

The Geochemical News

The Geochemical News Newsletter of the Geochemical Soc

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Fall 1994

Inquiries and announcements regarding *Geochemical News* should be sent to S.B. Shirey, Carnegie Institution of Washington, 5241 Broad Branch Rd., NW, Washington, DC 20015 USA. Rapid submission of material by facsimile (202-364-8726) or electronic mail (shirey@dtm.ciw.edu) is encouraged.

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UPCOMING MEETINGS OF INTEREST TO GEOCHEMICAL SOCIETY MEMBERS (Top of Document)

Aug 29-Sept 2, 1994: *4th V.M. Goldschmidt Conference: An International Conference for the Advancement of Geochemistry*, Edinburg, UK. Contact: Peter Symms, Dept. of Geology and Geophysics, The University of Edinburg, Edinburg EH9 3JW, UK. (see back of Newsletter).

Sept 4-9, 1994: *International Mineralogical Association (16th Meeting of the IMA)*. Pisa, Italy. Contact: Prof. Stefano Merlino, Organizing Committee IMA' 94, Dipartimento di Scienze della Terra, Universita di Pisa, Via S. Maria, 53, I-56126 Pisa, Italy. Fax: 39 (0)5040976, email: IMA94@MN.CNUCE.CNR.IT

Sept 12-14, 1994: *Controls of Metamorphism* Liverpool, UK, Contact: Alan Boyle and John Wheeler, University of Liverpool, Department of Earth Sciences, Liverpool L69 3BX, UK, Email apboyle@liverpool.ac.uk.

Sept 12-16, 1994: *International Volcanological Congress (IAVCEI)* Ankara, Turkey, Contact: Dr. Ayla Tankut, Organizing Secretary, International Volcanological Congress, Department of Geological Engineering, Middle East Technical University, 06531 Ankara, Turkey, Fax 90-312-210-12-63, Email atanku@trmetu.bitnet.

Sept 21-24, 1995: *Conference on Deep Earth and Planetary Volatiles* Pasadena, CA, (Caltech/LPI), Contact: Dr. Thomas Ahrens Dept. of Planetary and Geological Sciences, Caltech 252-21, Pasadena, CA 91125, Phone 818-356-6906, Email tja@seismo.gps.caltech.edu.

Sept 25-30, 1994: *The Society for Organic Petrology, 11th Annual Meeting*. Jackson, Wyoming, USA, Ron Stanton (e-mail rstanton@ncrds.usgs.er.gov; fax 703-648-6419; phone 703-648-6462).

Oct 13-15, 1994: *Conference on Chondrules and the Protoplanetary Disk* Albuquerque,

NM, Contact: Dr. Roger Hewins, University of NM/LPI, Albuquerque, NM, Phone 908-932-3232, Fax 908-932-3374.

Oct 24-27, 1994: *Geological Society of America*, and affiliated societies, annual meeting, Seattle, WA (Vanessa George, GSA, Box 9140, Boulder, Colo. 80301. Ph: 303 447-2020)

Dec 5-9, 1994: *American Geophysical Union Fall Meeting*. San Francisco, California. Information: AGU Meetings Dept., 2000 Florida Ave., N.W., Washington, DC 20009, (202)462-6900, fax(202)328-0566, Email: sbell@kosmos.agu.org.

April 3-7, 1995: *Geological Society of South Africa Centennial Geocongress*, Johannesburg, South Africa, Congress Secretariat, Centennial Geocongress, P.O. Box 36815, Menlo Park, 0102, South Africa, Phone and Fax 27-12-47-3398.

May 15-19, 1995: *17th International Geochemical Exploration Symposium: Exploring the Tropics*, Townsville, Queensland, Australia. Russell Myers, 171GES, National Key Centre in Economic Geology, James Cook University, Townsville, Queensland 4814, Australia. Tel: 077-814486. Fax: 61-77-815522.

May 17-19, 1995: *Geological Association of Canada-Mineralogical Association of Canada Joint Annual Meeting*, Victoria, British Columbia, Canada, Contact: Chris Barnes, General Chair, SEOS University of Victoria, P.O. Box 1700, Victoria, B.C. V8W 2Y2, Canada, Fax 604-721-6200.

May 24-26, 1995: *5th V.M. Goldschmidt Conference*, The Pennsylvania State University, University Park, PA, USA. Technical Program Chair, Mike McKibben, Phone: 909-7873444, FAX: 909-787-4324, Email: McKibben@UCRACL.UCR.EDU, or one of General Chairs, Hu Barnes or Peter Deines, via Phone 814-865-7573, Fax 814-863-2001, or Email: Barnes@GEOSC.PSU.EDU.

May 29-June 2, 1995: *American Geophysical Union-MSA-GS Spring Meeting*. Baltimore, Maryland. Information: AGU Meetings Dept., 2000 Florida Ave., N.W., Washington, DC 20009, (202)462-6900, fax(202)328-0566, Email: sbell@kosmos.agu.org.

June 4-8, 1995: *The Clay Minerals Society 32nd Annual Meeting*, Baltimore, MD, Contact: General Chair-Dr. Delvin S. Fanning, Department of Agronomy, University of Maryland, College Park, MD 20742, Phone 301-405-1344, Fax 301-314-9041, Technical Program Chair-Dr. Virginia Colten-Bradley, U.S. Nuclear Regulatory Commission, MS7D13, 11545 Rockville Pike, Rockville, MD 20852, Phone 301-415-6616, Fax 301-415-5399.

Aug 7-12, 1995: *Sixth International Kimberlite Conference*. Novosibirsk, Russia.

Contact: Dr. N.P. Pokhilenko, Secretary, Sixth International Kimberlite Conference, United Institute of Geology, Geophysics, and Mineralogy, Russian Academy of Sciences, Siberian Branch, 630090 Novosibirsk-90 Russia. Abstract Deadlines Sept 1, 1994 (500 words); March 1, 1995 (3 page, extended) Telex: 133123 KORA SU, Fax: 007-3832 352692, Email: chief@diamond.nsk.su

Aug 13-28, 1995: *8th International Symposium on Water-Rock Interaction*. (WRI-8) Vladivostok, Russia. Contact: Dr. Oleg Chudaev, Secretary General WRI-8, Far East Geological Institute, 690022 Vladivostok, Russia, Phone 7(4232)317567, Fax: 7-50985 12430, Email: FEGI@VISENET.IASNET.COM.

Aug 24-Sept 5, 1995: *Orogenic Lherzolites and Mantle Processes 2nd International Workshop*, Granada, Spain, Contact: H. G. Barszczus, Géofluides GBE/ISTEEM-C.P. 057, Université de Montpellier 2, 34095, Montpellier Cedex 5, France, Phone 33-6714-3933, Fax 33-6714-4774, Email: barszczus@dstu.univ-montp2.fr.

Aug 28-Sept 1, 1995: *Tectonics and Metallogeny of Early/Mid Precambrian Orogenic*

Belts, Montreal, Canada, Contact: J. A. Percival, Geological Survey of Canada, 601 Booth St., Ottawa, Ontario K1A OE8, Canada, Phone 613-995-4723, Fax 613-995-9273, Email: jpercival@601.C.gsc.emr.ca, or J.N. Ludden, Department de Géologie, Université de Montréal, CP 6138, Succ. A Montréal, Québec H3C 3J7, Canada, Phone 514-343-7389, Fax 514-343-5782, Email: luddenj@ere.umontreal.ca.

Aug 28-Sept 2, 1995: *Third Hutton Symposium: The Origin of Granites*, College Park, Maryland, Contact: Michael Brown, Department of Geology, University of Maryland, College Park, MD 20742, Phone 301-405-4082, Fax 301-314-9661.

Sept 4-8, 1995: *International Symposium on Environmental Biogeochemistry*, Rio de Janeiro, Brazil. Symposium Secretariat, Prof. Luis Henrique Melges (e-mail iseb@bruery; fax 55-(0)21-248-4870).

Sept 4-8, 1995: *17th International Meeting on Organic Geochemistry, Donostia-San Sebastian*. Box 309, 20080 Donostia-San Sebastian. The Basque Country. Spain. (34-43)21 66 00, Fax

(34-23)21 22 36, or Email: qppdourc@sq.ehu.es.

Sept 4-8, 1995: *Third International Dyke Conference - First Announcement* Jerusalem, Israel.

Contact: dr. Gideon Baer and/or Dr. Ariel Heimann, Geological Survey of Israel, 30 Malkhe Israel St., Jerusalem 95501, Israel. Phone 972-2-314231, 972-2-314254, Fax 972-2-380688, Email DIKECONF@VMS.GSI.GOV.IL.

GEOCHEMICAL SOCIETY SESSIONS AT GSA AND AGU MEETINGS NEEDED (Top of Document)

Theme Session and Symposia ideas and organizers are needed for the 1995 Geochemical Society meetings, at the Spring AGU in Baltimore, May 1995, and at the GSA Annual Meeting in New Orleans, LA, November, 1995. Your Society encourages you to take advantage of these opportunities to directly influence the scientific and technical content of these meetings. Members are encouraged to formulate Special Session topics they would like to convene for the Spring 1995 AGU meeting, and convey the information outlined above to Geochemical Society's Program Committee by mid-December, 1994 (although later submissions can be accommodated and added to the list of Special Sessions after the initial publication in EOS). Your Program Committee is ready and willing to help in any way needed. For further information, please contact the Program Committee's representative to the Spring Meeting: L. Peter Gromet, Department of Geological Sciences, Brown University, Providence, RI 02912-1846, Phone: (401) 863-1920, FAX: (401) 863-2058, E-mail: lpg@avalon.geo.brown.edu. For the GSA meeting, the Geochemical Society is soliciting topics for its symposium and for theme sessions. If you have an idea for a topic or would like to be an advocate for a theme session under the geochemistry category, please contact Ted Labotka at the Department of Geological Sciences, University of Tennessee, Knoxville 37996-1410, 615-974-2366, Fax 615-974-2368, E-Mail LABOTKA@TLXRAY.DNET.UTK.EDU. If you are interested in advocating a theme session, he can send you the necessary information and forms. The deadline for submitting symposium and theme session proposals is by the end of December, 1994.

NEW DEADLINES FOR GEOCHEMICAL SOCIETY AWARD NOMINATIONS (Top of Document)

At the spring 1994 Board Meeting the Directors of the Society voted to move the awarding of the F.W. Clarke Award and the V.M. Goldschmidt Award to the Geochemical Society-sponsored Goldschmidt Conferences from the fall GSA meeting where the awards are usually conferred. This will commence with the 1995 awards which will be given at the 5th Goldschmidt Conference at the Pennsylvania State University. The 1994 awards will be given at the GSA meeting in Seattle and the 1995 Treibs Award of the Organic Geochemistry Division still will be given at the GSA meeting in 1995. Unfortunately, the Board was a bit aggressive in moving the forward the deadlines to September 1, 1994 and it is now concerned that this will hamper receipt of

nominations. The Goldschmidt and Clarke committee chairpersons have agreed that their committees will accept nominations up until November 1, 1994 for the 1995 awards. The Deadline for the 1995 Treibs Award remains November 15, 1994. Please consult the July issues of GCA for nominations requirements and procedures (except disregard the September 1 deadline) or contact the appropriate award committee chairperson below:

Goldschmidt Award	Clarke Award	Treibs Award
Dr. Hubert L. Barnes	Dr. Terry Seward	Dr. Patrick Parker
235 Deike Building	Institut für Mineralogie	Dept of Marine Science
Pennsylvania State University	und Petrographie	University of Texas at Aus
University Park, PA 16802 USA	ETH Zentrum	Austin, TX 78712 USA
	CH-8092 Zürich	
Tel: 814 865 7573	Tel: 41 1 632 2227/2228	Tel: 512 471 4618
Fax: 814 863 2001	Fax: 41 1 252 7008	Fax: 512 471 6732
E-mail: lois@seismic.geosc.psu.edu		

OGD SYMPOSIUM ON "PYROLYSIS TECHNIQUES FOR SOURCE ROCK EVALUATION -- TWENTY YEARS LATER" ([Top of Document](#))

Pyrolysis techniques for the routine evaluation of source rocks were first described in 1974, and are now widely used for establishing maturity, organic matter type, and kinetic parameters. Twenty years of applications have produced a wide range of analytical techniques as well as many imaginative applications. Symposium papers will describe contemporary techniques and applications. The Organic Geochemistry Division of the Society will sponsor this Annual Symposium on Sunday, October 23, 1994, at the Seattle GSA meeting. The symposium will be organized by Colin Barker and Steve Larter. For more information, contact Dr. Barker at 918-631-2517.

ORGANIC GEOCHEMISTRY DIVISION ANNOUNCEMENTS ([Top of Document](#))

The OGD is giving out a new, what will be come a yearly, award for the best student paper in organic geochemistry consisting of a one-year membership in the Geochemical Society with all rights and privileges, including a GCA subscription. Nominations are hereby solicited according to the following guidelines: 1) the paper must be published in the year prior to the award (for this first award the paper must bear a 1993 publication date), 2) the paper can be submitted by the faculty advisor, a student, or other reader, 3) the nomination must be received by the OGD secretary by July 1 of the year in which the presentation is to be made. 4) the student MUST be first author on the publication, and MUST be enrolled as a student AT THE TIME OF SUBMISSION (not publication). If the student has graduated, the date of graduation should be included in the nomination letter. Members-at-Large on the Executive Committee will serve as judges.

Are you interested in joining the electronic community of organic geochemists? Bryn Jones of the University of Newcastle manages an electronic mail distribution list to provide instant communication among geochemists worldwide. Over 120 organic geochemistry now subscribe to this list -- all you need to join is access to e-mail. In the meantime, for those of you already using e-mail, contact Bryn Jones at bryn.jones@newcastle.ac.uk

5th GOLDSCHMIDT CONFERENCE TO BE HELD AT PENN STATE, 1995 ([Top of Document](#))

The fifth annual Goldschmidt Conference will be held from May 24 to May 26, 1995 in the new Convention Center of The Pennsylvania State University at University Park, Pennsylvania. The meeting immediately precedes the Spring AGU meeting in Baltimore. For participants who want to attend both meetings, transportation from the Goldschmidt Conference to the AGU meeting is planned.

The Goldschmidt Conferences are arranged each year by the Geochemical Society and the European Association of Geochemistry. The meeting sites alternate between North America and Europe, where this year's meeting will be held in Edinburgh, Scotland, from August 28 to September 2.

Following the tradition of the Goldschmidt Conferences, the 1995 meeting will be co-sponsored by other professional societies with geochemical interests and be organized around a series of symposia which cover a broad range of geochemical subjects. Your suggestions for symposia which address topics on the active frontiers of geochemistry are most welcome.

If you would like to contribute your ideas to the meeting please contact the Technical Program Chair, Mike McKibben, Phone: 909-7873444, FAX: 909-787-4324, Email: McKibben@UCRACL.UCR_EDU, or one of General Chairs, Hu Barnes or Peter Deines, via Phone 814-865-7573, Fax 814-863-2001, or Email Barnes@GEOOSC.PSU.EDU. For general conference information contact the conference coordinator, Suzanne St. Pierre via Phone: 814-865-7557 or FAX 814-865-3749.

GEOCHEMICAL SOCIETY AWARDS FOR 1994 (Top of Document)

The V.M. Goldschmidt Award for 1994 will be given to Heinrich D. Holland (Dept. of Earth and Planetary Sciences, Harvard University, 20 Oxford Street, Cambridge, MA 02138 USA) at the Geochemical Society Awards Luncheon at the Fall GSA Annual Meeting. The award will be presented by Tony Lasaga. The 1994 Clarke Award will be awarded to Carl Agee (Dept. of Earth and Planetary Sciences, Harvard University, 20 Oxford Street, Cambridge, MA 02138 USA) at the same ceremony. The Treibs Award is presented only in odd years.

TWO NEW MSA SHORT COURSES FOR 1994 (Top of Document)

The Mineralogical Society of America is pleased to announce two new short courses for 1994. For further information regarding these short courses, please contact the business office of the Mineralogical Society of America: 1130 Seventeenth Street, NW, Suite 330, Washington, DC 20036. Phone (202) 775-4344, or Fax (202) 775-0018.

SILICA: PHYSICAL BEHAVIOR, Dates: October 21-23, 1994

GEOCHEMISTRY, AND Location: Seattle, Washington

MATERIALS APPLICATIONS Conveners: P.J. Heaney, C.T. Prewitt, G.V. Gibbs

TOPICS AND SPEAKERS/AUTHORS

1. CRYSTAL STRUCTURES AND PHASE TRANSITIONS OF THE LOW-PRESSURE SILICA MINERALS - Peter Heaney, Princeton University
2. SILICA AT ULTRA-HIGH PRESSURES - Charles Prewitt & Russell Hemley, Carnegie Institution of Washington
3. STRUCTURAL CHARACTERISTICS OF OPALINE AND MICROCRYSTALLINE SILICA - Heribert Graetsch, Universitat Bochum
4. STUFFED DERIVATIVES OF THE SILICA POLYMORPHS - David Palmer, Cambridge University
5. THERMOCHEMISTRY OF CRYSTALLINE AND AMORPHOUS SILICA - Alexandra Navrotsky, Princeton University
6. +PHYSICS OF AMORPHOUS SILICA - Russell Hemley and Charles Meade, Carnegie Institution of Washington
7. LATTICE DYNAMICAL BEHAVIOR OF ANHYDROUS SILICA - Gerard Dolino & Jerry Bachheimer, CNRS, Universite de Grenoble
8. HYDROGEN SPECIATION IN QUARTZ - Andreas Kronenberg, Texas A&M University
9. CHARACTER OF THE SI-O BOND - Gerald Gibbs, Virginia Polytechnic Institute and State University
10. ELECTRONIC STRUCTURE, DYNAMICS, AND PHASE TRANSITIONS IN

HIGH-PRESSURE SiO₂ - Ronald Cohen, Carnegie Institution of Washington 11.
 HIGH-SILICA ZEOLITES - John Higgins, Mobil Research and Development Corporation 12.
 ADVANCES IN SOL-GEL PROCESSING - Keith Keefer, University of Cincinnati 13.
 INDUSTRIAL APPLICATIONS OF SILICA - George Beall, Corning Glass Works 14. HEALTH
 EFFECTS OF SILICA - David Goldsmith, Western Consortium for Public Health 15.
 SOLUBILITY OF SILICA AND KINETICS OF DISSOLUTION - Patricia Dove, Georgia
 Institute of Technology and Donald Rimstidt, Virginia Polytechnic Institute and State
 University 16. PETROGENESIS OF MICROCRYSTALLINE SILICA - Paul Knauth, Arizona State
 University 17. QUARTZ AS A TECTONOPHYSICAL INDICATOR - H.R. Wenk, University of
 California, Berkeley and Andreas Kronenberg, Texas A&M University 18.
 CHARACTERISTICS OF SILICA GEMSTONES - George Rossman, California Institute of
 Technology

VOLATILES IN MAGMAS Dates: December 2-4, 1994

Location: Napa Valley Sheraton, Napa Valley, CA

Conveners: Mike Carroll and John Holloway

TOPICS AND INSTRUCTORS

1. MAGMATIC VOLATILES IN HIGH-TEMPERATURE VOLCANIC GASES - R.B. Symonds and T.M. Gerlach
 2. ANALYTICAL METHODS FOR VOLATILES IN GLASSES - P. Ihinger, R. Hervig, P. McMillan
 3. EXPERIMENTAL DETERMINATIONS OF H₂O AND CO₂ SOLUBILITIES AND SPECIATION IN SILICATE MELTS - J. Blank, C.W. Burnham, J.R. Holloway, P. McMillan, E.M. Stolper
 4. SOLUBILITIES OF THE LESS ABUNDANT VOLATILE SPECIES: SULFUR, NOBLE GASES, NITROGEN, CHLORINE, FLUORINE - M.R. Carroll and J.D. Webster
 5. THERMODYNAMIC MODELS OF VOLATILE SOLUBILITIES - J.R. Holloway, C.W. Burnham, E.M. Stolper
 6. DIFFUSION OF DISSOLVED VOLATILES IN MAGMAS - E.B. Watson
 7. EFFECTS OF VOLATILES ON PHYSICAL PROPERTIES OF MELTS - R. Lange
 8. PRE-ERUPTIVE VOLATILE CONTENTS OF MAGMAS - A.T. Anderson, M. Johnson, M.J. Rutherford
 9. PHYSICS AND CHEMISTRY OF MAGMA DEGASSING PROCESSES - K.V. Cashman, M.T. Mangan, R.S.J. Sparks
 10. VOLCANIC GAS EMISSIONS, EARTH DEGASSING AND LARGE-SCALE GEOCHEMICAL CYCLING OF VOLATILE ELEMENTS - A. Jambon, W. Rose

SPECIAL SECTION ON THE 1994 GEOCHEMICAL SOCIETY

ANNUAL MEETING AT FALL GSA MEETING, SEATTLE, WA

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FALL MEETING OF BOARD OF DIRECTORS OF THE GEOCHEMICAL SOCIETY (Top of Document)

The 1994 fall meeting of the Board of Directors of the Geochemical Society will be held Sunday, October 23, 1994 from 6:00-10:00 pm in the Sheraton Seattle Hotel and Towers, East Ballroom A.

OPEN BUSINESS MEETING FOR GEOCHEMICAL SOCIETY MEMBERS

At the spring 1992 Directors Meeting, it was decided to try to improve service of the Geochemical Society to its members by holding an Open Business Meeting. The idea of the meeting is to be a vehicle by which members can directly discuss issues of importance to the Society with a majority of the Board of Directors and Directors in turn can present ideas about future directions for the Society. The meeting is scheduled for 1:30-1:45 pm, Monday October 24, 1994 in the Sheraton Seattle Hotel and Towers, Metropolitan Room, just after the Society's awards luncheon in the same room.

GEOWRITING SHORT COURSE

The Geoscience Information Society (GIS), the American Geological Institute (AGI)

and the Association for Earth Science Editors (AESE) will co-sponsor the short course "Geowriting: Guidelines for Writing and Referencing Technical Article" at the 1994 GSA Meeting in Seattle on Saturday, October 22, 1994 from 8am to 5pm in the Seattle Sheraton Hotel. Learn the methods of technical writing and bibliographic research in the geosciences. The morning session will focus on technical report writing and will use the newly revised book *Geowriting*, published by AGI, as resource and text. Discussion will cover organization, getting started, editing, common grammatical problems, graphical presentation of data and a brief introduction to common software packages available for word-processing and graphics. The afternoon session will focus on library research and referencing: the use of library catalogs and bibliographic databases, the compilation of references, and the use of software for compiling references and bibliographies. For more information contact Julie Jackson, AGI, 4220 King Street, Alexandria, VA. ph: 703-379-2480 fax: 703-379-7563 e-mail: lar@aip.org.

HIGHLIGHTS OF GEOCHEMICAL SOCIETY EVENTS FOR 1994 FALL ANNUAL MEETING (OCTOBER 24-27 WITH GSA, SEATTLE, WA)

The program committee headed by Ted Labotka met in Boulder in August with the Joint Technical Program Committee of the Geological Society of America to plan the program for the annual meeting in October in Seattle, Washington. Two hundred eight abstracts were submitted to discipline and theme sessions in geochemistry. From these, four discipline sessions and two poster sessions were created. The schedules for these are given in the table below. In addition, several theme sessions with a geochemical bent were organized:

Speciation, mobility, and bioavailability of metals in mining wastes

Geochemistry of contaminant transport

Stable environmental isotope application in groundwater systems

Relation of depositional environments to chemical and physical heterogeneity within sedimentary aquifers

Geologic significance of microbial processes

Integration of hydraulic and geochemical approaches in vadose zone transport studies

Methods for quantifying unsaturated permeability, retardation, and other transport properties in rock, soil, and sediment

Advances in the geology and metallogeny of gold deposits

Boron: Mineralogy, petrology, and geochemistry in Earth's crust

Advances in silica geochemistry

Phase transformations: Mechanisms and kinetics of mineral reactions

Magmatic evolution of circum-Pacific arc systems

Volatiles and volcanoes

Scientific results of the continental drilling program: Creede caldera, Newark rift basin, Manson impact structure

Dating deformation.

There will be three symposia at the meeting sponsored or cosponsored by the Geochemical Society. On Sunday, October 23, pm, the symposium Pyrolysis techniques for source rock evaluation -- twenty years later will be sponsored by the Organic

Geochemistry Division of the Geochemical Society. In the am and pm of Sunday, October 23 the symposium Marine trace-element biogeochemistry and the sedimentary record will be held. Finally, there will be a symposium on Wednesday, October 26, to honor Andy Gratz cosponsored by the Mineralogical Society of America: Frontiers of mineral surface geochemistry: symposium in memory of Andrew J. Gratz (1962-1993) Also, the symposium Advances in silica geochemistry sponsored by the Mineralogical Society of America will take place on Monday, October 24, PM.

Don't forget the Ingerson Lecture, to be given by John Hayes on "Process-oriented biogeochemical reconstructions made possible by molecular-isotopic studies," to be given on Monday, October 24 at 11:00 AM. The lecture will be followed by the Geochemical Society's Awards Luncheon and business meeting.

On Tuesday, October 25 at 5:30 pm, there will be a reception in the Space Needle in the Skyline room. This is jointly held with MSA and is in honor of their 75th anniversary. There will be food available, and there will be tickets available for \$5. Students are invited for free.

GSA is in the process of providing the entire program on disk. They plan to issue disks with the program to preregistrants. The software on the disk will allow you to create your own customized schedule with talks that you want to hear. They are also planning, probably for next year, to make the program available on a world-wide web server, which will allow you to browse the schedule over the internet. These developments are exciting and will make dissemination of the information to Geochemical Society members timely and flexible. (and Ted Labotka will not have to create these tables anymore!)

As the planning for this year draws to a close, it is time to think of next year. Please send your thoughts for symposia and theme sessions to me soon (labotka@utkvx.utk.edu). We will have to indicate to GSA by January 1 what our sponsored sessions will be for the New Orleans meeting in 1995. I want to thank Darby Dyar and Lukas Baumgartner for their great help in putting together the program. I also want to thank Brian Popp and Dave Wesolowski for reviewing an awesome number of geochemical abstracts.

Calendar and Synopsis of Geochemical Society Events

Saturday, Oct 22

- OGD Executive Committee Meeting

Sunday, Oct 23

- OGD Symposium: Pyrolysis techniques for source rock evaluation -- twenty years later
- GS Symposium: Marine trace-element biogeochemistry and the sedimentary record
- OGD Business Meeting, 5:00 PM (right after OGD symposium in the same room).
- GS Board of Directors 6:00-10:00 PM, Sheraton Seattle Hotel and Towers, East Ballroom A

Monday, Oct 24

- Ingerson Lecture: "Process-oriented biogeochemical reconstructions made possible by molecular-isotopic studies", by John Hayes, 11:00 AM, Room 609-610 Seattle Convention Center
- Awards Luncheon and Business Meeting: 12:30-2:00 PM, Sheraton Seattle Hotel, Metropolitan Room
- MSA Symposium: Advances in silica geochemistry

Tuesday, Oct 25

- ☐ GS-MSA Reception to honor MSA's 75th: 5:30-7:30 PM, Space Needle, Skyline Room

Wednesday, Oct 26

- ☐ GS-MSA Symposium: Frontiers of mineral surface geochemistry: symposium in memory of Andrew J. Gratz (1962-1993)

SYMPOSIA AND TECHNICAL SESSIONS SPONSORED BY GEOCHEMICAL SOCIETY

Mon, Oct 24	Aqueous and biogeochemistry	Authors
8:00	Environmental applications of theoretical organic geochemistry	Shock, E. L., and McCollom, T.
8:15	Multiple Lines of Isotopic Evidence for Episodic Changes in the Proterozoic Environment	Des Marais, David
8:30	Natural Gas Occurrences in the Coast Range of Southern Oregon	Kvenvolden, Keith
8:45	The Occurrence of Thiosulfate and Other Sulfur Species in Hydrothermal Waters of Yellowstone National Park	Nordstrom, D. K.
9:00	Potential Dolomitization in Yucatan Sinkholes with Sea-Water Salinity Fluids Affected by Sulfur-Redox Reactions	Marcella, Lauren
9:15	Iron Distribution and Its Effects on the Trace Elements in the Sediment Porewater of a Mature, Riparian Wetland	Liu, Chongxuan
9:30	Patterns of Elemental Transport in the Bedload of the Meurthe River (NE France)	Albarede, Francis
9:45	Sediment Mixing and Recycling in the Amazon River Basin as Recorded By the Geochemistry of Muds from the Amazon Continenta	Mcdaniel, D. K.
10:00	Estuarine Particulate Organic Matter Carbon Isotope Geochemistry of Florida Bay	Lutz, Michael J.
10:15	The Role of Ammonia in Dolomitization of a Shelf Limestone	Hill, Ron J.
10:30	Stratification of Sulfate Reducing Bacteria in a Saline Microbial Mat	Risatti, J. B.
10:45	Isotopic Evidence for Sources of Lignin in Marine Dissolved Organic Matter	Freeman, Katherin
11:00	Ingersson Lecture: Process-oriented biogeochemical reconstruction made possible by molecular-isotopic studies	Hayes, John M.
Tues, Oct 25	Organic Geochemistry Posters	Authors
8:00	Indigeneity of Organic Matter in Fossils: A Test Using Stable Isotope Analysis of Amino Acid Enantiomers in Quaternary La	Engel, M. H.
8:00	Diagenetic Formation of Magnetite-Rimmed Pyrite in Organic-Rich Carbonates: Experimental Studies	Brothers, L.
8:00	Organic Geochemistry and Paleomagnetism of Carbonate Fracture-Fill Deposits, Old Red Sandstone, Scotland	Elmore, R. D.
8:00	The Solubility of P-Xylene in Water as a Function of Temperature and Pressure and Calculated Thermodynamic Quantities	Knauss, Kevin G.
8:00	Dissociation Quotients of Succinic and Benzoic Acid in Aqueous Sodium Chloride Media	Kettler, Richard
8:00	Bromide Content of Pennsylvanian Black Shales, Implications for Sources of Halogens in Formation Waters	Macpherson, G. L.
8:00	Weathered Diesel Oil as a Sorptive Phase for Hydrophobic Organic Compounds in Aquifer Materials	Hudson, Rondall J

8:00	Organic Carbon Exhumation and Climate Change During the Early Himalayan Collision	Beck, Richard A.
8:00	Bulk and Compound Specific Isotopes as Tracers of Biomass Burning	Turekian, Vaughan
8:00	Enzyme-Mediated Oxygen Isotope Exchange between Phosphates and Water at Low Temperature	Blake, R. E.
8:00	Evidence for the Role of Bacteria in the Formation of a Rare-Earth Element Phosphate Mineral	Melluish, Julie M
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8:00	Variations in Nitrogen Isotope Ratios of Some Southern California Crude Oils: Possible Implications for Reconstruction of	Arehart, G. B.
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1:45	Hydrogeochemistry of Travertine Precipitation at Burwells Bay, Isle of Wight County, Virginia	Autrey, Patricia
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2:15	40Ar-39Ar Dating of Clay Diagenesis	Dong, Hailiang
2:30	Uranium Decay Constant Uncertainties, and Their Implications for High-Resolution U-Pb Geochronology	Mattinson, James
2:45	The Single-Grain Zircon Evaporation Method Applied to Highly Discordant Samples	Karabinos, Paul
3:00	Implications of Geochemical Contrasts Between Continental and Oceanic Flood Basalts	Lassiter, John C.
3:30	Nd and Pb Isotopic Characteristics of the Sebago Batholith, Southwestern Maine	Tomascak, Paul B.
3:45	Mineralogy, Geochemistry, and Geochronology of the Little Nahanni Pegmatite Group, Northwest Territories, Canada	Mauthner, Mark H.
4:00	Genesis of the Sediment-Hosted Zn-Pb-Ba Deposits in Irankuh District, West Central Iran	Hajikazemi, Elham
4:15	Determination of the ore fluid history in Guanajuato, Mexico: Oxygen, hydrogen, and sulfur isotope evidence	Mango, Helen, Arehart, G., and Howe, S.
4:30	Au in weathered, hydrothermally altered granite rom the hinterland of the Witwatersrand Basin: Characteristics of a source of the basin fill	Maynard, J. B., Sutton, S. J., Ro L. J., Ferraz, M. and Meyer, F. M.
4:45	Crust-Mantle Interactions at Convergent Margins from Re-Os Isotope Analysis of Base Metal Porphyry Deposits	McCandless, Tom E
5:00	Biotite halogen chemistry and stable isotope investigation of the Morrison deposit, Babine Lake area, B. C.: Differentiation between magmatic and meteoric fluids in porphyry copper formation	Sheets, R., Nesbi B., and Muehlenba K., and Zaluski,
5:15	The influence of structural F on biotite oxidation in Cu-bearing aqueous solutions at low temperatures and pressures	Earley, Drummond Dyar, M. D., Ilto E. S., and Granth A. A.
Wed, Oct 26	Fluids and Isotopes	Authors
8:00	Thermochemistry of Illitic Solubility-Controlling	Yates, Douglas M.

	Phases: Hydrothermal Experiments from 100 Degrees to 250 Degrees C	
8:15	Experimentally Determined Volumetric Properties of CO ₂ -CH ₄ -N ₂ Mixtures At 20-100 MPa and 323-573 K	Seitz, Jeffery C.
8:30	Equation of state for the system NaCl-H ₂ O-CO ₂ : Prediction of immiscibility and density	Duan, Zhenhao, Moller, Nancy, We J. H.
8:45	Theoretical Analysis of Laumontite Stability in Organic and Acid-Rich Fluids	Neuhoff, Philip S
9:00	K-Uptake By Smectite during Early Marine Diagenesis: Evidence from Pore-Water and Sediment Geochemistry of Modern Mississi	Hover, Victoria C
9:15	Mineral-Fluid Equilibria in the Deeply Buried Sandstones at McCallen Ranch Field, S. Texas: Diagenetic Processes and the Co	Wilson, Glenn A.
9:30	Sr-, Nd-Isotopes and Trace Element Geochemistry of Rocks and Fluids from the Continental Deep Drilling (KTB) Pilot Hole, W	Teichmann, Friedr
9:45	Stable Isotope Compositions and Formation Temperatures of Secondary Silica Mineralization from Pedogenic, Drill Core, and	Moscatti, Richard
10:15	Oxygen Isotope Sector Zonation in Quartz Crystals	Vennemann, Torste
10:30	Serpentine/Talc Filled Submicroscopic Solution Channels in Metamorphic Magnetite: An Explanation for Micron-Scale Oxygen i	Sitzman, Scott D.
10:45	Millimeter Scale Oxygen Isotope Zonation in Drill Core from Long Valley Exploratory Well: Implications for Fluid Flow	Mukhopadhyay, Bis
11:00	The Effects of Cation Substitutions on Oxygen Isotope Partitioning: Preliminary Data from Fe-Mg and Calcic Amphiboles	Kohn, Matthew J.
11:15	Oxygen Isotope Composition of Mantle Nodules from the Tertiary Newer Basalts Province, Southeastern Australia	Gregory, Robert T
11:30	Multiple Stages of Influx and Exsolution of H ₂ O from Anatectic Melts during Adiabatic Decompression, a Petrologic Catalyst	Holk, Gregory J.
11:45	Origin of the Fluids that Lubricated Alpine Deformation of the Pyrenees	Banks, David A.
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1:30	Linear Relationships between Rate Constants and Thermodynamic Properties for Oxygen Isotope Exchange between Carbon Dioxid	Fortier, Steven M
1:30	Aqueous Alteration of the Murchison Carbonaceous Chondrite Parent Body	Schulte, M. D.
1:30	Modeling Aqueous Mass Transfer in Crushed Granite at 20 C and 90 C	McMurry, Jude
1:30	X-Ray Photoemission and LEED Study of the Reaction of Water With Clean CaO (100) and MgO (100) Surfaces	Liu, Ping
1:30	Evaluation of Seawater Intrusion and Mixing in the Dominguez Gap Area, Los Angeles County, California	Chinn, B. D.
1:30	Solubility and Dissolution Kinetics of Albite in pH-Buffered Solutions of Acetate, Oxalate, Citrate, and BTCA: An Experim	Yang, Bencai

1:30	Effects of Bacterial Decomposition on the Pore Water pH of Bacterial Mat Communities in Thermal Springs: Evolution of Ammo	Smeltzer, Jerda
1:30	Mineralogical and Geochemical Traits of the Egret Member Source Rock - Jeanne D'arc Basin, offshore Newfoundland, Canada	Bateman, Jason A.
1:30	Compatible Real-Time Reaction Rates for in Situ Imaging of Mineral-Water Interactions Using Scanning Force Microscopy	Platt, Forest M.
1:30	Use of Isotopic and Geochemical Indicators in Developing a Conceptual Model of the Owens Lake, Ca Groundwater Flow System	Font, Karen R.
1:30	Labradorite Dissolution in Aqueous Organic Acid Solutions: An Experimental Study at 100 Degrees C, 13.8 MPa	Ahmed, Raquib U.
1:30	Fluid Evolution in a Low-Permeability Marl	Waber, H. Niklaus
1:30	Alteration of Pedogenic Isotope Signatures During Burial Diagenesis of Vertic Paleosols	Mora, Claudia I.
1:30	Nd Isotopic Evidence of Heterogenous Sources for the Harney Peak Granite, South Dakota	Krogstad, Eirik J
1:30	A Middle Miocene Magmatic Transition in Central Arizona	Leighty, Robert S
1:30	Stable Isotope Compositions of Illite in Appalachian Vertic Paleosols	Sheldon, Brian T.
1:30	Mantle & Crust in Continental Basalt, & Evolution of a Mafic Volcanic Field in the Central Great Basin, South-Central Nevada	Yogodzinski, G. M
1:30	Analysis of Oxygen Isotope Ratios of Silicates, Carbonates, and Phosphates in-Situ By Small-Radius Ion Microprobe	Riciputi, Lee R.
1:30	Low-Temperature Carbon-Isotope Fractionation Between Calcite and Carbonaceous Matter in Metasandstones and Metashales	Bebout, G. E.
1:30	Experimental and Theoretical Constraints On the Mobility of Fluoride in Subseafloor Hydrothermal Systems	Chen, Xian
1:30	Isotopic Composition of Lead in Sediments from the Coeur D'Alene River, Idaho: A Precise Tool to Trace Contamination	Abraham, Joju, C/ Ikramud.
1:30	Geochemical Controls on Crystal Morphology of Celestite: Example from New Ohio, SE Michigan and SW Ontario	Carlson, Ernest H
1:30	Graphical Investigation of Litho-geochemical Variations Using Ratio Diagrams	Stanley, C. R.
1:30	Fluid-Mineral Equilibria in the Wairakei Geothermal Field, Taupo Volcanic Zone, North Island, New Zealand	Bruton Carol J.
1:30	Zeolite Analysis Using the Cameca SX50 Electron Microprobe	Snow, M. G.
1:30	Fluid Inclusion Noble Gas Geochemistry of Hydrothermal Systems in the Rio Grande Rift	Musgrave, John A.
1:30	The Exploration of Combined Geochemical Techniques as Indicators of Aerosol Sources and Source Regions	Swap, Robert
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1:30	Piper diagram for rain water	Corbett, R. G.

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2:00	The Calculation of STM Images as a Tool for Interpreting STM Data and for Understanding Geochemical Surface Reactions at a	Becker, Udo
2:30	Dissolution of Barite (001) Cleavage Surfaces by a Chelating Ligand as Studied by Scanning Force Microscopy (SFM)	Putnis, Andrew
2:45	Dissolution Kinetics of Goethite and Ferrihydrite in CoEDTA Solutions	Steeffel, Carl I.
3:00	The Effect of Aqueous Complexation on the Decarboxylation Rate of Oxalate	Fein, Jeremy B.
3:15	Possible Role of Diffusion in Stress-Enhanced Quartz-Water Reaction Rates and Sandstone Compaction	Dewers, T.
3:30	Carbon Isotopes in Continental Weathering Environments and Variations in Atmospheric PCO ₂ During the Phanerozoic	Yapp, Crayton J.
3:45	Elemental Speciation in Solids - Test of a Partial Extraction Method	Gintautas, Peter
4:00	Enhanced Silicate Weathering Due to Higher Plants: Results from the Hubbard Brook Sandbox Leachates	Cochran, M. Ford
4:15	Precipitation and Solubility of Chrysocolla in Near-Neutral pH Mine Drainage Solutions, South-Central Wyoming	Williamson, Mark
4:30	Effects of Climate on Chemical Weathering Rates in Watersheds: a Global Prospective	White, Art F.
4:45	Carbon Isotope Records Suggesting Formations of Large Anoxic Basins 2.8 - 2.5 Ga Ago	Ohmoto, Hiroshi
5:00	The Size Distribution of Framboidal Pyrite: An Indicator of Bottom-Water Redox Conditions	Barnes, H. L.
5:15	Biogenic and Hydrothermal Pyrites in Archean Shales from the Pilbara-Hamersley District, Western Australia	Kakegawa, Takeshi
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