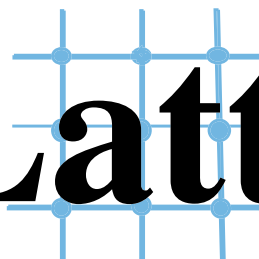


# The Lattice



The Newsletter of the  
Mineralogical Society  
of America

Subscription and membership  
information  
is on page three.

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## GeoScienceWorld to Launch, Online Access to Leading Journals in the Earth Sciences

Six leading earth science societies and one institute have agreed to develop cooperatively an electronic research resource unprecedented in the earth sciences called GeoScienceWorld (GSW). GSW will deliver online the aggregated journal content of both the founding organizations and many other not-for-profit and independent earth science publishers. The collection will feature full text searches across the aggregated journals and reference linking between included journal articles and, where possible, other online journals. GeoRef, the premier bibliographic database in the geosciences, will be fully integrated into GSW, expanding the search capability to include nearly all geoscience literature using a controlled vocabulary and providing direct linking to full text articles and abstracts within and outside the journals aggregation. With time, other material such as maps, books, and geoscience digital data will be included or inter-linked on an optional participation basis with content owners. When technically practical, GSW will include non-English publications.

For two years the founding organizations—American Association of Petroleum Geologists, American Geological

Institute, Geological Society of America, Geological Society of London, Mineralogical Society of America, Society for Sedimentary Geology, and Society of Exploration Geophysicists—have been developing plans for GeoScienceWorld. Final agreement allows implementation of the plan. A prospectus will be sent in January to all societies and other journal publishers potentially interested in participating. A free trial period for potential subscribers is antici-

pated in 2004 prior to launch for paid online subscriptions. More detailed information about GSW can be found at (<http://www.GeoScienceWorld.org>).

What the founders said about GSW:

“GeoScienceWorld will be a superior research resource that meets the demands of students, researchers and professionals who are accustomed to the benefits of electronic media.” Sharon Mosher, Past President Geological Society

Continued on page 3

## 2004 Nominees for MSA Office

The following is the slate of officer nominees for the Council year 2004:

### President

Robert M. Hazen, Carnegie Institution of Washington

### Vice Presidential nominees:

Jonathan F. Stebbins, Stanford University

John W. Valley, University of Wisconsin

### Treasurer nominee:

John M. Hughes, Miami University

### Councillors: (in alphabetical order)

Ross John Angel, Virginia Polytechnic Institute

Robert T. Downs, University of Arizona

Marc M. Hirschmann, University of Minnesota

David C. Rubie, Universitaet Bayreuth

Letter from the President**MSA: an international society from its earliest days**

by Michael Carpenter

Recently the American Geological Institute (AGI) carried out a survey of professional societies in the US, looking, in particular, at the extent to which they are made up of international members. Alex Speer went through the old membership lists from 1920 to 2001 and produced the following two graphs, showing the international profile of MSA since its foundation in 1919.

In 2001 MSA had 2119 members. Of these, 1257 had addresses in the US, 145 were living in Germany, 139 in Japan, 126 in Canada, 85 in the UK, 52 in Australia, 45 in Italy, 36 in France, 36 in Switzerland, 21 in Spain and

20 in the Republic of Korea. A further 5 countries had between 10 and 20 members and 34 had between 1 and 10 members. This gives a remarkable total of 50 countries through which MSA members are spread. The broadest trends include the effects of world events—the Second World War caused a dip in international membership and the increase after the war reflects the large expansion of universities in the 1960s. Personal influences must also have been significant, however. No doubt like many other current members of the society, I joined while I was enjoying several happy years as a post-doc in the US.

Another major reason for joining in modern times has been the attraction of receiving a personal copy of the *American Mineralogist* as it became one of the leading journals in our field. What of the earliest members, however? I was prompted to go back and look at the earliest history of the society as set out in early volumes of the *American Mineralogist*.

MSA was founded on December 30th, 1919. Of the 28 people who attended the founding meeting at the Geological Museum, Harvard University, Cambridge, MA, two were from Canada and the rest appear to have been from the US. The names of

192 Charter Fellows and Members are then listed for 1920 (Am. Min., 6, 46–50). It is understandable that 10 of these were from Canada (E.L. Bruce, Ontario; H.V. Ellsworth, R.A.A. Johnston, E. Poitevin and J.F. Wright, Ottawa; R.P.D. Graham, Montreal; E. Thomson, T.L. Walker and W.H. McNairn, Toronto; R.C. Wallace, Manitoba), but there are also some with addresses in the UK, Belgium, Mexico, Australia and China - F.N. Ashcroft (London), Miss M.W. Porter (Oxford), H.L. Buttgenbach (Brussels), C. Anderson (Sydney), A.R. Martinez (Mexico), W.E. Patten (Shanghai) and

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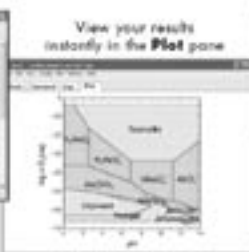


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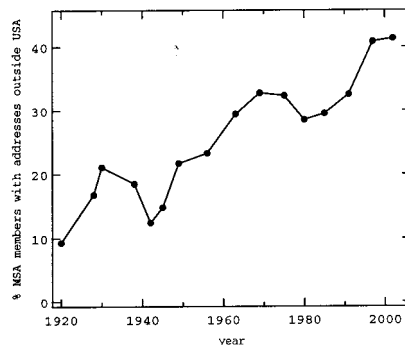
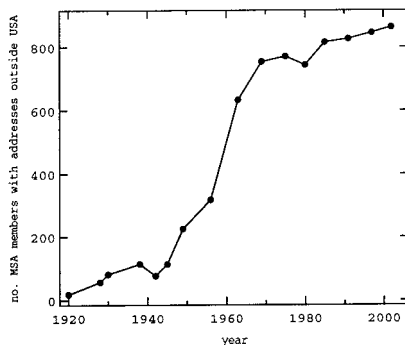
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T. Matsumoto (whose address is listed as c/o Japanese Consulate General, London). Some of these names are instantly recognizable, even now. The membership expanded from the founding group rather quickly, probably because the first President, E.H. Kraus, had already spent several years writing to crystallographers, mineralogists and petrologists in North America. The immediate inclusion of non-US



members in the list of Charter Fellows and Members suggests that the early vision for the society was outward looking and inclusive. It also appears that the “bush telegraph” of the day may have been through the community of museums, as the lists of members contain many with museum affiliations.

A less formal view of the early history of the society can be gleaned from the “NOTES AND NEWS” sections of early issues of the *American Mineralogist*. These lie between the scientific papers and more formal business of the society, and contain personal information. For example, the following is a touching extract from 1920 (vol. 5, p. 135):

“Word has been received from Vienna that Professor G. Tschermak, the eminent mineralogist, who is now over 80 years old, is in need of assistance in the way of food. This can be best sent in the form of food-orders, the money being paid in this country, and the food being distributed from the American

continued on page 4

#### GSW, continued from page 1

of America

“GeoScienceWorld will promote integration of research across geoscience disciplines and geographic boundaries.” Walt Lynn, Past President, society of Exploration Geophysicists

“The prospect of GeoScienceWorld is tremendously exciting—it should have a significant impact on the geosciences.” Robbie Gries, Past President, American Association of Petroleum Geologists

“GeoScienceWorld is long overdue; the geosciences have lagged behind the rest of the sciences in this regard. Successful launching of GeoScienceWorld will make the geoscience community meaningful players in the electronic publishing arena.” Marcus Milling, Executive Director American Geophysical Institute.



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 2004: professional members \$55; student members \$5. *American Mineralogist* subscription: members add \$40 (paper and electronic); \$10 electronic. Membership is on a calendar year basis. Individuals who join after January 1, 2004 will be sent all back issues of volume 89 for 2004.

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 2004 volume of *American Mineralogist* for the annual rate of \$625 in the US and \$650 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.

**2004 President:** Michael A. Carpenter, University of Cambridge

**Past-President:** Doug Rumble, Carnegie Institution

**Vice President:** George Harlow, American Museum Natural History

**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 Managers:** Rachel A. Russell, Eric T. Baker

Mineralogical Society of America  
1015 Eighteenth Street N.W., Suite 601  
Washington, D.C. 20036-5212, U.S.A.  
Tel: (202) 775-4344; Fax: (202) 775-0018

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**Pres Letter, continued from page 3**

warehouses in Vienna, to those holding orders”.

This is followed later in the year by another note (vol. 5, p.210):

“In response to our note in the July number that Professor Tschermak, the eminent Austrian mineralogist, was in need of food, the sum of \$10 was made up by contributions from our subscribers, ... Professor Edward S. Dana and Dr. George F. Kunz have called our attention to the fact that another scientist in Vienna is in similar straits, - Professor Victor von Lang, the mineralogist and physicist. Can we not help him also?”

Another extract (vol. 6, p. 131, 1921) refers to younger scientists:

“We have received a letter from a Belgian student who would like to get into correspondence with American students, and also, being impoverished as a result of the war, would greatly appreciate receiving duplicate mineral specimens or publications on mineralogy and related sciences which anyone may be able to send him. Address: Léon Michel, 18 Rue de la Madeleine, Liège, Belgium.”

These were clearly hard times in Europe, but most of the “NOTES AND NEWS” would not be out of place in the MSA-Talk messages that we now receive by email. Perhaps an early presage of MSA’s participation in the Goldschmidt conferences is the following announcement (vol. 7, p. 146, 1922):

“Friends and former students of Professor Viktor Goldschmidt are planning a memorial to be presented on his 70th birthday which falls on the 10th of February, 1923. This memorial will also commemorate Dr. Goldschmidt’s 35th year as teacher at the University of Heidelberg. Those wishing to participate in honoring this noted crystallographer are asked to send their name and contribution to Dr. Oscar Neff, Karlsruhe, Kriegsstr. 85.”

Here we are, 81 years later, planning MSA’s involvement in a Goldschmidt Conference in Copenhagen this coming June.

Current members who have served on Council or on MSA committees will be amused that other issues facing the society were not so different from business in modern times. In 1920, Council had to set annual dues: \$5 for Fellows and \$3 for Members. Past and present Treasurers will be pleased to see that the society was already in the black. A.B. Peck (Treasurer) reported income of \$1692.39, expenditure of \$1081.25 with the balance of \$611.14 as cash in the bank. On the other hand, past and present editors of the American Mineralogist may be jealous of the fact that E.T. Wherry only had to produce 212 pages of text that year. Another familiar topic for discussion that obviously came up at the first annual meeting of MSA, in Chicago, 1920, was the impact of currency exchange rates on international members.

By and large, the “NOTES AND NEWS” makes happy reading. We seem to have been part of a worldwide community for ~100 years or more, and long may this continue.

Not all the news was too serious, however, as reflected in another extract from volume 7 (p.211, 1922):

“Professor James R. Withrow of Ohio State University has returned from an extensive trip on the Continent where he visited many famous mineral localities”.

It seems that then, as now, we like to tell our friends what we have been up to!

## Sessions of Interest at 2004 Goldschmidt Conference

The 2004 V.M. Goldschmidt Conference will be held in Copenhagen, Denmark, June 5–11. Conference information regarding registration and deadlines may be found at: <http://www.goldschmidt2004.dk>. Although the abstract submission deadline has passed, attendees may be interested in the following sessions.

- Hydrogen and its influence on mineral structure, properties and behavior. The presence of a small concentration of hydrogen may deeply affect material properties like elasticity, plastic properties, electrical conductivity, as well as the behavior of processes such as phase transitions, metamorphic reactions and melt generation. Hydrogen research has seen a rapid increase during the last ten years with the development in Geosciences of hydrogen isotope geochemistry studies and researches for deep earth water reservoirs, and the quest for efficient solid state fuel cells in Material sciences. Please contact Jannick Ingrin ([ingrin@cict.fr](mailto:ingrin@cict.fr)), Henrik Skogby ([henrik.skogby@nrm.se](mailto:henrik.skogby@nrm.se)) or Joseph Smyth ([joseph.smyth@colorado.edu](mailto:joseph.smyth@colorado.edu)) for more information.

- Solid Solutions. The goal of solid solution research is to relate microscopic details of atomic interaction to macroscopic properties that can be applied to geochemical systems. The topics include direct experimental measurements, thermodynamic modelling, computer simulation of solid solutions at the atomic level, characterization of microscopic properties and definition of the thermodynamic and kinetic factors controlling ion partitioning between solids and fluids. Confirmed invited speakers include: Tiziana B. Ballaran, Richard Harrison, and Ivan L’Heureux. Contact Udo Becker ([ubecker@umich.edu](mailto:ubecker@umich.edu)) or Manuel Prieto ([mprieto@geol.uniovi.es](mailto:mprieto@geol.uniovi.es)) for more information.

- Mineral Surface Reactivity. The focus of this symposium is on the elucidation of relationships between the structure at surfaces and interfaces of natural materials, including the atomic, electronic, and topological structure, with their reactivity and physical properties. Speakers will include: Dr. Nora de Leeuw, Prof. Claudine Noguera, Prof. Wolfgang Schmickler, and Prof. Kenneth B. Eisenthal. Contact Kevin M. Rosso ([Kevin.Rosso@pnl.gov](mailto:Kevin.Rosso@pnl.gov)), Steven R. Higgins ([Steven.Higgins@wright.edu](mailto:Steven.Higgins@wright.edu)), or Randall T. Cygan ([rtcyan@sandia.gov](mailto:rtcyan@sandia.gov)) for more information.

## MSA Award and Office and Nominations

Member participation is essential to the formation and continuation of MSA programs. Involvement can take many forms, but for the moment we are asking you to nominate someone for an award, volunteer to serve on a committee next year, or offer your name or that of a colleague as a possible committee member or candidate for office. It is through the involvement of individual members that the Society's programs develop to meet the needs of its members. Please take a minute to read the brief descriptions below about needed candidates and consider making a nomination. More information about each award and the list of 2004 MSA Officers, Councillors, Committee members, MSA Fellows, and past awardees are available at the MSA website at [www.minsocam.org](http://www.minsocam.org). If there is someone you feel that should appear in one of those lists, and does not, contact the appropriate Committee Chair with your recommendations.

Award/Office	Deadline	Committee Chair
The <b>Roebing Medal</b> is MSA's highest award and is given for eminence as represented by outstanding published original research in mineralogy.	June 1	Barb Dutrow (2004) Chair Louisiana State Univ Dept of Geology & Geophysics E235 Howe-Russell Bldg Baton Rouge, LA 70803-4101 phone: (225) 578-2525 fax (225) 578-2302 e-mail: <a href="mailto:dutrow@geol.lsu.edu">dutrow@geol.lsu.edu</a>
The <b>Dana Medal</b> is intended to recognize continued outstanding scientific contributions through original research in the mineralogical sciences by an individual in the midst of their career.	June 1	Nancy L. Ross, Chair (2004) Department of Geological Sciences Virginia Polytechnic Institute & State University Blacksburg, VA 24061-0240 ph: (540) 231-6356 fax: (540) 231-3386 e-mail: <a href="mailto:nross@vt.edu">nross@vt.edu</a>
<b>Mineralogical Society of America Award</b> is give for outstanding published contribution(s) prior to 35th birthday or within 7 years of the Ph.D.	June 1	Rebecca A. Lange, (2004) Chair University of Michigan Dept Geological Sciences 425 E University Ave Ann Arbor, MI 48109-1063 ph: (734) 764-7421 fax: (734) 763-4690 E-mail: <a href="mailto:becky@umich.edu">becky@umich.edu</a>
<b>Distinguished Public Service Medal</b> is awarded for distinguished contributions to public policy and awareness about mineralogical topics.	June 1	John M. Ferry (2003-2005), Chair Johns Hopkins University Dept Earth & Planet Sci 3400 N Charles St Baltimore, MD 21218-2687 Tel: (410) 516-8121 Fax: (410) 516-7933 E-mail: <a href="mailto:jferry@jhu.edu">jferry@jhu.edu</a>
Society <b>Fellowship</b> is the recognition of a member's significant scientific contributions. Nomination is undertaken by one member with two members acting as co-sponsors. Form required, contact committee chair or MSA home page.	June 1	J Harry W. Green, II (2002-2004) , Chair Univ of California-Riverside Inst Geophysics Planet Physics Riverside, CA 92521-0001 Tel: (909) 787-4505 Fax: (909) 787-4234 E-mail: <a href="mailto:hgreen@ucr.ac1.ucr.edu">hgreen@ucr.ac1.ucr.edu</a>
<b>MSA Office</b> is open to any non-student member or fellow of the Society. One-year terms for President and Vice-President; two-year terms for treasurer and secretary; three-year term for Councillors.	June 1	Peter J. Heaney, (2004), Chair Dept of Geosciences Pennsylvania State University 309 Deike Bldg University Park, PA 16802-2711 ph: (814) 865-6821 fax: (814) 863-7823 e--mail: <a href="mailto:heaney@geosc.psu.edu">heaney@geosc.psu.edu</a>
<b>Committee membership</b> is open to any member or fellow of the Society. Terms usually from one to six years. In addition to above committees, there are committees on Management, Meetings, Financial Advisory, Publications, Short Course, Tellers, Committee on Committees, Outreach, Arts Council. If you are interested in serving, contact the chair.	April 30	Robert Hazen (2004), Chair Geophysical Laboratory Carnegie Institution of Washington 5251 Broad Branch Road NW Washington, DC 20015-1305 USA ph: 202-478-8962 fax: 202-478-8901 e-mail: <a href="mailto:hazen@gl.ciw.edu">hazen@gl.ciw.edu</a>



## Thank you Reviewers of 2003

*American Mineralogist* thanks all the people who acted as a reviewer in 2003! We appreciate everyone's time and energy. The quality of the journal depends on the hard work and generosity of our reviewers. Reviewers analyze papers for errors and omissions in science methodology, research, explanations, and so on. They determine if the discussion is complete and sensible. They offer advice on organization and grammar involved with creating a paper that the author can be proud of. No one stands alone in science: all authors owe thanks, as we do, for our thoughtful and critical reviewers. *This list, unlike the past, is an attempt to thank all reviewers regardless of the present status of the paper. We tried to be as complete as possible, please understand any omissions are not intended.*

Abrams, M.	Cherniak, D. J.	Fuchs, Y.	Kalinichev, A. G.	Liou, J. G.	Murakami, T.
Adams, E.	Chou, I-M.	Gaetani, G.	Kampf, A. R.	Little, B.	Mysen, B. O.
Addadi, L.	Circone, S.	Gaft, M.	Katayama, I.	Lloyd, R.	Naeser, C.
Akaishi, M.	Clarke, M.	Gaillard, F.	Kaufman, A. J.	Loan, M.	Nakamura, K.
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Amin, R.	Consolmagno, G.	Gehring, A. U.	Keller, L.	London, D.	Nasdala, L.
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Aranda, M. A. G.	Corrales, R.	Geisler, T.	Ketcham, R. A.	Lowenstern, J.	Novikov, V.
Arculus, R.J.	Couture, R. A.	Genov, G.	Khisina, N. R.	Lower, S.	Nowak, M.
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Armbruster, T.	Cravotta, C.	Glinnemann, J.	King, P. L.	Mackovicky, E.	Ohmoto, H.
Ayers, J. C.	Crichton, W. A.	Gnos, Edwin	Klauda, J.	Makogon, Y.	Ohmura, R.
Baer, D. R.	Crocombette, J-P.	Gottschalk, M.	Klein, C.	Malcherek, T.	O'Neill, H. S.
Baker, D. R.	Crowley, P.	Graetsch, H. A.	Kleppe, A. K.	Manceau, A.	O'Sullivan, P.
Baker, I.	Cruciani, G.	Grauby, O.	Kloprogge, J. T.	Mandarino, J.A.	Page, F. Z.
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Becker, U.	Dai, Z.	Gualtieri, A. F.	Kress, V. C.	Mathez, E. A.	Parsons, I.
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Blum, J. D.	Dipple, G. M.	Hazen, R. M.	Layne, G. D.	Mevel, C.	Petersen, E. U.
Bonaccorsi, E.	Dixon, J. E.	Heaney, P. J.	Lee, S. K.	Michaels, J.	Peterson, R. C.
Bonazzi, P.	Dobrinetszkaya, L.	Heimann, R.B.	Lee, Y.	Michel, C.	Petford, N.
Bostick, B. C.	Dollase, W. A.	Henderson, M.	Leeman, W.	Miller, J.	Pettenkofer, C.
Brachfeld, S.	Donelick, R. A.	Hervig, R. L.	Leshner, C. E.	Minarik, W. G.	Piccoli, P. M.
Braden, M.	Dove, P. M.	Herwig, K.	Leverett, P.	Miyamoto, M.	Pischhoda, V.
Bradley, J.	Downs, R. T.	Higgins, M.	Li, Y.	Monfort, J.P.	Poitrasson, F.
Brady, P.	Dutrow, B.	Higgins, S. R.	Liang, Y.	Mookherjee, M.	Poppi, L.
Brandon, M. T.	Eberl, D. D.	Hirsch, D. M.	Libowitzky, E.	Morgan, G.	Posfai, M.
Brantley, S. L.	Eckert, H.	Hochella Jr., M. F.	Lin, J. F.	Morin, G.	Post, J. E.
Brearley, A. J.	Eggleston, C. M.	Hofmeister, A. M.	Lindsley, D. H.	Mottana, A. P.	Pratesi, G.
Brenker, F. E.	Ehm, L.	Hoisch, T.			
Brewer, P.	Elliott, J.	Holtz, F.			
Brooker, R.	Englezos, P.	Homeyer, J.			
Burns, P. C.	Essene, E.	Hovis, G. L.			
Buseck, P.	Evans, B.	Hriljac, J. A.			
Butler, L.	Evans, B.W.	Hughes, J. M.			
Cahill, C. L.	Ewing, R. C.	Hurford, A. J.			
Campbell, A. J.	Farley, K.	Issler, D.			
Campbell, B.	Farver, J. R.	Ito, E.			
Canil, D. L.	Fechtelkord, M.	Jackson, J. M.			
Carlson, W. D.	Feng, P.	Jamtveit, B.			
Carpenter, M. A.	Ferraris, G.	Jana, M.			
Cashman, K. V.	Finch, R. J.	Jenkins, D. M.			
Castro, J. M.	Fleet, M. E.	Jensen, T.			
Cemic, L.	Foit, F. F.	Jercinovic, M. J.			
Chaboy, J.	Fournelle, J.	Johnson, E. A.			
Chakoumakos, B. C.	Francisca, F. M.	Johnson, S. E.			
Chamberlain, C. P.	Frankel, R.	Johnston, C.			
Chamberlain, K.	Fransolet, A-M.	Jonckheere, R. C.			
Chand, S.	Franz, G.	Jones, J. H.			
Chapman, R.	Friedrich, A.	Jordan, G.			
Chapman, W.	Frost, B. R.	Josef, B.			
Chen, T.T.	Frost, R. L.	Kagi, H.			

### AM MIN STATS AT A GLANCE (FOR JAN.)

No. of Pending Manuscripts (on 22-Jan-2003): 105

No. of New Manuscripts Submitted: 13

No. of Accepted Manuscripts: 38 (queued)

No. of Declined Manuscripts: 0

No. of Withdrawn Manuscripts: 1

No. of revisions pending: 74

**Submit papers at <http://minsocam.alltrack.net>**

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Princivalle F.  
 Pring, A.  
 Ptacek, C.  
 Purton, J. A.  
 Pyle, J. M.  
 Quartieri, S.  
 Querol, X.  
 Raase, P.  
 Rakovan, J.  
 Rath, S.  
 Redfern, S. A.  
 Redhammer, G. J.  
 Reeder, R. J.  
 Reuscher, C.  
 Reynard, B.  
 Rieder, M.  
 Righter, K.  
 Rimstidt, J. D.  
 Rivers, M.  
 Roberts, A. C.  
 Robertson, D.  
 Rogers, J.  
 Rogers, K.  
 Romanek, C.  
 Romanek, C.  
 Rondinone, A.  
 Ross, M.  
 Ross, N. L.  
 Rossman, G. R.  
 Rubie, D. C.  
 Ruiz, J.  
 Rumble III, D.  
 Rustad, J. R.  
 Sack, R. O.  
 Santillan, J.  
 Schaefer, M. W.  
 Schlenz, H.  
 Schmahl, W.  
 Schreuer, J.  
 Schultz, A.  
 Schwandt, C. S.  
 Schwertmann, U.  
 Scott, H.  
 Seaman, S. J.  
 Serghiou, G.  
 Servio, P.  
 Sharma, S. K.  
 Sharp, T. G.  
 Shaw, C. S.  
 Shen, G.  
 Sherman, D. M.  
 Sherriff, B. L.  
 Shim, S-H.  
 Simmons, S.  
 Simon, S.  
 Singer, B.  
 Sirbescu, M.  
 Sivaraman, R.  
 Skinner, H. C.  
 Skogby, H.  
 Sloan, E. D.  
 Smyth, J. R.  
 Sorensen, S. S.  
 Sowa, H.  
 Spear, F. S.  
 Spera, F. J.  
 Speziale, S.  
 Sposito, G.  
 Sprague, A.  
 Stahl, K.  
 Stalder, R.  
 Staykova, D. K.  
 Stebbins, J. F.  
 Stowell, H. H.  
 Sturchio, N. C. C.  
 Subramanian, S.

Sultan, M.  
 Sung-Ho, P.  
 Sutton, S.  
 Swainson, I.  
 Takeya, S.  
 Tangeman, J. A.  
 Templeton, A. S.  
 Tenthorey, E.  
 Thompson, P.  
 Thompson, R. M.  
 Tohidi, B.  
 Toledano, P.  
 Toplis, M.  
 Torrent, J.  
 Tribaudino, M.  
 Trueman, C.  
 Tse, J.  
 Tsouris, C.  
 Tsujimori, T.  
 Turner, J.  
 Uchida, T.  
 Valdré, G.  
 Van Gosen, B.  
 Veksler, I. V.  
 Vicenzi, E. P.  
 Visser, D.  
 Vocablo, L.  
 Waite, W. F.  
 Walker, D.  
 Walter, M.  
 Waters, D.  
 Watson, E. B.  
 Waychunas, G. A.  
 Webb, S. M.  
 Webber, K. L.  
 Weiner, S.  
 Welch, M. D.  
 Weller, M.  
 White, W. B.  
 Whitney, D. L.  
 Wicks, F. J.  
 Wieczorek, A.  
 Wilke, M.  
 Williams, P.  
 Williams, Q.  
 Wimperis, S.  
 Winter, J. D.  
 Wise, W. S.  
 Wogelius, R.  
 Wood, S. A.  
 Woods, S. C.  
 Xirouchakis, D.  
 Yamakawa, J.  
 Yang, H.  
 Zanazzi, P. F.  
 Zatssepina, O. Y.  
 Zhang, L.  
 Zhang, M.  
 Zhang, Y.  
 Zhang, Y.  
 Zolensky, M. E.  
 Zwanziger, J. W.

## IMA Logo Competition

A competition to design a logo for the International Mineralogical Association is open to all mineralogists who are members of mineralogical societies or groups affiliated to IMA

The International Mineralogical Association (IMA) is the only truly international organization promoting mineralogy. IMA is supported by mineralogical societies or groups from 38 countries. It exists to promote mineralogy, collaboration among mineralogists, and interaction with other international groups having mineralogical interests. IMA is affiliated to the IUGS. We are offering a generous prize for the most stylish logo which IMA can use to promote its future work. For more information on IMA visit our website at:

[www.obs.univ-bpclermont.fr/ima](http://www.obs.univ-bpclermont.fr/ima).

### The Prize

The author of the successful design will be awarded 200 \$US. In addition, he or she will be given free registration for the 19th IMA General Meeting to be held in Kobe, Japan, from 23-28 July, 2006, plus free standard accommodation.

### The Competition

The competition is open to all members of any mineralogical society or group which subscribes to IMA. The successful logo will be used on letter paper, envelopes, Website, and in any other documents relevant to the activities of IMA. It could be used also during congresses, workshops and/or short courses organised or sponsored by IMA, and for scientific sessions sponsored or co-sponsored by IMA.

Copies of the logos of mineralogical societies which are members of IMA, and of some geological societies which include mineralogical groups affiliated to IMA, are displayed on the Website of IMA.

Candidates should send their proposed logo designs as e-mail attachments (for technical details see below) to the Secretary of the IMA, Dr Maryse Ohnenstetter:

[mohnen@crpg.cnrs-nancy.fr](mailto:mohnen@crpg.cnrs-nancy.fr)

The design must be received not later than 31st of July 2004.

The IMA Councillors will select the logo they consider most effective and attractive at the International Geological Congress in Florence 20th-28th August 2004. Their decision will be irrevocable.

### Author Copyright

The author will give his copyright on the logo work to IMA. IMA will retain the copyright and the right to modify or adapt the work.

### Technical details

The logo should be effective in both colored and black-and-white versions. We encourage competitors to design their project in several versions, so that it looks good when used

**May 2004 Lattice  
 DEADLINE:  
 April 19, 2003**

Andrea  
 Koziol: e-mail:  
[Andrea.Koziol@  
 notes.udayton.edu](mailto:Andrea.Koziol@notes.udayton.edu)

continued on page 9



# 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](http://www.goldschmidt2004.dk)

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



**IMA logo, continued from page 7**

both in small (e.g., for internet applications) and large (e.g., letterhead) sizes. The different versions should all share an easily identified style, but may differ in details (e.g., the large logo for letterhead might use the full name "International Mineralogical Association," while the small logo for internet use could display only the acronym "IMA").

Ideally the proposed logo should be provided in the following formats:

- A vector version of the logo for general use when high-resolution printing is required, saved in a standard graphic format such as PostScript (ps) or Encapsulated PostScript (eps), or Portable Document format (PDF).

- A circa 10 cm large bitmap version of the above, submitted as a 300 dpi compressed TIFF file, for use as letterhead.

- A circa 3 cm large bitmap version in 72 dpi resolution, of less than 10 Kb, intended to be used as a small logo for internet application, saved in JPEG or GIF format.

However, logos submitted in other sizes or generic (non proprietary) file formats may be considered, provided they are legible to the jury. The projects are to be submitted by E-mail. In case of files too large to be transmitted this way (>4Mb), competitors may store them on an ftp server of their own and make sure they can be downloaded before the deadline of the competition.

**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](http://www.mineralogicalassociation.ca)

## The Mineralogical Society of America

announces the 2005

### Grant for Research in Crystallography, Mineral Physics or Chemistry, and Mineralogy

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

and

### 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, Mineral Physics or Chemistry, and Mineralogy** 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 2005. 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](mailto:j_a_speer@minsocam.org)). Completed applications must be received by June 1, 2003.



## IN MEMORIAM

Francis R. Boyd (Life Fellow - 1983)

## 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 attention 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<sub>2</sub>O and suggested zoisite to be the main H<sub>2</sub>O 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. Klemm (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. Gieré (Purdue University) and S. Sorensen (Smithsonian 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 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](mailto: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.

Name \_\_\_\_\_  
(first) (middle) (last)

Address \_\_\_\_\_

\_\_\_\_\_  
(city) (state/Province) (zip/postal code) (country)

Telephone: (Voice) \_\_\_\_\_ (Fax) \_\_\_\_\_ E-mail: \_\_\_\_\_

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 canteen that offers meals and refreshments. All Short Course sessions will be held at the Geocenter Copenhagen, Øster 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:	<i>on or before 5/1/04</i>	<i>after 5/1/04</i>	<b>Cost</b>
[ ] Member	\$100	\$130	\$ _____
[ ] Non-member	\$165*	\$195*	\$ _____
[ ] Speaker	no cost	no cost	\$ _____
Student Registration:	<i>on or before 5/1/04</i>	<i>after 5/1/04</i>	
[ ] Member	\$65	\$85	\$ _____
[ ] Non-member	\$80*	\$100*	\$ _____

\* includes 2004 MSA membership dues/electronic access to *American Mineralogist*

**Total Due** \$ \_\_\_\_\_

**Amount Enclosed.** Indicate the payment method and amount of payment enclosed.

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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](mailto: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:	<i>on or before 3/1/04</i>	<i>after 3/1/04</i>	<b>Cost</b>
[ ] Member	\$160	\$190	\$ _____
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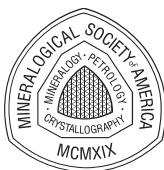
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Andersson, Mr. Andreas J., University of Hawaii, Honolulu HI, (Student - 1/1/04).

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- Sinotte, Mr. Stephen R., Portage MI, (Member - 1/1/04). MI, CC, PP, IP, MP, SP, BM, OTHER, CURATION OF MUSEUM COLLECTIONS
- Skidmore, Dr. Mark, Univ of California-Riverside, Riverside CA, (Member - 1/1/04).
- Souders, Miss Amanda Kate, Laramie WY, (Student - 1/1/04). MP, GE,
- Stanley, Dr. Steven M., Johns Hopkins University, Baltimore MD, (Member - 1/1/04).
- Suzuki, Dr. Yohey, Japan Marine Sci & Tech Center, Yokosuka, JAPAN. (Member - 1/1/04). BM,
- Takesue, Ms. Renee K., US Geological Survey, Menlo Park CA, (Member - 1/1/04).
- Thom, Mr. James McKay, Univ of British Columbia, Vancouver BC, Canada. (Student - 1/1/04).
- Thomas, Ms. Stephanie G., Lincoln NE, (Student - 1/1/04). CC, GE, CM,
- Tinker, Dr. David C., Univ of California-Davis, Davis CA, (Member - 1/12/04). MI, IP, PE,
- Vasconcelos, Dr. Crisogono, ETH-Zurich, Zurich, Switzerland. (Member - 1/1/04).
- Wallace, Mr. Adam F., Virginia Tech, Blacksburg VA, (Student - 1/1/04).
- Watts, Mr. Heath D., Butte MT, (Student - 1/1/04). IP, GE, PE, EM, PM, BM,
- Weiner, Dr. Steve, Weizmann Institute of Science, Rehovot, Israel. (Member - 1/1/04).
- Willman, Mr. Stephen, Westcliffe CO, (Member - 1/12/04). MI, CC, PP, GM, TP,
- Wu, Ms. Jingshi, Univ of Western Ontario, London ON, Canada. (Student - 1/1/04). MI, CC, PP, IM, GM, MS,
- Xie, Ms. Lei, Nanjing University, Nanjing, Peoples Republic Of China. (Student - 1/12/04). MI, CC, IP, MP, SP, GE, EM, PM, TP, MS, BM,
- Yamasaki, Ms. Hiromi, Takatsuki Osaka, Japan. (Student - 1/1/04). MI, CC, EM, TP, OTHER, REE MINERALS
- Zhang, Mr. Aicheng, Nanjing University, Nanjing, Peoples Republic Of China. (Student - 1/12/04). MI, CC, IP, MP, GE, PE, EM, GM, PM, TP, MS, BM,

## Meetings Calendar 2004

### 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. E-mail: [info@mrs.org](mailto:info@mrs.org). Web page: [http://www.mrs.org/meetings/future\\_meetings.html](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](mailto: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. E-mail: [egu@copernicus.org](mailto: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. E-mail: [izc@chemeng.uct.ac.za](mailto: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. Catharines, 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. E-mail: [meetinginfo@agu.org](mailto: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](mailto:goldschmidt@geol.ku.dk). Web page: <http://www.goldschmidt2004.dk/>

**19–24 41st Annual Meeting of The Clay Minerals Society: "Gorges, Clays, and Coulees".** Richland, Washington, USA. Details: Jim Amonette, Phone: (509)376-5565; Fax: (509)376-3650; E-mail: [jim.amonette@pnl.gov](mailto:jim.amonette@pnl.gov). Web page:

<http://www.pnl.gov/cms/>

**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](mailto:ConferenceInfo2@outreach.psu.edu). Web page: <http://www.outreach.psu.edu/C&I/WRI/>

**June 27–July 1 2004 International Basement Tectonics Association (IBTA) Conference on the Four-D Evolution of Continental Crust.** Oakridge, TN, U.S.A. Details: R.D. Hatcher, Jr., Department of Geological Sciences, University of Tennessee, 305 Geological Sciences Building, Knoxville, TN 37996-1410 USA. E-mail: [bobmap@utk.edu](mailto:bobmap@utk.edu). Web page: <http://www.tectonics.org/conference/index17.html>

### JULY

**17–22 American Crystallographic Association (ACA) Annual National Meeting,** Chicago, IL. Details: Christer Aakeroy, Dept. of Chemistry, Kansas State Univ., Manhattan, KS 66506. phone (785) 532-6096; Fax (785) 532-6666. E-mail: [aakeroy@ksu.edu](mailto:aakeroy@ksu.edu). Web page: <http://www.uic.edu/orgs/aca2004/>

**20–23 Oxygen in the Terrestrial Planets.** Albuquerque, New Mexico. Details: John Jones, phone: 281-483-5319. E-mail: [john.h.jones1@nasa.gov](mailto:john.h.jones1@nasa.gov). Web page: <http://www.lpi.usra.edu/meetings/otp2004/>

### 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](mailto:taylor@lpi.usra.edu) Web page: <http://www.lpi.usra.edu/meetings/metsoc2004/metsoc2004.1st.html> or <http://www.cbpf.br/~metsoc04/>

**8–13 Gordon Research Conference: The Role of Water in Rock Deformation.** South Hadley, MA, USA. Details: Andreas Kronenberg, Center for Tectonophysics, Dept Geology and Geophysics, Texas A&M University; OR Mark Jessell, Laboratoire des Mécanismes et Transferts en Géologie, Université Paul-Sabatier, Toulouse. E-mail: [a-kronenberg@tam.u.edu](mailto:a-kronenberg@tam.u.edu) OR [mjessell@lmtg.ups-tlse.fr](mailto:mjessell@lmtg.ups-tlse.fr). Web page: <http://www.tectonique.net/grc/>

**16–20 Meteoroids 2004.** University of Western Ontario, London, Ontario, CANADA. Details: Frans J.M. Rietmeijer, email [fransjmr@unm.edu](mailto:fransjmr@unm.edu). Web page: [http://www.wobs.univ-bpclermont.fr/ima/w3/news\\_docs/meteoroids04.html](http://www.wobs.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. E-mail: [secretariat@32igc.org](mailto:secretariat@32igc.org). Web page: <http://www.32igc.org/>

**25–31 22nd European Crystallographic Meeting.** Eötvös Loránd Univ, Budapest, Hungary. E-mail: [ecm22.mke@mtesz.hu](mailto: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/>

#### SEPTEMBER

**4–8 5th European Conference on Mineralogy and Spectroscopy (ECMS).** Vienna, Austria. Details: Prof. Dr. Anton Beran, Institut für Mineralogie und Kristallographie, Universität, Althanstr. 14, A–1090 Wien, Österreich. E-mail: mineralogie@univie.ac.at. Web page: [http://www.univie.ac.at/Mineralogie/EMU/welcome.htm?emus\\_6.htm-body](http://www.univie.ac.at/Mineralogie/EMU/welcome.htm?emus_6.htm-body)

**6–11 Penrose Conference: Mass Redistribution in Continental Magmatic–Hydrothermal Systems.** Yellowstone National Park and Butte, MT USA. Details: Greg B. Arehart, Department of Geological Sciences, University of Nevada, Reno, Nevada 89557-0138, USA, phone (775) 784-6470; or Peter I. Nabelek, Department of Geological Sciences, University of Missouri, Columbia, Missouri 65211, USA, phone (573) 884-6463, fax 573-882-5458. E-mail: arehart@unr.edu OR nabelekp@missouri.edu. Web page: <http://www.geo.oregonstate.edu/users/dillesj/Penrose.html>

**8–10 International Symposium on Earth System 2004.** Istanbul, Turkey. Details: Symposium Secretariat, ODS Congress Management, Sari Asma Sok. No: 8, Yenikoy 34464, Sariyer, Istanbul, Turkey. Phone +90 212 299 99 80; Fax: +90 212 299 99 77. E-mail: secretariat@earthsystem2004.org. Web page: <http://www.earthsystem2004.org/committee/invitation.asp>

**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/>

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

**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. E-mail: dpaktunc@NRC.gc.ca. Web page: [www.icam2004.org](http://www.icam2004.org)

**19–25 Eurogranites 2004 Field Meeting: The Galway and Leinster Granites in Ireland.** Ireland. Details: Pádhraig Kennan, Geology Department, University College Dublin, Dublin 4, Ireland. OR John Reavy, Geology Department, University College Cork, Cork, Ireland. Phone: 353-21-4902886. E-mail: padhraig.kennan@ucd.ie OR j.reavy@ucc.ie.

**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: weisburg@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. E-mail: mtgserv@tms.org. Web page: [www.matscitech.org](http://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. Web site: [www.cgm.uwa.edu.au/geoconferences/seg2004/index.asp](http://www.cgm.uwa.edu.au/geoconferences/seg2004/index.asp)

**Sept. 30–Oct. 1 Workshop on Hemispheres Apart: The Origin and Modification of the Martian Crustal Dichotomy.** Houston, Texas. Details: Thomas Watters, Smithsonian Institution, phone: 202-633-2483; OR Kimberly Taylor, LPI., phone: 281-486-2151, fax: 281-486-2125. E-mail: twatters@nasm.si.edu or taylor@lpi.usra.edu. Web page: <http://www.lpi.usra.edu/meetings/hemispheres2004/>

#### OCTOBER

**19 The Mineralogical Society (of Great Britain and Ireland):** Clay Minerals Group: New developments in the study of clay minerals and fine-grained materials. Details: Dr Javier Cuadros, Department of Mineralogy Natural History Museum, Cromwell Road, London, SW7 5BD. Tel: 020 7942 5543; Fax: 020 7942 5537. E-mail: j.cuadros@nhm.ac.uk. Web page: <http://www.minersoc.org/pages/meetings/CMG/cmgoct04>.

**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. E-mail: convenc@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. E-mail: meetings@geosociety.org. Web page: <http://www.geosociety.org/meetings/index.htm>

**8–11 Workshop on Chondrites and the Protoplanetary Disk.** Lihue, Hawai'i. Details: Alexander Krot, University of Hawai'i, phone: 808-956-3900 OR Mary Cloud, Lunar and Planetary Institute; phone: 281-486-2143, fax: 281-486-2125. E-mail: sasha@higp.hawaii.edu or cloud@lpi.usra.edu. Web page: <http://www.lpi.usra.edu/meetings/chondrites2004/>

**14–19 IAVCEI 2004 General Assembly Volcanism and its Impact on Society.** Pucon, Chile. Details: Jose A. Naranjo or Jorge Clavero, General Secretariat, IAVCEI 2004 GA Av. Santa Maria 0104, Providencia, Santiago, CHILE. Phone: 56-2-737 50 50; fax: 56-2-777 19 06. E-mail: iavcei@sernageomin.cl. Web page: <http://www.iavcei.org>

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

#### DECEMBER

**13–17 2004 AGU Fall Meeting.** San Francisco, California, U.S.A. Details: AGU Meetings Department, 2000 Florida Avenue NW, Washington, DC 20009 USA. Phone: +1-202-462-6900; Fax: +1-202-328-0566. E-mail: meetinginfo@agu.org. Web page: <http://www.agu.org/meetings>

#### 2005

#### FEBRUARY

**13–17 The Minerals, Metals & Materials Society Annual Meeting & Exhibition.** San Francisco, CA. Details: TMS Meetings Services, 184 Thorn Hill Road, Warrendale, PA 15086. Tel. (724) 776-9000, ext. 243; fax (724) 776-3770. E-mail: mtgserv@tms.org.

## Members nominate outstanding students in mineralogy for society's undergraduate award

MSA members have taken advantage of the Society's American Mineralogist Undergraduate (AMU) Award program to recognize outstanding students who have shown an interest and ability in the discipline of mineralogy. Each student was cited by his or her department for outstanding achievement in mineralogy-related courses. The AMU Awards allow MSA to join with the individual faculty to formally recognize outstanding students. Each student is presented a certificate at an awards ceremony at his or her university or college. In addition, each recipient receives a *Reviews in Mineralogy* or *Monograph* volume chosen by the sponsor, student, or both. Past AMU awardees are listed on the MSA website.

Deadlines for nominating students are January 1 and July 1 of each year. Mark these dates on your calendars and let us know about your exceptional student. If you are interested in presenting the award at a particular ceremony, please remember that time is required to produce certificates and have letters signed. To nominate a student, send a letter on departmental letterhead to Dr. J. Alexander Speer, MSA Business Office, 1015 Eighteenth St. NW Ste 601, Washington, DC 20036-5212. With the nomination, please include the student's full name that would be suitable for the certificate,

a mailing address for the student that will be current at the time the award is made, year in school, the MSA sponsor's name, **the choice of *Reviews in Mineralogy* or *Monograph***, and the date and brief description of the award ceremony at which the certificate will be presented. The letter must be signed or co-signed by the department chair.

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

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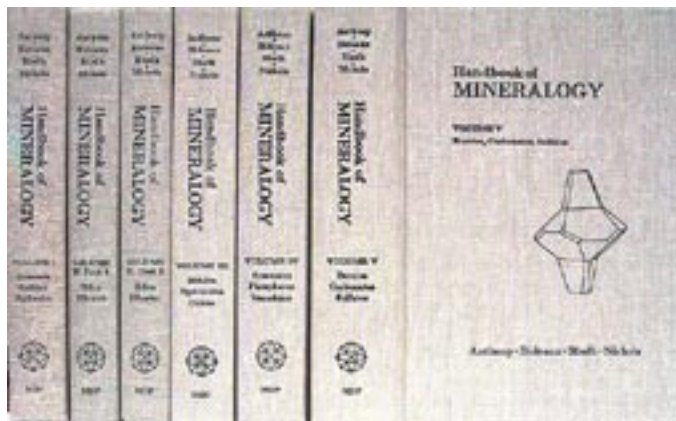
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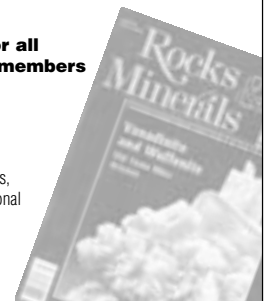
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