because this is your opportunity to have input into the operations of the society and because each vote makes a real difference in these closely-contested elections. Let me extend a special thanks to all of those who ran for office.

Farewell

This is my final report as Secretary to the society. Unlike my predecessor, Barb Dutrow, I do not have a list of the top 10 things that I learned as Secretary over the past 4 years. However, I do have one brief poem that I wish to share with you. This is written in the "higgledy-piggledy" meter taught to me by the late Julian R. Goldsmith:

Higgledy, piggledy
Michael A. Carpenter,
elected new leader
with many a task.
For minutes of meetings
and jobs beyond number,
it's Harlow, not Jenkins,
who you must now ask!

It has been a pleasure serving the society as Secretary and I wish my successor, George Harlow, the best of luck in this capacity.

Notes, continued from page 9

alogist subscription includes access to the online version. 325 institutional subscribers have requested access to the online version of the *American Mineralogist* as of 11/14/2003. If your library subscribes to *American Mineralogist*, and you would like it to have electronic access, tell them to send us their IP or range of IP addresses.

• There are revised Short Course Guidelines and Style Manual for Reviews in Mineralogy and Geochemistry volumes posted on the MSA website. If you are thinking of planning a short course, Reviews volume, or are a chapter author, you can access these through both the Short Course and Reviews webpages.

The Mineralogical Society of America
announces the 2005

Grant for Research in Crystallography

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

and the 2005

MSA Grant for Student Research in Mineralogy and Petrology

from an endowment created by contributions from the MSA membership

The Grant for Research in Crystallography is a **US$5000** grant. There are no restrictions on how the grant funds may be spent, as long as they are used in support of research. The only restrictions on eligibility for the grant are that the applicant must have reached his or her 25th birthday but not yet have reached his or her 36th birthday on the date the grant is given, and that the person is not a MSA Counselor.

MSA Grants for Student Research in Mineralogy and Petrology comprise two **US$5000** grants. Students, including graduate and undergraduate students, are encouraged to apply. There are no restrictions on how the grant funds may be spent, as long as they are used in support of research.

Selection will be based on the qualifications of the applicant, the quality, innovativeness, and scientific significance of the research, and the likelihood of success of the project. Grants will be made in January 2003. There are no restrictions on how the grant funds may be spent, as long as they are used in support of research. Application instructions and forms for the grants may be obtained from the MSA home page, http://www.minsocam.org or Dr. J. Alex Speer, MSA Business Office, 1015 Eighteenth St NW Ste 601, Washington, DC 20036-5212, USA (ph: 202-775-4344, fax: 202-775-0018, e-mail: j_a_speer@minsocam.org). Completed applications must be received by June 1, 2004.

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To Order: Indicate quantity, shipping, and payment information. MSA, CMS, and Geochemical Society members may take the 25% member discount where noted. Prepay orders under $300. Send to: Mineralogical Society of America, 1015 18th Street NW Ste 601, Washington, DC 20036-5212 USA. Phone: (202) 775-4344; Fax: (202) 775-0018.

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Mineralogical Society of America Membership Application

To join the MSA, please send a copy of this application, along with the required payments for dues and subscriptions, to the Mineralogical Society of America, 1015 Eighteenth St NW Ste 601, Washington DC 20036-5212, USA phone: (202) 775-4344; fax: (202) 775-0018; e-mail: business@minsocam.org; website: www.minsocam.org

Membership Category Requested: [ ] Member [ ] Student Member [ ] Life Member

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2004 Fee Schedule

Memberships are entered and renewed on a calendar basis. You will receive all publications for the year you join. Membership applications received after October 1 will be made effective January 1 of the following year unless otherwise requested. Members will receive the newsletter, *The Lattice*, as part of their dues. As an additional benefit, members may elect to receive the *American Mineralogist*, as well as some related publications, at substantially reduced rates. Please indicate all options that apply in the box to the right. Members are entitled to a 25% discount on other MSA publications given on our Publication List.

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Welcome New Members

WELCOME!

The following individuals joined MSA January 16, 2003 through April 11, 2003. We welcome them to the Society. The areas of interest are: Mineralogy (MI), Crystallography/Crystal Chemistry (CC), Material Properties (PP), Igneous Petrology (IP), Metamorphic Petrology (MP), Sedimentary Petrology (SP), Geochemistry (GE), Phase Equilibria (PE), Economic Geology (EG), Clay Mineralogy (CM), Industrial Mineralogy (IM), Environmental Mineralogy (EM), Gems (GM), Planetary Materials (PM), Teaching (TC), Descriptive Mineralogy (TP), Biological-Mineral Interactions (BM), and others as indicated.

If you know of someone who would like or should join MSA, give them the membership application that appears in this issue of *The Lattic*e, or is available from either MSA's web site (http://www. minsocam.org) and the MSA Business Office, 1015 Eighteenth St NW Ste 601, Washington, DC 20036-5212, USA.

Armeneau, Ms. Carrie L.M., Calgary AB, CANADA. (student - 7/14/03). SP, GE,

Baker, Ms. Margaret Anne, Washington DC. (student - 8/19/03). IP, MP, GE, EG,

Barton, Prof. Michael, Ohio State University, Columbus OH. (member - 8/28/03). MI, CC, PP, IP, MP, SP, GE, PE, PM,

Beharry, Mr. Monty S., State College PA. (student - 10/7/03). MI, CC, SP, GE, EG, GM, BM,

Benusa, Mr. Matt, Virginia Tech, Blacksburg VA. (student - 8/28/03). MI, CC, TP,

Brill, Mr. Nathan E., Rice University, Houston TX. (student - 8/19/03). IP, MP, GE, PE,

Campbell, Ms. Jessica Erin, Shepherdsville KY. (student - 9/4/03). MI, IP, MP, GE, PE, CM, EM,

Chaklader, Mr. Johny, Univ of New Mexico, Albuquerque NM. (student - 8/18/03). MI, CC, PP, IP, MP, SP, GE, PE, EG, CM, GM, PM, TC, BM,

Chokai, Mr. Jun, Kita-ku Tokyo, JAPAN. (student - 8/20/03). PM, TC,

Clark, Mr. Ryan J., Massachusetts Inst of Technology, Cambridge MA. (student - 7/14/03). MI, MP,

Clark, Mr. Ryan J., Iowa City IA. (student - 10/7/03). IP, MP, TC, OTHER, FIELD GEOLOGY

Cutler, Mr. Charles Ian, Goleta CA. (student - 10/23/03). MI, CC, PP, IP, GE, PE,

Dai, Dr. Zurong, Lawrence Livermore National Lab, Livermore CA. (member - 7/18/03). MI, CC, PP, GM, PM, BM,

Enwall, Mr. Robert E., Centennial CO. (member - 7/18/03). MI, CC, IP, MP, GE, EG, GM,

Farber, Mr. Gunnar, Samswegen, GERMANY. (member - 10/7/03). MI, PP, IM, GM, PM,

Harms, Mr. Brian S., Norman OK. (student - 10/7/03). MI, IP, MP, GE, BM,

Henry, Ms. Sarah E., Madison WI. (student - 10/23/03). MI, CC, IP, MP, GE, EG, GM, MS,

Higgins, Dr. Steven R., Wright State Univ, Dayton OH. (member - 8/28/03). MI, CC, PE, EM, MS, BM,

Ikeda, Ms. Kurumi, Kumamoto University, Kurokam Kumamoto, JAPAN. (student - 7/18/03). PM,

Jadhav, Ms. Manavi M., Washington University, Saint Louis MO. (student - 10/7/03). MI, CC, PP, PE,

Jing, Zhicheng, Kline Geology Lab, New Haven CT. (student - 10/7/03). MI, CC, PP, IP, MP, GE, PE, PM,

Katchebesibo, Mr. Mathias, University of Konstanz, Konstanz, GERMANY. (student - 7/14/03). MI, CC, IP, SP, GE, PE, CM, IM, EM, PM, TC, TP, BM,

Keller, Prof. Hans-Lothar, Universitaet Dortmund, Dortmund, GERMANY. (member - 7/14/03). CC, PP, TC,

Koizumi, Mr. Eisuke, University of Tokyo, Bunkyo-ku Tokyo, JAPAN. (student - 8/20/03).,

Lee, Mrs. Paula Maureen, Columbia MO. (student - 7/14/03). MI, IP, MP, GE, PE,

Litasov, Dr. Konstantin, Tohoku University, Sendai, JAPAN. (member - 7/14/03). MI, IP, GE, PE,

Liu, Ms. Suqin, Newark NJ. (student - 10/7/03). CC, GE, EM,

Makus, Mr. K. Erik, Blacksburg VA. (student - 7/14/03). MI, GE, EM, MS,

Markowski, Ms. Agnes, ETH Zentrum, No. 061.1, Zurich, SWITZERLAND. (student - 8/28/03). MI, GE, EG, PM,

Mayron, Mr. Barry H., Yucca Valley CA. (student - 7/14/03). MI, CC, PP, IP, MP, SP, GE, PE, EG, CM, IM, EM, TP, BM,

McCallum, Prof. Ian S., University of Washington, Seattle WA. (member - 10/7/03). MI, CC, PP, IP, MP, GE, PE, EG, PM,

McCormack, Dr. Michael D., Houston TX. (member - 7/14/03). MI, CC, IP, MP, TP,

Muhammad, Mr. Zahid, Louisiana State University, Baton Rouge LA. (student - 10/7/03). SP, GE, CM,

Price, Ms. Nancy A., Sicklerville NJ. (student - 10/7/03). MI, CC, IP, MP, SP, GE, PE, EM, PM, TC, BM,

Ray, Mr. Neil B., Fort Hays State Univ, Hays KS. (student - 10/7/03). MI, CC, PP, MP, GE, PE, EG, EM, GM, TP,

Sauerzapf, Mrs. Ursula, Leimen, GERMANY. (student - 8/7/03). MI, IP, OTHER, EXPERIMENTAL PETROLOGY

Schnarrenberger, Ms. Diana L., Maryville MO. (student - 10/7/03). MI, CC, IP, MP, GE, EM, GM, PM, TP,

Schopf, Mr. Alexander, Gerlingen, GERMANY. (student - 10/7/03). MI, CC, PP, IP, MP, SP, PE, EG, CM, IM, EM, PM, TC, MS, BM,

Sobolev, Prof. Alexander V., Max-Planck-Inst Fur Chemie, Mainz, GERMANY. (member - 10/7/03). MI, CC, IP, MP, GE, OTHER, INCLUSION IN MINERALS

Sun, Ms. Haiting, Baton Rouge LA. (student - 7/30/03). MI, CC, PP, MP, EG, GM,

Takayama, Mr. Naoki, Kumamoto University, Kurokami Kumamoto, JAPAN. (student - 7/18/03). CC, PE,

Trainor, Dr. Thomas P., Univ of Alaska-Fairbanks, Fairbanks AK. (member - 9/4/03). MI, CC, GE, EM, TC, BM,

Tyra, Mr. Mark A., University of Maryland, College Park MD. (student - 8/19/03). MI, EG, EM, PM,

Wang, Dr. Wuyi, Edison NJ. (member - 9/4/03). MI, CC, PP, IP, MP, GE, PE, IM, GM, PM,

Wentzcovitch, Prof. Renata M., Univ of Minnesota, Minneapolis MN. (member - 10/7/03). MI, CC, PP, IP, MP, GE, PE, CM, PM,

Wigginton, Mr. Nicholas S., Virginia Tech, Blacksburg VA. (student - 10/7/03). GE, EM, TC, BM,

Zhang, Dr. Lifei, Peking University, Beijing, PEOPLES REPUBLIC OF CHINA.

Financial Advisory Committee Report

The Financial Advisory Committee (FAC) consists of James Blencoe, James Hays, Michael Holdaway (Chair), Harry McSween and Douglas Rumble.

At the third MSA Council Meeting in 2002, Council decided to assign the management of MSA investment accounts to Wachovia Securities. Wachovia took over the Society's accounts on December 20, 2002, under the direction of Financial Advisor Jeff LeClair. On December 12, 2002 Council adopted an Investment Policy Statement which includes Investment Guidelines. Among other things, these guidelines give broad ranges for investment allocation, designed to allow for fluctuations in the nature of the market.

With these new directions, the work of the FAC has changed substantially, and a major part of our work now is the evaluation of the performance of Wachovia Securities in managing our funds. In addition to detailed Quarterly Reports, Jeff LeClair also sends monthly Market Updates to MSA Executive Director Alexander Speer and FAC Chairman Michael Holdaway.

The target asset allocation of all the Society's funds is as follows: INT Taxable Bonds – 30%, High Yield Bonds – 5%, Large Cap Equity Stocks – 25%, Mid Cap Equity Stocks – 17%, Small Cap Equity Stocks – 4%, International Equity Stocks – 10%, Real Estate Investment Trusts – 4%, Other – 5%. The individual MSA funds are holding close to these target percentages, in most cases within 1%. Wachovia's Investment Strategy for all the Society's funds includes moderate growth, 10-15% risk tolerance and more than 7 years investment horizon.

To illustrate the performance of the various funds, we list the value of each of the funds at four critical dates. Note that in all funds except for the Outreach Fund there have been withdrawals and additions. From December 20, 2002 to September 30, 2003, all the funds have shown an average rate of return of about 9.9%. For the period 1/1/03 to 6/30/03, the rate of return has been about 9.6% compared with a benchmark return of 10.5%. However, it should be noted that the benchmark is 80% stocks, 20% bonds, and MSA's funds are 56% stocks, 35% bonds, 4% REITs. Most of the increase has occurred dur-

Continued on page 22

FAC, continued from page 21

ing the second quarter of 2003. The percentages are actual rates of return, not annualized rates.

Some of the funds show decreases between 6/02 and 9/03, because the amounts withdrawn have been larger than the market earnings and additions combined. This is true of the Roebling Fund and the MSA Endowment Fund, which provide for a significant portion of the General Operating Fund. It is also important to note that because the funds are recorded at market value rather than purchase value, market fluctuations are responsible for much of the variability seen below.

June 30, 2002

Roebling Fund	$1,242,799
MSA Endowment Fund	206,186
Mineralogy and Petrology Fund	239,780
Kraus Crystallography Fund	147,902
Outreach Fund	27,549
Total	$1,864,216

December 20, 2002

Roebling Fund	$1,041,000
MSA Endowment Fund	175,540
Mineralogy and Petrology Fund	222,000
Kraus Crystallography Fund	137,462
Outreach Fund	22,893
Total	$1,598,895

June 30, 2003

Roebling Fund	$1,143,009
MSA Endowment Fund	202,195
Mineralogy and Petrology Fund	249,075
Kraus Crystallography Fund	152,107
Outreach Fund	27,549
Total	$1,773,935

September 30, 2003

Roebling Fund	$1,077,750
MSA Endowment Fund	198,773
Mineralogy and Petrology Fund	252,059
Kraus Crystallography Fund	155,617
Outreach Fund	26,041
Total	$1,710,240

In the opinion of the FAC, Wachovia is doing a very good job in a difficult market. They have a reasonable asset allocation and are willing to make changes when that appears warranted. The 9.9% growth since December 20, 2002 is very reasonable, especially given the high proportion of bonds in the asset allocation.

The Auditor's Report for the calendar years 2001 indicates no significant problems with the possible exception of the method of accounting for the RiMG and other volumes which are held in inventory. The present method of accounting involves an annual inventory and tabulation of possible future incomes based on member and non-member prices. This inventory is provided to the Auditor. The cost of setting up an amortization scheme would be substantial, especially since the Auditor would have to observe the inventory process. Such a scheme may not be necessary given the fact that MSA is a non-profit organization.

Some concern has been raised regarding the Board and Temporary Restrictions that are made on the various funds. It is the FAC's recommendation that these restrictions be maintained, with the understanding that the Board Restrictions and Temporary Restrictions are only guidelines, which can be exceeded at times when needed, but that the overall effort should be to remain within these guidelines.

In the opinion of the Financial Advisory Committee, the decision to ask Wachovia Securities to manage the Society's funds was a good one. We believe that efforts should be made in the future to try to reduce the small negative values in the unrestricted portions of the Roebling and Outreach Funds.

February 2003 Lattice
DEADLINE:
January 9, 2003

Andrea Koziol: e-mail:Andrea.Koziol@notes.udayton.edu

Meetings Calendar 2004

2004

JANUARY

5–7 The Mineralogical Society (of Great Britain and Ireland) Winter Meeting 2004. Assembly Rooms, Bath, Great Britain. Details: Dr N. Petford. E-mail: info@minersoc.org; Web site: http://www.minersoc.org/pages/meetings/Geothermal.htm

FEBRUARY

8–13 17th Australian Geological Convention. Hobart, Tasmania. Web page: http://www.17thagc.gsa.org.au/

10–12 Second International Symposium on the Dynamics of Fluids in Fractured Rock. Berkeley, California USA. Details: Boris Faybishenko, Lawrence Berkeley National Laboratory. Phone (510) 486-4852, fax 510-486-5686. E-mail: bfayb@lbl.gov. Web page: http://esd.lbl.gov/fluidsinrock/

MARCH

14–18 The Minerals, Metals & Materials Society Spring Meeting. Charlotte, North Carolina, U.S.A. Details: TMS, Meeting Services, 184 Thorn Hill Road, Warrendale, PA 15086 USA. Tel: (724) 776-9000 x243; Fax: (724) 776-3700. Email: mtgserv@ tms.orgWeb page:http://www.tms.org/Meetings/Annual-04/AnnMtg04Home.html

15–19 35th Lunar and Planetary Science Conference (LPSC). South Shore Harbour Resort and Conference Center, Houston, TX. Details: Publications and Program Services Department, Lunar and Planetary Institute, 3600 Bay Area Blvd., Houston, TX 77058-1113.Tel: 281-486-2188; Fax: 281-486- 2125. E-mail: cloud@lpi.usra. edu

APRIL

4–7 Tenth International Symposium on Experimental Mineralogy, Petrology and Geochemistry (EMPG X). Frankfurt, Germany. Details: EMPG X Organizing Committee, Institute of Mineralogy, Johann Wolfgang Goethe-University Frankfurt, Senckenberganlage 28, D-60054 Frankfurt/Germany. Phone: +49 69- 798 22 111. fax: +49-69-798 280 66. E-mail: empgX@uni-frankfurt.de. Web page:http://www.empgx.uni-frankfurt.de/

12–16 Materials Research Society Spring Meeting, San Francisco, CA. Details: Telephone (724) 779-3003; Fax (724) 779-8313. Email: info@mrs.org. Web page: http://www.mrs.org/meetings/future_meetings. html

18–21 AAPG Annual Convention and Exhibition. Dallas, TX USA. Details: Phone: 1-800-364-2274 (USA and Canada) or 918-560-2679. Fax: 1-800-281-2283 (USA and Canada) or 918-560-2684. E-mail: convene@aapg.org. Web page: http://www.aapg.org/meetings/dallas04/index.html

18–21 106th Annual Meeting & Exposition of The American Ceramic Society. Indianapolis, IN. Details: Meetings Dept.. tel. 614/794-5868. Web page: http://www.acers.org/meetings/AM2004/default.asp

25–30 European Union of Geosciences First General Assembly. Nice, France. Details: EGU Office, Max-Planck-Str. 13, 37191 Katlenburg-Lindau, Germany. Phone: +49-5556-1440. Fax: +49-5556-4709. Email: egu@copernicus.org. Web page: http://www.copernicus.org/EGU/ga/egu04/index.html

25–30 14th International Zeolite Conference. Cape Town, South Africa. Details: Organising Secretariat: 14th IZC Mrs Meg Winter, c/o Department of Chemical Engineering, University of Cape Town, Rondebosch , 7701, South Africa. Tel: +27 21 650 2752; Fax: +27 21 689 7579. Email: izc@chemeng.uct.ac.za. Web page:http://www.14izc.org.za/

MAY

12–14 Joint annual meeting of the Geological Association of Canada, the Mineralogical Association of Canada and the Society of Economic Geologists. Brock University St. Catharine's, Ontario. Web page:http://sparky2.esd.mun.ca/~gac/ANNMEET/annmeet.html

17–21 Joint Meeting: AGU and the Canadian Geophysical Union (CGU). Montreal, Canada. Details: AGU Meetings Department, 2000 Florida Avenue NW, Washington, DC 20009 USA. Phone: +1-202-462-6900; Fax: +1-202-328-0566. Email: meetinginfo@agu.org. Web page:http://www.agu.org/meetings

JUNE

6–12 14th V.M. Goldschmidt Conference. Copenhagen, Denmark. Details: Goldschmidt 2004, Geological Institute, University of Copenhagen, ØsterVoldgade 10, DK-1350 Copenhagen K, Denmark. Fax: +45 33 14 83 22. E-mail: goldschmidt@geol.ku.dk. Web page: http://www.goldschmidt2004.dk/

26–28 5th International Conference on: Mineralogy & Museums. Paris, France. Details: Conference Secretariat, SFMC, Tour 16, Casier 83, 4, place Jussieu, 75252 Paris Cedex 05 FRANCE. Web page: http://www.ensmp. fr/Fr/Actualites/Agenda/PDF/MM5.html

June 27–July 2 11th International Symposium on Water-Rock Interaction. Saratoga Springs, NY, USA. Details:Dr. Susan Brantley, Secretary General, Dept. of Geosciences, The Pennsylvania State University, 239 Deike Building, University Park PA USA 16802. Phone: 814-863-1739 FAX: 814-863-8724. E-mail: ConferenceInfo2 @outreach.psu.edu. Web page: http:

//www.outreach.psu.edu/C&I/WRI/

AUGUST

2–6 67th Annual Meeting of the Meteoritical Society. Rio de Janeiro, Brazil. Details: Kimberly Taylor (LPI Meeting Coordinator), Program Services Department, Lunar and Planetary Institute, 3600 Bay Area Boulevard, Houston TX 77058-1113, USA. Phone: (1) (281) 486 2151. Fax: (1) (281) 486 2160. E-mail: taylor@lpi.usra.edu Web page: http://www.lpi.usra.edu/meetings/metsoc2004/metsoc2004.1st.html or http://www.cbpf.br/~metsoc04/

16–20 Meteoroids 2004. University of Western Ontario, London, Ontario, CANADA. Details: Frans J.M. Rietmeijer, email fransjmr@unm.edu. Web page: http://wwwobs.univ-bpclermont.fr/ima/w3/news_docs/meteoroids04.html

20–28 32nd International Geological Congress (IGC). Florence, Italy. Details: Newtours, Via A. Righi, 8-50019 Sesto Fiorentino FIRENZE–ITALY. Tel/Fax +39 055 33611; fax +39 055 3361350. Email: secretariat@32igc.org. Web page: http://www.32igc.org/

25–31 22nd European Crystallographic Meeting. Eötvös Loránd University, Budapest, Hungary.Email: ecm22.mke@mtesz.hu Web page: http://www.ecm22.mtesz.hu/ or http://www.hwi.buffalo.edu/ACA/

Aug. 30–Sept. 3 2nd International Conference on Recrystallization and Grain Growth. Annecy, France. Details: Société Française de Métallurgie et de Matériaux (SF2M), 250 rue Saint Jacques, 75005 Paris . tel.: 01 46 33 08 00–Fax: 01 46 33 08 80. E-mail : sf2mcongress@wanadoo.fr. Web site: http://www.rex-gg-2004.org/ top

SEPTEMBER

4-8 5th European Conference on Mineralogy and Spectroscopy (ECMS). Vienna, Austria. Details: Prof. Dr. Anton Beran, Institut für Mineralogie und Kristallo-graphie, Universität, Althanstr. 14, A-1090 Wien, Österreich. E-mail: mineralogie@univie.ac.at. Web page: http://www. univie.ac.at/Mineralogie/EMU/welcome.htm?emusch_6.htm~body

13–14 The Mineralogical Society (of Great Britain and Ireland): Environmental Mineralogy and Geochemistry Groups: Speciation and Toxicity. Birkbeck-UCL, London. Email: karen hudson-edwards, k.hudson-edwards@geology.bbk.ac.uk or Mark Hodson, m.e.hodson@reading.ac.uk

11–19 Tectonics, Magmatism and Metallogeny of Active Continental Margins (Interim International Conference on Metallogeny of the Pacific Northwest). Vladivostok, Russia. Details: Far East Geological Institute, Far Eastern Branch of Russian Academy of Sciences, 159, Prospekt 100-letiya, Vladivostok, 690022 Russia. Tel. +7(4232)31-87-50; Fax: +7(4232)31-78-47. E-mail: iagodconf@fegi.ru/ or fegi@online.marine.su. Web page: http://www.fegi.ru/IAGOD/

19–22 8th International Congress on Applied Mineralogy (ICAM 2004). Aguas de Lindoia, Sao Paulo, BRAZIL. Details: D. Paktunc, CANMET, 555 Booth Street, Ottawa, Ontario K1A 0G1 CANADA. Phone: +1-613-947-7061; Fax: +1-613-996-9673. Email: dpaktunc@NRCan.gc.ca. Web page: www.icam2004.org

20–24 2nd Mid-European Clay Conference. Miskolc, Hungary. Details: Dr I. Viczian E-mail: viczian@ludens.elte.hu or Dr T.G. Weisburg E-mail: weiszburg@ludens.elte.hu

26-30 Materials Science & Technology 2004, incorporating the 2004 TMS Fall Meeting and the 46th Iron & Steel Society Mechanical Working and Steel Processing Conference. New Orleans, Louisiana. Details: TMS Meetings Services, 184 Thorn Hill Road, Warrendale, PA 15086. Tel. (724) 776-9000, ext. 243; fax (724) 776-3770. Email: mtgserv@tms.org. Web page:www.matscitech.org

Sept. 27–Oct. 1 SEG 2004 Conference. Perth, Australia. Details: Dr Susan Ho, Secretary, SEG 2004, PO Box 80, Bullcreek WA 6149, Australia. Tel: (61 8) 9332 7350 (international) or (08) 9332 7350 (Australia). Fax: (61 8) 9310 6694 (international) or (08) 9310 6694 (Australia). e-mail: susanho@geol.uwa.edu.au. Website: www.cgm.uwa.edu.au/geoconferences/seg2004/index.asp

OCTOBER

24–27 AAPG 2004 International Conference and Exhibition. Cancun, Mexico. Details: AAPG Convention Department, P.O. Box 979, Tulsa, OK 74101-0979, USA. Fax: 1-918-560-2684. Email: convene@aapg.org. Web page: http://www.aapg.org/meetings/can04/index.html

NOVEMBER

7–10 GSA Annual Meeting. Denver CO USA. Details: GSA Meetings, Box 9140, Boulder, Colo. 80301-9140, Phone: +1-303-447-2020, ext. 164. Fax: +1-303-447-1133. Email: meetings@geosociety.org. Web page: http://www.geosociety.org/meetings/index.htm

Nov. 29–Dec. 3 Materials Research Society 2004 Fall meeting. Boston, MA. Tel. (724) 779-3003; Fax (724) 779-8313. Email: info@mrs.org. Web page: http://www.mrs.org/meetings/future_meetings.html

There are revised Short Course Guidelines and Style Manual for Reviews in Mineralogy and Geochemistry volumes posted on the MSA website (http://www.minsocam.org).

An Informal Toast to the Late Hatten S. Yoder, Jr., Pioneer Experimental Petrologist

Peter J. Wyllie, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, CA 91125.

News of the recent death of Hatten S. Yoder Jr. was received with sadness by his many friends and colleagues. Formal In Memoriam articles will no doubt be generated in due course, but in the meantime, I am prompted to offer the following informal toast to the experimental expertise of Hat Yoder. After dinner at Yoderfest (March 25, 2001), celebrating Hat's 80th birthday, speeches were invited from the guests. Speeches were closed while I was still mentally composing, and waiting for those who had closer experience actually working with Hat at the Geophysical Laboratory to speak their pieces.

Afterwards, I typed my unspoken contribution and pasted it inside a birthday card to Hat. Here it is:

My wife Romy and I are delighted to be here sharing in this celebration for Hat Yoder's maturity. I feel especially privileged because I'm one of the few here who never spent formal time at the Geophysical Laboratory. But I do feel connected, and I'll tell you why. We came to Penn State from St. Andrews, Scotland, just two weeks after getting married in 1956. I came as Research Assistant to Frank Tuttle, who had recently joined Ozzie Osborn and Mac Keith in a trek from the Lab to Penn State. My appointment had been arranged through the generous intervention of a former St. Andrews student, William Scott Mackenzie, who was then a Visiting Fellow at the Geophysical Laboratory.

Soon after we arrived at Penn State, Frank Tuttle took me on the four-hour drive to Washington that became a familiar tour, and I learned two things. The first was that my Geophysical Laboratory phase diagram heroes were quite different from the forbidding professors of Europe—they were warm and friendly, and I still remember being shown how things work by Frank Schairer and Hat Yoder. The second thing I learned was that each drive to Washington involved loading up with alcoholic beverages, free of Pennsylvania taxes.

Frank Tuttle had proudly received and installed an internally heated pressure vessel, just like Hat Yoder's tested and proven machine. Frank and nearly everyone else in the Department was about to disappear for weeks to the International Geological Congress in Mexico City, so I was left with instructions to calibrate the apparatus. I spent the summer melting gold wires for temperature calibration, and turning the handle on a Carey Foster bridge to find out how a manganin pressure cell worked.

When Frank returned, we set up for the first run, which was following up on the preliminary note of 1955 by Tuttle

Continued on page 26

IGC, FLORENCE, ITALY

SESSION ON MINERAL ENGINEERING

The 32nd International Geological Congress will be held in Florence, Italy, on August 20-28, 2004. Information on a session of interest is below.

Session Number: G-15.05 is entitled "Mineral Engineering: From Nature's Lab to Technologic Applications." Studies of the interaction between minerals and fluids have provided important information about the behavior of minerals in various geological environments. Many of these investigations document that certain minerals may act as effective geochemical barriers for toxic or radioactive elements. Using this information from nature, a wide range of materials has been designed for various technologic applications. This session aims to present recent developments in designing, characterizing, and testing of crystalline substances, which can be used as barriers for the confinement of waste materials and contaminants. Of special interest are presentations that emphasize the role of mineralogy in stabilization and safe isolation of toxic, nuclear, electronic, municipal, and mining waste. On the other hand, contributions that emphasize recycling and reusing rather than disposal of waste are equally welcome. We are particularly interested in mineralogical applications to areas, such as, engineering of ecomaterials and resource recovery from waste materials.

The chair persons of this session are Reto Giere of Purdue University, USA, (giere@purdue.edu) and Marcello Mellini of the University of Siena, Italy, (mellini@unisi.it). They encourage you to please submit your abstracts online before January 10, 2004 at the following web address: http://www.32igc.org

To Yoder, continued from page 25

and England on the solidus for SiO_2-H_2O. We ran at quite moderate conditions, 980 ºC and 30,000 psi (we did not use kilobars at that time). Everything was humming along smoothly for a couple of hours when suddenly—BANG!—a great gush of cooling water came over the protective wall and on to the control console—I still have my run notebook with rusty streaks all over the page. The vessel had split in half, with one half wrecking the overhead fluorescent light fixture and the other making a significant hole in the concrete floor. That is how I learned early why pressure vessels are called "bombs."

There is a point to this story. It isn't enough to have the right equipment, because in order to make it work properly you have to have a good pair of experimental hands. The record of the results that Hat coaxed out of his apparatus while many struggled to keep similar beasts working demonstrates that Hat not only has a gift for intellectual inspiration and heartfelt support as recounted by so many here tonight, but he also has a darned good pair of hands.

My toast is not only to the head and the heart, but also to the hands of Hat Yoder.

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