



# The Geochemical News

Newsletter of the Geochemical Society

Number 84

Spring 1993

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. Ph: 202 686-4387 Fax: 202 364-8726 E-Mail: Shirey@CLRS1.ciw.edu

## REPORT FROM GS PRESIDENT, DONALD H. LINDSLEY

**Scott McLennan named Special Publication Series Editor.** Professor Scott McLennan has been appointed Editor of the Society's Special Publications Series. The Special Publications, which include the Yoder, Eugster, and Epstein volumes plus Brian Mason's biography of V. M. Goldschmidt, have been a great success, owing in large part to the efforts of Al Levinson, the founding Editor of the series. We look forward to maintaining the high quality of the series under Scott's leadership. Any member who wishes to propose a volume for the series should contact Scott (ESS Department, S.U.N.Y., Stony Brook, NY 11794-2100; phone (516) 632-8194; FAX (516) 632-8240). The Society will welcome suggestions for reviews and possibly textbooks as well as for festschrifts and memorial volumes as possible additions to the series.

**Publications Advisory Committee appointed.** In accordance with the By-Laws as amended in May, 1992, the Board has established a Publications Advisory Committee. The committee consists of Bruce Doe, Chair; Robin Brett, John Hedges, and Dimitri Sverjensky; and the Society President as an ex officio member. The main purpose of the committee is to advise the Society regarding the future of our official journal. Our present contract with Pergamon Press for *Geochimica et Cosmochimica Acta* extends through Dec. 31, 1996. If we are to break with Pergamon, we must so inform them by June 30, 1995. It is the charge of the Publications Advisory Committee to make recommendations to the Board as to whether we should continue with GCA as our journal or break with Pergamon; and in the latter case, to make recommendations as to the form of the new journal.

All matters regarding the publication of *Geochimica et Cosmochimica Acta* will continue to be handled by the regular Publications Committee that is appointed jointly by the Meteoritical Society and the Geochemical Society.

Donald H. Lindsley, President  
March 25, 1993

## 4th V.M. GOLDSCHMIDT CONFERENCE

The European Association of Geochemistry, the Geochemical Society and the International Association of Geochemistry and Cosmochemistry are sponsoring the 4th V.M. Goldschmidt Conference in Edinburgh, Scotland, UK. Preliminary notices have appeared requesting potential participants to indicate their interest and to suggest symposia topics. Contact Dr. Peter Symms, (V.M. Goldschmidt Conference), Department of Geology and Geophysics, the University of Edinburgh, West Mains Road, Edinburgh, EH9 3JW with ideas regarding symposia. The chairman is Dr. B. Harte, Department of Geology and Geophysics, Grant Institute, University of Edinburgh, West Mains Road, Edinburgh, EH9 3JW.

**SYMPOSIUM IN HONOR OF DAVID A. CRERAR**

**Interactions Between the Geosphere and the Biosphere.** The Department of Geological and Geophysical Sciences at Princeton University announces a symposium in celebration of the career of Professor David A. Crerar, who has been stricken with a degenerative illness.

The symposium will focus on the interactions between biological organisms and geological systems in the earth's crust. Six speakers will discuss topics ranging from the geochemical effects of roots and termites in soils to the possibility of life in natural high-temperature systems. Speakers will include Professors Alfred Fischer of the University of Southern California, Robert Berner of Yale University, George Brimhall and Hal Helgeson of the University of California at Berkeley, Hugh Barnes of the Pennsylvania State University, and Greg Anderson of the University of Toronto. All members of the geochemical community, and especially friends, colleagues, and former students of David Crerar, are encouraged to attend.

The symposium will be held at Princeton University on Saturday, May 22, 1993. The registration fee of \$35 for non-students and \$15 for students will include lunch and a buffet dinner. The buffet dinner will be followed by an informal poster session, and participants are invited to present posters on current research topics in geochemistry. Information about the conference can be obtained from Dr. Peter Heaney, Dept. of Geological Sciences, Princeton University, Princeton, NJ 08544 (Tel: 609-258-2194) or from Dr. Susan L. Brantley, Dept. of Geosciences, Pennsylvania State University, University Park, PA 16802 (Tel: 814-863-1739).

Following the meeting in Princeton, another symposium will be held in David's honor during the Spring meeting of the American Geophysical Union in Baltimore, MD (May 24-28, 1993). The subject of the symposium is "Recent Advances in Aqueous Geochemistry." There will be three sessions in this symposium: Thermodynamics, Kinetics and Environmental Geochemistry. This is a Special Session V01. Your attendance is welcome. Further information about the AGU symposium can be obtained from Drs. Scott Wood (208-885-5966, Moscow, ID), Roland Hellmann (33-76-51-44-19, Grenoble, France), or Ann Maest (303-449-5515, Boulder, CO).

To register, please fill out the form below and mail to the following address:

Crerar Symposium, Attn: Linda Berez  
Dept. of Geological and Geophysical Sciences  
Guyot Hall, Princeton University  
Princeton, NJ 08544

\_\_\_\_\_ Check here if you would like to present a poster.

\_\_\_\_\_ Last Name, First name, Middle Initial

\_\_\_\_\_ University/Company

\_\_\_\_\_ Address

\_\_\_\_\_ City State Zip Code

\_\_\_\_\_ Country Telephone Number

Please enclose registration fee of \$15 for students and \$35 for non-students. Checks may be made payable to Dept. of Geology, Princeton University.

This Symposium is sponsored by the Dept. of Geological and Geophysical Sciences, Princeton University, which gratefully acknowledges the help of the College of Engineering and Mineral Sciences, The Pennsylvania State University, University Park, PA.

### **Mineralogical Association of Canada Short Course**

**Experiments at High Pressures and Applications to the Earth's Mantle.** This short course will be held at the University of Alberta, Edmonton, Alberta on 15-16 May 1993 (before the GAC-MAC meeting)

Techniques for experimentally simulating the outer ~1000 km of the Earth have evolved over the past several decades. With the refinement of multiple-anvil devices, experiments in mm<sup>3</sup>-size volumes at pressures to 25 GPa have become possible. The scientific community in Canada has available a national facility that offers this capability in the C.M. Scarfe Laboratory of Experimental Petrology at the University of Alberta. The USSA-2000 "Superpress" can achieve simultaneously pressures of 27 GPa and temperatures >3000°C. Use by members of the research community external to the University of Alberta is actively encouraged.

A Mineralogical Association of Canada Short Course is scheduled for the 1993 GAC-MAC meeting in Edmonton. This Short Course will focus on experimental studies of the lower crust and upper mantle. The topics will range from 'nuts and bolts' of actually doing the experiments, to broader discussions of what we know about the Earth's mantle, what we think we know, and-most importantly-what we don't know.

The audience for the Short Course consists of two groups: (1) researchers and students interested in using the experimental apparatus for their own research, and (2) earth scientists interested in the general field of mantle petrology, evolution, and high-pressure geochemistry who wish to get an overview of current research in the field.

The Short Course will consist of three parts. First, an overview of apparatus and techniques for high-pressure experimentation will be given, focussing on what is possible to do both in Canada and in collaboration with colleagues in other countries. Second will be a series of talks focussing on both techniques and results of experiments at high pressures, and the application of those results to the Earth. The emphasis will be on the current state of understanding of equilibrium and kinetic processes that are taking place at high pressures and temperatures. The final portion of the Short Course will consist of an afternoon spent 'hands-on' in the Superpress lab, where interested participants will assemble and conduct an experiment. This exercise will give prospective users of the facility a better idea of what is involved in multi-anvil experimentation.

For more information or a for registration form, write:

Prof. R. W. Luth  
Department of Geology  
University of Alberta  
Edmonton, Alberta T6G 2E3 Canada  
FAX: (403) 492-2030

### **IN THE NEWS**

Don Dingwell now at the Bayerisches Geoinstitut, Universitat Bayreuth, Bayreuth, Germany has been awarded a Gerhard-Hess-research prize of the German Foundation (Deutsche Forschungsgemeinschaft). The award, in the amount of DM 200,000 per year, is initially for two years with possible extension, upon application, to five years for a total of DM 1,000,000. The Gerhard-Hess-Program awards are directed at researchers not more than 33 years old. This year 11 awards were made to 12 scientists across the fields of the social, natural and life sciences. Dingwell intends to use the funds to study the physical and chemical properties of granitic melt systems.

### **FALL MEETING OF BOARD OF DIRECTORS OF THE GEOCHEMICAL SOCIETY**

The 1993 spring meeting of the Board of Directors of the Geochemical Society will be held Sunday, May 23, 1993 from 6:00-10:00 pm in the Pratt Room of the Omni Inner Harbor Hotel, 101 West Fayette St., Baltimore, MD (Ph: 410 752-1100).

### **LIST OF GEOCHEMISTRY DEGREE-GRANTING INSTITUTIONS TO BE COMPILED**

The Geochemical Society is interested in compiling a list of schools/departments that offer a PhD or MS degree with the title "Geochemistry". The primary reason for such a compilation will be to facilitate recruiting of graduate students into geochemistry, although individual Society members may have other uses. The listing will be published in a future issue of the newsletter and will also be available to Society members, on request. Geochemistry program information is not readily gleaned from the AGI Directory of Geoscience Departments as department titles do not necessarily reflect all degree programs available to students. If your department offers a geochemistry degree and you would like to be included in the compilation please notify: Wendy J. Harrison, Dept. of Geology and Geological Engineering, Colorado School of Mines, Golden, CO 80401. Please include the name of a faculty member who may be contacted by interested students who wish to request additional information about your geochemistry program. Ph: (303)273-3821 Fax: (303)273-3859 E-mail: wharriso@garnet.mines.colorado.edu.

### **SPECIAL OFFER TO GCA SUBSCRIBERS**

Subscribers to *Geochimica et Cosmochimica Acta* are being offered subscriptions to the journal, *Environmental Geochemistry and Health* and at rate of \$35 which is half the listed individual subscription price of \$70. Libraries of the institutions of GCA subscribers can also get the same benefit, obtaining the journal at half (\$82) the library subscription rate (\$164). To obtain this offer, simply write Dr. Peter J. Farago, publisher, Science and Technology Letters, P.O. Box 81, Northwood, Middlesex HA6 3DN, UK. Ph: 44 923 823 586 Fax: 44 923 825 066. Mention in the letter that you are a GCA subscriber.

### **CALL FOR NOMINATIONS FOR GEOCHEMICAL SOCIETY AWARDS**

This is a reminder that nominations are being accepted for the three awards that the Geochemical Society confers: the *V.M. Goldschmidt Award*, the *F.W. Clarke Award* and the *Alfred Treibs Award*. Nominations are closed for 1993 awards but it is not too early to be thinking about the 1994 Goldschmidt and Clarke awards. The Goldschmidt Award, consisting of a gold medal and a certificate, is to be made yearly for major achievements in geochemistry or cosmochemistry (nomination deadline: 12/15/93). The Clarke Award, consisting of a medal and a certificate, is to be made yearly to a young scientist for a single outstanding contribution to geochemistry or cosmochemistry, published as either a paper or a series of papers on a single topic. To be eligible, candidates must have held a recognized doctorate for no more than six years at the time of the Fall Meeting at which the award is made. (nomination: deadline 11/30/93). The Treibs Award consisting of a gold-filled medal and a certificate, shall be awarded every odd-numbered year for major achievements, over a period of years, in organic geochemistry. No award will be given in 1994, so the next nomination deadline for this award will be 10/15/94 for the 1995 award. Those interested in making a nomination for any of these awards should consult April, 1993 *Geochimica et Cosmochimica Acta* and contact directly the appropriate award committee chairperson:

#### V.M. Goldschmidt Award:

Dr. P. Edgar Hare  
Geophysical Laboratory  
Carnegie Institution of Washington  
5251 Broad Branch Road, NW  
Washington, DC 20015 USA  
Ph: 202 686-2490 Fax: 202 686-2419

#### F.W. Clarke Award:

Dr. J.W. Munoz  
Department of Geological Sciences  
University of Colorado, Campus Box 250  
Boulder, CO 80309-0250 USA  
Ph: 303 492-1461 Fax: 303 492-9990

## IDEAS FOR GEOCHEMICAL SOCIETY SESSIONS AT GSA AND AGU MEETINGS NEEDED

As always, Theme Session and Symposia ideas and organizers are needed for the 1994 Geochemical Society meetings, Spring AGU in Baltimore, May and GSA Annual Meeting in Seattle, 24-27 October. Your Society encourages you to take advantage of these opportunities to directly influence the scientific and technical content of these meetings. Very interesting sessions can be arranged with little work on your part. Often just several of these excellent sessions can make the difference between a good meeting and a mediocre one.

**Geological Society of America Meeting:** The Geochemical Society is an affiliated society of the Geological Society of America and as such holds its annual meeting as part of the GSA meeting. The GSA meeting provides two special formats in addition to the volunteered technical sessions. One is the symposium, which consists entirely of invited papers. The presentations can be either oral or poster, but not mixed and are organized by the conveners. Symposia are sponsored by GSA sections and associated societies. The second format is the theme session. The theme session consists entirely of volunteered papers and is designed to arrange abstracts into interdisciplinary sessions. Theme sessions have an advocate, someone who will encourage the submittal of abstracts to the session and will act as liaison to the Joint Technical Program Committee. The theme session will fall under one or more (but no more than three) categories listed on the right-hand side of the abstract form. Any abstract not included in the theme session is then considered in the selected category. 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 to JTPC is by the end of December, 1993.

**American Geophysical Union Meeting:** Starting in 1993, the GS will be a sponsoring society of the Spring American Geophysical Union (AGU) Meeting with the opportunity to hold our own sessions and to sponsor sessions jointly with the Mineralogical Society of America and AGU sections. Please consider symposium topics for this meeting. Each symposium, according to AGU policy, must have two chairpersons. L. Peter Gromet is the GS's delegate to the AGU program committee. His address is Department of Geological Sciences, Brown University, Providence, RI 02912 401-863-1920, E-Mail LPG@AVALON.GEO.BROWN.EDU. Please contact him with your ideas for session topics for the joint AGU-MSA-GS meeting. The first call for session topics will appear in EOS, AGU's weekly newspaper, in December, 1993. Ideas for sessions can be submitted through January, 1994. The two such sessions arranged for the Spring 1993 AGU meeting are given below.

## GEOCHEMICAL SOCIETY SESSIONS AT THE SPRING, 1993 AGU MEETING

### Geochronology of Structural Events in Orogens (Sessions GS31A and GS32A, Wednesday, May 26)

#### Morning:

- E.J. Krogstad: High Precision Apatite U-Pb ages -- Refining a New Orogenic Geochronometer  
B.A. Van der Pluijm, K. Mezger, and E.J. Essene: Deep-crustal Tectonics: a Thermochronologic View from the Proterozoic Grenville Orogen in Ontario and New York  
S.A. Goldberg, R.D. Dallmeyer, and Q. Su: Chronology of Paleozoic Metamorphism and Deformation in the Southern Appalachian Blue Ridge Based on Sr, Nd, Pb, and Ar Isotopic Systematics  
A.K. Sinha and M.L. Crawford: Geochronological Constraints on the Duration of Structural, Metamorphic and Igneous Events within an Orogenic Cycle  
A. Lanzirotti and G.N. Hanson: U-Pb Dating of Deformation and Metamorphism in the Straits Schist, Western Connecticut

D. West and D.R. Lux: Direct Dating of Mylonitization by the  $^{40}\text{Ar}/^{39}\text{Ar}$  Method: An Example from the Norumbega Fault Zone, Maine

W.E. Hames, K.V. Hodges, and S.A. Bowring:  $^{40}\text{Ar}^*/\text{K}$  Gradients in Muscovite and Their Implications for Measuring Episodic Loss and Slow Cooling with  $^{40}\text{Ar}/^{39}\text{Ar}$  Techniques

Jordan, Rodgers, and Dokka: Emplacement, Exhumation, and Tilting of the Southeastern Idaho Batholith and Outlying Stocks

Afternoon:

L.T. Silver: Radioactive Mineral Assemblage Responses to a Regional Metamorphic Overprint at Cajon Pass, Southern California

H.A. Smith, C.P. Chamberlain, T. Allen, and P.K. Zeitler: Relationship Between Deformation and Monazite Ages: Two Counter-Examples in the Himalaya

M. Brown and R.D. Dallmeyer: Geochronological Constraints on P-T-t-d Paths

L.P. Gromet and A. Andresen: U-Pb Age Constraints on Caledonian Shear Strain Developed at the Basement-Allochthon Contact, Ofoten Region, Norway

D.G. Palais, S.B. Mukasa, and Weaver: U-Pb and  $^{40}\text{Ar}/^{39}\text{Ar}$  Geochronology for Plutons along the Ruppert and Hobbs Coasts, Marie Byrd Land, West Antarctica: Evidence for Rapid Transition from Arc to Rift-Related Magmatism

**Applications of the Re-Os Isotopic System to Solid Earth Geochemistry**

(Sessions GS21A and GS22A, Tuesday, May 25)

Morning:

R.P. Creaser, D.A. Papanastassiou and G.J. Wasserburg: Investigation of Re-Os isotope systematics in Group IIA and IVA iron meteorites

R.J. Walker, J.W. Morgan, M.F. Horan and J.N. Grossman: Re-Os Isotope Systematics of Iron and Chondritic Meteorites: Implications for Terrestrial Systems

J.M. Luck, E. Jagoutz, D. Ben Othman: Os isotopes in SNC Meteorites and Their Implications to the Early Evolution of Mars and Earth

J.-L. Birck, C.J. Allegre: Comparison of Re-Os Fractionation in Planetary Basalts and the Unique Redox State of the Terrestrial Mantle

C. Koeberl and S.B. Shirey: Use of the Re-Os Isotope System in the Study of Impact Processes: Confirmation of Meteoritic Components

S.R. Hart and G. Ravizza: Os Partitioning in Lherzolite and Basalt

M. Roy-Barman, J.-L. Birck, C.J. Allegre:  $^{187}\text{Os}/^{186}\text{Os}$  Systematics of Oceanic Basalts

C.E. Martin, G.J. Wasserburg, D.A. Papanastassiou, C.L. Peach: Os Isotopic Composition of Sulfide Globules from MORB

G. Ravizza, C.R. German: Os Isotopic Variations in Metalliferous Sediments from the TAG Hydrothermal Area

Afternoon:

C.J. Allegre, J.-L. Birck and F. Capmas: Continental Developments Constrained by Re-Os Systematics.

Q.Z. Yin, E. Jagoutz, H. Wanke, A.B. Verkhovskiy:  $^{187}\text{Os}/^{186}\text{Os}$  and  $^{187}\text{Os}/^{188}\text{Os}$  Dating of Crustal Rocks.

W.K. Hart, R.W. Carlson, S.B. Shirey: Re-Os Evidence for Complex Magma-Lithosphere Interactions in the Northwestern United States.

M.F. Horan, J.W. Morgan, B.R. Lipin, R.J. Walker: Re-Os isotopes in Chromitites from the Stillwater Complex: Mixing of Magmas from Nondepleted Sources.

H.J. Stein, J.W. Morgan, M.F. Horan, R.J. Walker, E.J. Krogstad: A Mantle Component for Climax-type Granite-Molybdenum Systems or Our First Glimpse at Re-Os in the Lower Crust?

T.W. McCandless and J. Ruiz: Re-Os Molybdenite ages of Base-Metal Porphyry Deposits, Southwestern North America: Regional Timing of Laramide Uplift.

**UPCOMING MEETINGS OF INTEREST TO GECHEMICAL SOCIETY MEMBERS**

**May 5-8, 1993:** Geotechnica 1993. International Trade Fair and Congress for Geosciences and Technology Cologne, Germany. Information: C.C.M. Cologne Congress Management GmbH, Postfach 180 180, W - 5000 Koln 1 Ph: 02 21-92 57 930, Fax: 02 21-92 57 93 93.

**May 17-19, 1993:** Geological Association of Canada/Mineralogical Association of Canada, ann. mtg., Edmonton, Alberta. J.W. Kramers, Alberta Geological Survey, Box 8330, Station F, Edmonton, T6H 5X2. Ph: 403-438-7644. Fax: 403-438-3364

**May 24-28, 1993:** AGU, MSA, and GS Spring Meeting, Baltimore, MD USA. (Meetings, AGU, 2000 Florida Ave., N.W., Washington, DC 20009; Ph: 202 462-6900; Fax 202 328-0566). (see GS program material elsewhere in newsletter)

**June 2-9, 1993:** Metallogeny of Collisional Orogens of the Hercynian Type, Erzgebirge Meeting of IAGOD, Geyer, Germany Contact: R Seltman/H. Kampf, GFZ, Telegrafenberg A50, D-O-1561 Potsdam, Germany. Fax: 49-331-310-592

**June 13-18, 1993:** ECROFI XII European Current Research on Fluid Inclusions, Warsaw and Cracow, Poland. Contact: Prof. Andrzej Kozlowski, Inst. Geochemistry, Mineralogy and Petrology, Faculty of Geology, Warsaw University, 02-089 Warsaw, Al. Zwirki i Wigury 93, Poland. Tel: 22 30 52 to 56, ext 257.

**June 20-July 10:** NATO Advanced Study Institute -Feldspars and Their Reactions, Edinburg, UK. Contact: Ian Parsons, Dept. of Geology and Geophysics, The University of Edinburg, Edinburg EH9 3JW, UK. Fax: 44-31-668-3184

**July 18-23, 1993:** 10th International Clay Conference "Clays Control the Environment" University of Adelaide, Australia. Contact: Conference Secretariat, Elliservice Convention management, PO Box 753, Norwood S.A. 5067, Australia. Tel: 61-8-332-4068 Fax: 61-8-364-1968

**Aug, 1993:** International Workshop on Intraplate Volcanism: The Polynesian Plume Province, Tahiti, French Polynesia. Workshop Tahiti 1993 Organization Committee, H.G. Barszczus, Centre Géologique et Géophysique, Case 060, Université de Montpellier II, 34095 Montpellier Cedex 5, France, Ph: 33-67-634-983, Fax: 33-67-523-908.

**Aug 31 - Sept 3, 1993:** Fourth International Symposium on Hydrothermal Reactions, Nancy, France. Contact: B Poty, 4th ISHR, CREGU, BP-23, 54501-Vandoeuvre-les-Naaancy Cedex, France. Fax: 33-83-44-00-29. (Detailed Announcement: The Lattice-Newsletter of the Mineralogical Society of America, v.9, Feb 1993, p. 11.)

**Sept 8-17, 1993:** Layering in Igneous Complexes, Johannesburg, South Africa Contact: R. Grant Cawthorne, Dept of Geology, University of the Witwatersrand, Private Bag 3, PO Wits 2050, Republic of South Africa. Tel: 011-716-2711 or 011-716-2086, Fax: 011-339-1697 or 011-403-1926

**Sept 25-30, 1993:** 30th Annual Meeting, The Clay Minerals Society, San Diego, CA. Contact Richard Berry, Department of Geological Sciences, San Diego State University, San Diego, CA 92182-0337

**Sept 25-Oct 1, 1993:** IVACEI 1993: General Assembly of the International Association of Volcanology and Chemistry of the Earth's Interior, Canberra, Australia. Contact: IAVCEI General Assembly, ACTS, GPO Box 2200, Canberra ACT 2601, Australia. Tel: 61-6-2573299 (International); 06-2573299 (domestic) Fax: 61-6-2573256 (International); 06-2573256 (domestic) (Detailed announcement EOS v 73, no 48, p.523)

**Oct 17-20, 1993:** American Association of Petroleum Geologists, ann. mtg., The Hague, Netherlands, (AAPG, Box 979, Tulsa, Okla. 74101-0979. Ph: 918 584-2555, Fax: 918 584-0469)

**Oct. 25-28, 1993:** Geological Society of America, and affiliated societies, ann. mtg., Boston. (Vanessa George, GSA, Box 9140, Boulder, Colo. 80301. Ph: 303 447-2020)

**Nov 15-30, 1993:** IGCP Project 294 Thematic Meeting - Low Temperature Metamorphism: Processes, products and economic significance, Santiago, Chile. Contact: Prof. M. Vergara, Universidad de Chile, Dept. de Geologica y Geofisica, Casilla 13518-Correo 21, Santiago, Chile. Fax: 56-2-6963050.

**Dec 5-8, 1993:** *6th International Conference on Interactions between Sediments and Water*, Santa Barbara, California. Contact: Wilbert Lick: Department of Mechanical and Environmental Engineering, University of California, Santa Barbara, CA 93106 Tel: 805-983-4295, Fax: 805-893-8651

**Feb 16-19, 1994:** *Breakthroughs in Karst Geomicrobiology and Redox Geochemistry*, Colorado Springs, CO. David Culver, Department of Biology, The American University, 4400 Massachusetts Ave., Washington, DC. 20016. Ph: 202-885-2194, Fax: 202-885-2182.

**April 13-15, 1994:** *Fifth International Symposium on Experimental Mineralogy, Petrology and Geochemistry (EMPG-V)* London, England. Contact: R.J. Angel, Dept of Geosciences, University College London, Gower Street London WC1E 6BT, England. Tel: 44-71-387-7050 Fax: 44-71-388-7614

**May 30-June 3, 1994:** *Annual Meeting of the American Society of Limnology and Oceanography and the Society of Wetland Scientists*, Edmonton, Alberta Canada ASLO/SWS 1994 Conference, Environmental Research and Studies Center, University of Alberta, CW-401L Bio Sciences Bldg., Edmonton, Alberta, Canada T6G 2E9. Fax: 405-492-8610

**June 5-11, 1994:** *8th International Conference on Geochronology, Cosmochronology and Isotope Geology (ICOG-8)* Berkeley, California. Garniss H. Curtis, Chairman, Institute of Human Origins-Geochronology Center, 2453 Ridge Road, Berkeley CA 94709 Tel: 415-845-4003 Fax: 415-845-9453. (see more detailed announcement below)

**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 more detailed announcement elsewhere in Newsletter).

***Announcing the  
Eighth International Conference on  
Geochronology, Cosmochronology and Isotope Geology***

***ICOG-8 by the GOLDEN GATE***

***Berkeley California USA***

***June 5 - 11, 1994***

Isotopic investigations, crossing the bounds of cosmochronology, geochronology and isotope geology, have become an integral part of many interdisciplinary research studies. As a reflection of this trend, ICOG-8 is planned around thematic topics in studies of the Earth and extraterrestrial materials. Pre- and post-meeting field trips have been planned to explore areas in the western U.S. and Canada. Social events will take advantage of the diverse activities and beautiful sights of the greater San Francisco Bay Area.

To receive First Circular, contact:  
Garniss H. Curtis, ICOG-8 Chair  
Geochronology Center - IHO  
2453 Ridge Road, Berkeley, CA 94709  
Phone: (510) 845-4003; Fax (510) 845-9453