

# The Lattice

Vol. 4, No. 3, August 1988

## COUNCIL APPROVES NEW PROGRAMS AND APPOINTMENTS

At its May meeting, MSA Council approved several new programs that have been under consideration for the last year. MSA and AGU have reached an agreement regarding a joint Spring meeting starting in 1989. MSA will meet concurrently with AGU as a Cooperating Society, with MSA members able to register at AGU member rates. In having the opportunity to organize its topical sessions and by sharing in the publicity for the Spring meeting, MSA will be treated as an AGU section. Both societies anticipate that the cooperation will strengthen the Spring meeting in the areas of mineralogy, petrology, crystallography as well as mineral physics. Both also expect to cosponsor sessions or symposia with each other. MSA's Representative to the AGU Program Committee will be J.R. Smyth. A call for abstracts to be submitted for consideration for the Spring meeting will be issued in late fall.

AGU's Mineral Physics Committee agreed to accept a MSA representative, and MSA councillor R. M. Hazen was appointed to this new position.

The new public service award discussed in President Stewart's November *Lattice* column was also approved at the May Council Meeting. Based on recommendations of an ad hoc committee chaired by Stewart, this award is to be called the Distinguished Public Service Medal of the Mineralogical Society of America, and it is intended to recognize "distinguished contributions to public policy and awareness that individual scientists have made, . . ." The screening committee for this award will meet

regularly to make recommendations to MSA council, but the new silver medal will not be awarded every year. Initial recommendations from the committee are expected during the 1989 fiscal year.

Council also accepted a recommendation from C.T. Prewitt to recognize and encourage the development of specialty working groups. Such groups would be comprised of individuals interested in a subfield of mineralogy, petrology, or crystallography who wish to exchange ideas, organize symposia at various meetings, or in general publicize or promote their research. These groups may have interests as varied as Applied Mineralogy, Microcomputers in Mineralogy, Synchrotron Radiation, Accelerator Mass Spectrometry, Trace Element Partitioning, etc. Groups should include members of the Society among their organizers, and are invited to request Council to recognize them as a specialty working group. This recognition could result in MSA providing assistance with mailings and maintenance of mailing lists, printing announcements or short reports in *The Lattice*, and in organizing symposia at MSA's meetings with GSA and AGU. You are invited to submit proposals for consideration by the Council at its Fall meeting in Denver.

The recommendation of the Short Course Committee to offer a short course on "Mineral Surface Chemistry" in the Fall of 1990 was approved by Council. Co-conveners will be M.F. Hochella and A.F. White.

The Publications Committee's recommendation that a Letters Section be added to the *American Mineralogist* was approved, effective immediately. This option was added to provide a means of rapidly (6 months or less) publishing timely and important articles. Each letter is limited to a

maximum of four printed pages, including text, figures, and tables. Authors who wish to have manuscripts considered for the Letters Section should contact Editor Munoz at (303)492-1462 for further information. See further details in this issue.

Other news related to the *American Mineralogist* includes approval of another editorial position entitled "New Minerals Editor" and the establishment of a search committee to select a replacement for Editor Munoz, who will resign in November 1989.

The position of New Minerals Editor is to be an annual appointment starting in January of 1989. The appointee will work through the main editorial office, and will be responsible for all matters related to IMA nomenclature and papers on new minerals. Editor Munoz will continue to handle all other activities.

Responsibilities of the Editorial Search Committee, which will be chaired by M. Holdaway, include a review of the structure of the editorship and the editorial office and selection of a nominee(s) to occupy Munoz's position. Holdaway's committee has begun its search and would welcome suggestions or volunteers. His address is: Michael Holdaway, Department of Geological Sciences, Southern Methodist University, Dallas, TX 75275. Telephone: (214)692-2751.

In a final item of interest Council approved the sale of selected volumes of *Reviews in Mineralogy*. Council approved a special discount for the sale of RIM Volumes 1 (Sulfides), 2 (Feldspars), 5 (Orthosilicates), 7 (Pyroxenes), 8 (Kinetics), and 9A (Amphiboles). These volumes will sell for 50% off their regular price; no member discounts are applicable. See the order form in this issue.



## FROM THE PRESIDENT

### Importance of headquarters support.

The expansion of the activities of this Society, described in part in the report of the Spring Council meeting and including other projects such as the lectureship program now being planned, are made feasible because of effective headquarters support. The usual operations that sustain the Society, such as membership and subscriber fulfillment are now solidly established. Officers and editors receive all sorts of supporting services. In addition, the staff processes mail and meeting notices for the Geological Society of Washington for a small fee.

Barbara B. Minich was most responsible for bringing MSA's headquarters operation to its present state of efficient support. Acting under general principles established by the Council upon the advice of the Management Committee, chaired by J.F. Hays, Executive Secretary Barbara Minich with great skill and large amounts of extra personal effort assembled the staff and hardware that are the keystones to today's successful operations. Barbara announced last fall that she was leaving the Washington

area. She has helped enormously our new office manager, Susan L. Myers, with the transition. Barbara prepared the 1988-1991 Directory and managed the May short course under contract.

All of the officers of the Society appreciate Barbara's many contributions, and I want to take this opportunity to thank her on behalf of the Society's members and subscribers for a job well done. We would not be where we are today, with new opportunities beckoning, without her thoughtful efforts.

*David B. Stewart*

David B. Stewart  
1988 President

### Did you know . . .

. . . Volume 19 of the *Reviews in Mineralogy* series, *Hydrous Phyllosilicates exclusive of Micas*, will be available at the MSA booth during the MSA/GSA Annual Meeting October 31-November 3 in Denver, Colorado.

. . . Renewal notices will be mailed to all members in late October. 1989 dues will remain at \$20. for students and \$40. for members and fellows. Once again, members will be able to order books from the *Reviews in Mineralogy* series at a 30 percent discount on the renewal notice. If you do not receive your renewal notice by November 15, please contact the Business Office.

. . . Copies of the program and papers from the Ninth Symposium held February 14, 1988 in Tucson, Arizona by the Friends of Mineralogy, Tucson Gem and Mineral Society and the Mineralogical Society of America are available for \$4.00 from Mr. Henry Truebe, 2022 East Mabel, Tucson, AZ 85719. The title of the symposium was

"Beryl, paragenesis and descriptive mineralogy". This price includes postage and handling. The length of the program is 46 pages.

. . . MSA will cosponsor with the International Mineralogical Association, a workshop at the 28th International Geological Congress entitled, *Geology and Mineralogy of Diamonds*. Topics to be covered include (1) physical properties, morphologies, trace-element and noble-gas contents of natural diamonds; (2) isotopic and compositional relations of mineral inclusions in diamond; (3) petrology of rocks and intergrowths in which diamond is a constituent; and (4) origins and tectonic environments of natural diamonds of varied paragenesis and habit.

. . . That the index for 1985 *Mineralogical Abstracts* is almost complete and may be ready for printing in September. Subscribers to the 1985 volume, #36 will hopefully have the printed version by the end of this year.



*The Lattice* is published quarterly (February, May, August, November) by the Mineralogical Society of America. This newsletter is distributed to MSA members as a service. Articles and letters from readers are welcome.

The Mineralogical Society of America is composed of individuals interested in mineralogy, crystallography, and petrology. Founded in 1919, the Society promotes, through education and research, the understanding and application of mineralogy by industry, universities, government and the public.

Membership benefits include: the *American Mineralogist*, published bi-monthly; 30% discount on volumes in the *Reviews in Mineralogy* series; *The Lattice*; Membership Directory; special subscription rates for *Mineralogical Abstracts*, *Physics and Chemistry of Minerals*, *Journal of Petrology*, and *Journal of Metamorphic Geology*; reduced registration fees at MSA short courses; member rates for the MSA/Geological Society of America annual meeting and for MSA's spring meeting with the American Geophysical Union; participation in a Society that supports the many facets of mineralogy.

Dues for 1988 are \$40 for professional members; \$20 for students. Membership is on a calendar year basis. Individuals who join after January 1, 1988 will be sent all back issues of the journal for volume 73, 1988.

For additional membership information and an application, and/or to receive a price list of the Society's publications, contact the Business Office.

Institutions may subscribe to the 1988 volume of the *American Mineralogist* for the annual rate of \$140. The subscription price will increase to \$150 for the 1989 volume. The subscription price includes any new volumes of the *Reviews in Mineralogy* series published during the calendar year of the subscription. Payment must be received in full before a subscription will be started.

1988 President: D.B. Stewart, U.S. Geological Survey

Past-President: P.H. Ribbe, Virginia Polytechnic Institute and State University

Vice-President: C.W. Burnham, Harvard University

Secretary: Maryellen Cameron, Miami University of Ohio

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Office Manager/Accountant: Susan L. Myers

Mineralogical Society of America  
1625 I Street N.W., Suite 414  
Washington, D.C. 20006  
(202) 775-4344



# MEETING CALENDAR

## September

4-8 Zeolites as Catalysts, Sorbents and Detergent Builders, Wurzburg, West Germany. *Details: Dr. Hellmut G. Karge, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Faradayweg 4-6, D-1000 Berlin 33, West Germany.*

18-21 25th Annual Meeting of the Clay Minerals Society, Grand Rapids, Michigan. *Details: Dr. Thomas J. Pinnavaia, Dept of Chemistry, Michigan State University, East Lansing, MI 48824; (517) 355-4626.*

## October

29-30 Hydrous Phyllosilicates exclusive of Micas. MSA Short Course, Denver, Colorado. *Details and registration forms elsewhere in this newsletter.*

31-Nov. 3 1988 MSA/GSA Annual Meeting, Denver, Colorado. *More details and registration forms elsewhere in this newsletter.*

## November

28-Dec. 3 Materials Research Society Fall Meeting. *Details: MRS, 9800 McKnight Road, Suite 327, Pittsburgh, PA 15237; (412) 367-3003.*

## 1989

## February

12 The Tenth Symposium sponsored by the Friends of Mineralogy, the Tucson Gem and Mineral Society, and MSA, Tucson, AZ. *Details: Henry Truebe, FM-TGMS-MSA Symposium, c/o Dallhold Resources, 2002 N. Forbes Blvd, Tucson, AZ 85745.*

## April

24-29 The annual spring meeting of the Materials Research Society will be held in San Diego, California. A call for papers is expected to be issued July 22, 1988. *Details: Merry Geil, Director of Meeting Activities, 9800 McKnight Road, Suite 327, Pittsburgh, PA 15237 (412)367-3003.*

## May

MAC Short Course: Diagenesis; Montreal, Quebec, Canada. *Details: MAC, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario, Canada M5S 2C6.*

15-17 Mineralogical Association of Canada Annual Meeting, Montreal, Quebec, Canada. *Details: GAC/MAC Montreal 89, Room 238, 3450 University Street, Montreal, Quebec, Canada H3A 2A7 (514)398-4082.*

## July

9-19 28th International Geological Congress, Washington, D.C. *Details: Dr. Bruce B. Hanshaw, Secretary General, P.O. Box 1001, Herndon, VA 22070-1001; (703) 648-6053.*

## 1988 Fall Short Course

## Registration space filling fast for Hydrous Phyllosilicates short course

Individuals interested in attending the Fall Short Course, Hydrous Phyllosilicates Exclusive of Micas, are encouraged to register immediately. Registration is limited to 120 individuals on a first-come, first-serve basis and space is filling fast.

Specific topics and speakers include: Polyttypism of 1:1 layer silicates, Bailey; Kaolin minerals: Structures and stabilities, R. F. Giese, Jr., SUNY-Buffalo; Kaolin minerals: occurrences and origins, H. H. Murray, University of Indiana; Serpentine minerals: structures and petrology, F. J. Wicks and D. S. O'Hanley, Royal Ontario Museum; Structures and compositions of other trioctahedral 1:1 phyllosilicates, Bailey; Isotopic studies of phyllosilicates, S. M. Savin, Case Western Reserve University; Talc, pyrophyllite, and related minerals, S. Guggenheim, University of Illinois - Chicago, and B. W. Evans, University of Washington; Phase equilibria of serpentines and chlorites, J. V. Chernosky, University of Maine; Chlorites: structures and crystal chemistry, Bailey; Chlorites: metamorphic petrology, J. Laird, University of New Hampshire; Vermiculite, C. de la Calle, C. S.

I. C., and H. Suquet, Universite Pierre et Marie Curie; Smectite, N. Guven, Texas Tech University; Vector representation of phyllosilicate compositions, D. M. Burt, Arizona State University; Regular and random interstratifications, R. C. Reynolds, Jr., Dartmouth College; Sepiolite and palygorskite, B. F. Jones, U.S. Geological Survey, and E. Galan, Universidad de Sevilla; and Crystal chemistry, classification, and identification of modulated layer silicates, S. Guggenheim and R. A. Eggleton, Australian National University.

The meeting, convened by Sturges W. Bailey, will be held at the Holiday Inn, downtown Denver. It will begin with a welcoming reception Friday evening, October 28. Sessions begin at 8 a.m. Saturday morning and continue through 4:30 p.m. Sunday evening.

The Holiday Inn, Downtown Denver will offer special room rates to participants of the short course. These will be \$55. for a single and \$65. for a double. Individuals staying at the hotel for the short course may elect to stay at the hotel throughout the GSA meeting for the same room rates. Individual

participants are responsible for making their own sleeping room accommodations.

Short course participants may take advantage of special convention fare rates (up to 5% off any ticket including supersavers) arranged through Business Travel Associates on United Airlines. All restrictions apply, including advance purchase requirements. Reserve early by calling Paula at 1-800-443-4502 or 202-659-8314. Be sure to tell them you are attending the MSA Short Course.

There will be a limited number of student scholarships available. Students wishing to apply for the scholarships should send a completed registration form and payment to the Business Office and check the appropriate space on the registration form requesting a scholarship application. Completed scholarship applications must be returned no later than October 1. Recipients of the scholarships will be notified and their registration fee reimbursed.

Additional information may be obtained from the Business Office, 1625 I Street, N.W., Suite 414, Washington, DC 20006; (202)775-4344. Look for the registration form in this newsletter.



## WELCOME!

The following new members and students have joined MSA effective January 1, 1988. Welcome! Applications for membership may be obtained from the Business Office, 1625 I Street, N.W., Suite 414, Washington, D.C. 20006; (202) 775-4344. Membership applications received October 1 through December 31, 1988 will be made effective January 1, 1989 unless otherwise requested.

**Ahuja, Desh**, 801 E. Jefferson, P.O. Box 31763, Phoenix, AZ 85046. (M-88) Sponsor: MSA.

**Akaogi, Masaki**, Department of Earth Sciences, Kanazawa University, Kanazawa, Japan. O: 076262-4281, ext. 576. H: 076223-8217. (M-88)PE Sponsors: H. Horiuchi and K. Tameoka.

**Back, Malcolm E.**, Royal Ontario Museum, Mineralogy Department, 100 Queen's Park, Toronto, Ontario M5S 2C6, Canada. O: (416)586-5821. H: (416)640-5259. (ST-88)MI Sponsors: R. Gait and J. Mandarino.

**Ball, David G. A.**, 896 Silver Birch Trail, Mississauga, Ontario, L5J 4C1 Canada. O: (416)828-5401. H: (416)822-7574. (ST-88)GE Sponsors: P.-Y. Robin and J. Mandarino.

**Beard, Brian**, Department of Geology and Geophysics, University of Wisconsin, Weeks Hall, 1215 W. Dayton, Madison, WI 53706. O: (608)262-8960. H: (608)271-1714. (ST-88)IP Sponsors: S. Bailey and J. Valley.

**Beran, Anton**, Institute for Mineralogy and Crystallography, University of Vienna, A-1010 Vienna, Austria. O: 2224300 ext. 2320. (M-88)MI Sponsors: G. Rossman and G. Miller.

**Black, Jeanette**, 225 N. Gilbert, #205, Mesa, AZ 85203. O: (702)553-2121. (M-88)MI Sponsor: MSA.

**Blum, Alex**, Department of Geology, Yale University, P.O. Box 6666, New Haven, CT 06511. (ST-88) Sponsor: MSA.

**Bradt, Richard Carl**, University of Washington, 156 Roberts Hall FB-10, Seattle, WA 98195. O: (206)543-2613. H: (206)523-7106. (M-88)MI Sponsors: B. Evans and S. Ghose.

**Caponigri, Winifred F.**, 317 E. Napoleon Blvd., South Bend, IN 46617. (M-88) Sponsor: MSA.

**Chisholm, Catherine J.**, Department of Applied Earth Sciences, Stanford University, Stanford, CA 94305-2225. (ST-88) Sponsor: MSA.

**Cohn, Perry D.**, 228 W. Harvey St., Philadelphia, PA 19144. H: (215)848-7504. (M-88)CC Sponsor: MSA.

**Conca, James L.**, Battelle-PNL P7-18, P.O. Box 999, Richland, WA 99352. O: (509)376-6566. (SP-88)GE Sponsor: MSA.

**Conrad, Walter K.**, Department of Geology, SUNY at New Paltz, New Paltz, NY 12561. O: (914)257-2167. H: (914)687-4208. (M-88)IP Sponsor: MSA.

**Crowley, Kevin D.**, University of Oklahoma, School of Geology and Geophysics, Norman, OK 73019. (M-88) Sponsor: MSA.

**Dickinson, James E.**, Corning Glass Works, SP-FR-3, Corning, NY 14830. O: (607)974-3659. H: (607)936-4982. (M-88)MI Sponsor: MSA.

**Doherty, Shawn**, Department of Earth and Space Sciences, UCLA, Los Angeles, CA 90024. O: (213)825-3880. H: (213)476-4303. (ST-88)MI Sponsors: W. Thomas and W. Dollase.

**Domeneghetti, M. Chiara**, CNR, Centro Cristallografia Strutturale, Via Bassi 4, I-27100 Pavia, Italy. O: (382)392265. H: (382)420111. (M-88) Sponsor: MSA.

**Durand, Claudine**, Institut Francais du Petrole, B.P. 31, Rueil-Malmaison 92506-F, France. (M-88)SP Sponsor: MSA.

**Farnan, Ian E.**, Department of Geology, Stanford University, Stanford, CA 94305-2115. O: (415)723-3831. H: (415)948-9313. (M-88)GE Sponsor: MSA.

**Fritsch, Emmanuel**, Gemological Institute of America, 1660 Stewart Street, Santa Monica, CA 90404. O: (213)829-2991 ext. 299. H: (213)398-6323. (M-88)MI Sponsors: J. Shigley and R. Liddicoat.

**Garwood, Blaine L.**, Department of Earth and Atmospheric Sciences, Purdue University, West Lafayette, IN 47907. O: (317)494-3278. H: (317)463-3826. (ST-88)IP Sponsor: H.O.A. Meyer.

**Goodwin, Laurel B.**, Department of Geology, Arizona State University, Tempe, AZ 85287. O: (602)965-7250. H: (602)921-2403. (M-88)MP Sponsor: J. Ahn and D. Miser.

**Grathoff, Georg**, Calsowstr 56, D-3400 Gottingen, West Germany. H: 052023710. (ST-88)GE Sponsor: M. Rosenhauer.

**Herbst, Chris**, Department of Geology, Arizona State University, Tempe, AZ 85287. (ST-88) Sponsor: MSA.

**Hess, Nancy**, 7037 12th Avenue N.W., Seattle, WA 98117. (ST-88) Sponsor: MSA.

**Howard, James J.**, Schlumberger-Doll Research, Old Quarry Road, Ridgefield, CT 06877. O: (203)431-5000. (M-88)CM Sponsor: MSA.

**Hutson, Melinda L.**, Department of Planetary Sciences, University of Arizona, Tucson, AZ 85721. O: (602)621-2643. H: (602)323-0395. (ST-88)GE Sponsors: E. Snow and L. Broadhurst.

**Istrate, George**, Mineralogy Institute, Universitat Karlsruhe, Kaiserstrabe 12, D-7500 Karlsruhe, Germany. O: (721)843964. H: (721)6082916. (M-88)MP Sponsors: W. Klee and E. Pernklau.

**Kath, Randy**, ISMD South Dakota School of Mines and Technology, Rapid City, SD 57701. O: (605)394-6175. H: (605)341-7635. (ST-88)MP Sponsors: E. Duke and J. Redden.

**Kersting, Annie**, Department of Geology, University of Michigan, Ann Arbor, MI 48109. O: (313)763-5348. (ST-88)IP Sponsors: E. Essene and D. Peacor.

**Koch, Elizabeth A.**, 6 Williams Lane, Yardley, PA 19067. H: (215)295-5598. (ST-88)MI Sponsor: P. Leavens.

**Kohn, Simon C.**, Department of Geology, University of Manchester, Manchester M13 9PL, United Kingdom. (M-88) Sponsor: MSA.

**Kubicki, James D.**, Geophysical Laboratory, 2801 Upton Street, N.W., Washington, D.C. 20008. O: (202)966-0334 ext. 246. H: (301)681-4116. (ST-88)IP Sponsor: MSA.

**Lindsay, James R.**, U.S. Geological Survey, 345 Middlefield Road, MS-938, Menlo Park CA 94025. O: (415)329-5288. H: (408)244-1034. (M-88)GE Sponsor: MSA.

**Manceau, Alain**, Laboratoire de Mineralogie-Cristallographie, Universites Paris 6 et 7, Tour 16, 4 Place Jussieu, Paris 75252, France. O: (33) 143362525 ext. 5064. H: (33)145429148. (M-88) Sponsor: MSA.

**McCammon, Catherine A.**, Department of Geological Sciences, University of British Columbia, Vancouver, British Columbia V6T 2B4, Canada. O: (604)228-3514. H: (604)732-1778. (M-88)MI Sponsors: H. Greenwood and E. Meagher.

**McDuffie, Stephen**, Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, MD 21218. O: (301)338-7053. H: (301)235-1747. (ST-88)IP Sponsors: D. Veblen and J. Ferry.

**McEnroe, Suzanne A.**, Department of Geology and Geography, University of Massachusetts, Amherst, MA 01003. O: (413)545-2286. (ST-88)GE Sponsors: P. Robinson and D. Elbert.

**McLanahan, Amy**, Department of Geology, Stanford University, Stanford, CA 94305. (ST-88) Sponsor: MSA.

**Millard, Roberta L.**, Department of Geological Sciences, Queen's University, Kingston, Ontario K7L 3N6, Canada. H: (613)389-9669. (ST-88)MI Sponsors: R. Peterson and P. Roeder.

**Montgomery, Thomas**, Narco Tech Center, 3127 Research Drive, State College, PA 16801. (M-88) Sponsor: MSA.



**Nakashima, Satoru**, Japan Atomic Energy Research Institute, Department of Environmental Safety Research, 319-11 Tokai, Ibaraki, Japan. (M-88) Sponsor: MSA.

**Nelson, Kevin C.**, Department of Geology and Geophysics, University of Wisconsin at Madison, 1215 W. Dayton Street, Madison, WI 53706. *H:* (608) 238-9709. (ST-88)IP Sponsors: L.G. Medaris and P. Brown.

**Nusbaum, Robert L.**, Department of Geology, College of Charleston, Charleston, SC 29424. *O:* (803)792-5596. *H:* (803)556-0299. (M-88)IP Sponsors: A.K. Fronabarger.

**O'Day, Peggy A.**, Department of Applied Earth Sciences, Stanford University, Stanford, CA 94305-2225. (ST-88) Sponsor: MSA.

**Palmer, David C.**, Department of Earth Sciences, University of Cambridge, Downing Street, Cambridge, CB2 3EQ England. *O:* (0223)333474. *H:* (0223) 323040. (ST-88)MP Sponsors: M. Carpenter and S. Redfern.

**Peck, Julia A.**, Department of Geology, Stanford University, Stanford, CA 94305. (ST-88) Sponsor: MSA.

**Percival, Michael J. L.**, Department of Earth Sciences, Cambridge University, Downing Street, Cambridge CB2 3EQ, United Kingdom. (ST-88) Sponsor: MSA.

**Rea, Brigid A.**, U.S. Geological Survey, MS 465, 345 Middlefield Road, Menlo Park, CA 94025. (ST-88) Sponsor: MSA.

**Robb, H. Sonny**, 1218 Kings Highway, Coatesville, PA 19320. *H:* (215)384-5862. (ST-88)MP Sponsor: MSA.

**Rubie, David C.**, Department of Geology, Manchester University, Manchester M13 9PL, England. *O:* (04577)6512. *H:* (061)2753819. (M-88)Kinetics Sponsors: D. Henry and B. Dutrow.

**Schroeder, Paul A.**, 285 Third Avenue, West Haven, CT 06516. *O:* (203)432-3136. *H:* (203)934-2803. (ST-88)CM Sponsor: MSA.

**Shah, Mohammad**, Department of Geology, University of South Carolina, Columbia, SC 29208. *O:* (803)777-6873. (ST-88)MI Sponsor: MSA.

**Sherriff, Barbara L.**, Geology Department, McMaster University, Hamilton, Ontario L8S 4M1, Canada. *O:* (416)525-9140 ext. 2014. *H:* (416)648-1382. (ST-88)CC Sponsor: MSA.

**Siewert, Ralf**, Breslauer Weg 3, Wagenfeld 841, West Germany. (ST-88)MI Sponsor: M. Rosenhauer.

**Sinclair, Iain G. L.**, BP Resources Canada Ltd., 55 University Avenue, Toronto, Ontario M5J 2H7, Canada. *O:* (416)361-0794. (M-88)EG Sponsor: P. Sheahan.

**Smith, Katherine L.**, Materials Division, ANSTO PMB1 Menai, Australia 2234. *O:* (02)543-3505. (M-88)MP Sponsor: T.J. White.

**Starkey, Robert J.**, 1417 Ord Street, Laramie, WY 82070. *O:* (307)745-8433. (M-88)MP Sponsor: R. Frost and J. Myers.

**Sykes, Dan**, Department of Geology, University of Alberta, Edmonton, Alberta T6G 2E3, Canada. (ST-88) Sponsor: MSA.

**Tazzoli, Vittorio**, Universite di Pavia, Via Bassi 4, Dip Sci del Terra - Sez Min, I-27100 Pavia, Italy. (M-88) Sponsor: MSA.

**Terrell, David J.**, Exploracion, Instituto Mexicano del Petroleo, Mexico City 14380, Mexico. *O:* 5567-8776. *H:* 5655-7895. (M-88) Sponsor: MSA.

**Thrush, Kathleen A.**, Engelhard Corporation, Menlo Park, CN 28, Edison, NJ 08818. (M-88) Sponsor: MSA.

**Walters, David**, Arizona State University, 1115 W. 17th Street, Tempe, AZ 85281. (ST-88) Sponsor: MSA.

**Urbanski Jr., Walter S.**, P.O. Box 299, Voorheesville, NY 12186. *O:* (518)456-5456 ext. 295. *H:* (518)765-2824. (M-88)MI Sponsor: MSA.

**Wopenka, Brigitte**, Department of Earth and Planetary Sciences, Washington University, Box 1169, St. Louis, MO 63130. (M-88) Sponsor: MSA.

**Wright, Judith V.**, Battelle-PNL K2-57, Richland, WA 99352. *O:* (509)375-2091. (M-88)CC Sponsor: MSA.

**Xu, Ning**, Geology Department, Stanford University, Stanford, CA 94305. (ST-88) Sponsor: MSA.

**Yoshida, Takeyoshi**, UCSC, 139 Hagar Ct., Santa Cruz, CA 95064. *O:* (408)429-2574. *H:* (408)429-1701. (M-88)IP Sponsors: K. Cameron and J. Gill.

## In Memoriam

We regret to announce the passing of the following MSA members and fellows. The Society extends its condolences to the family and friends of these scientists.

**Brothers, Raymond N.**  
Member, 1973

**Chromy, Benjamin J.**  
Life Fellow, 1954

**Nowacki, Werner**  
Honorary Fellow

**Suhner, Bertold**  
Member, 1981

**Warhus, Udo**  
Member, 1980

## FOREIGN CORNER

The executive committee and others felt that it would be useful to keep members abreast of mineralogical and related news on the international scene. Accordingly, I was approached to write a short column for each edition of *The Lattice*. Newsworthy items that will be in future columns include developments and actions by other mineralogical societies, for example, the consolidation of some European mineralogical journals into a single journal. News about the International Mineralogical Association will also be featured; in this instance, I will attempt to keep you up to date on the exciting things planned for the I.M.A. Beijing meeting in 1990. Brief notes of other mineralogical and related science meetings may also be included.

If any members have news or information that would be appropriate to this column please contact me by mail or telephone at the address below. The more information the Society has the better it can serve the members. Henry O. A. Meyer, Foreign Correspondent, M.S.A., Department of Earth and Atmospheric Sciences, Purdue University, West Lafayette, Indiana 47907, USA. Telephone: (317)494-3271.

## Additional Details

## American Mineralogist announces new Letters section

*American Mineralogist* has instituted a new procedure for publication of certain short communications that are unusually timely, significant, and of sufficiently general interest to be read by those outside the specific field of interest. Manuscripts must adhere to all requirements described in Guidelines for Authors (*American Mineralogist*, 72, 1034-1049) and, in addition, must be no more than 15 pages in total length, including all figures and tables (counted as one page each). Each submission must include a brief statement that justifies the timely nature of the paper and must include names and current addresses of at least four potential reviewers. Papers that are accepted for this section will appear 4-6 months after submission. Papers that are otherwise acceptable but are not judged to be appropriate for this new section will be treated as regular articles.



# LETTER FROM THE TREASURER

One of the goals of any scientific organization is to provide needed services for its members and the scientific community as a whole at the lowest possible cost. This means the maximum benefit for your dollar whether you are a fellow, member, student, nonmember or an institutional library. Another goal, commonly not considered by most, is providing the maximum circulation for research articles. With these two goals in mind, each spring the Treasurer recommends to Council how much one should pay for these benefits. The recommendation is based on a balanced budget for the society and the hope to increase the distribution of our products. This year no increases were recommended for the 1989 dues; they are to remain at \$20 for students and \$40 for fellows and members. We did raise the cost of 1989 institutional subscriptions 7% to \$150. This raise was mainly to offset the increase in US postage rates.

The biggest and most important expense of the Society is the *American Mineralogist*. The initial cost of the journal including the Editorial Office in Boulder, Colorado is borne by the Institutional Subscribers, but it costs \$20 for each additional six issues to be printed and mailed. This \$20 is the level set for student dues. Students also receive the *Lattice* and get a 30% discount on *Reviews in Mineralogy*. In essence, the Society is subsidizing students, as it should be.

Members and Fellows receive the *American Mineralogist* and the *Lattice* as well as enjoy the benefits of other aspects of the Society. These include the MSA Award and Roebling Medal, the MSA Symposium at GSA, social events at meetings, and a 30% discount on all *Reviews* volumes.

It is particularly difficult to resist the temptation to have a larger share of MSA's cost shouldered by the libraries. The experience of watching the Geological Survey's library dealing with the high cost of journals has made me very sensitive to the budget problems of our libraries. Although subscription costs have risen each year our number of subscribers has remained essentially constant at about 1400 for the past five years. Half of those are foreign libraries. In addition to the journal, libraries automatically get the newest volumes of *Reviews in Mineralogy*.

Most new volumes of *Reviews in Mineralogy* are generated with a short course in mind. You may have noticed if you have attended a number of MSA short courses over the years that the cost of registration is creeping up from the one hundred dollar range into the two hundred dollar range. The actual cost of registration is very dependent on the convener and how the course is to be run. However, the general philosophy of the courses is to subsidize students as much as possible by using contributions to support student scholarships and reduce student registration fees. In fact the student

registration fee for the fall short course is one quarter that of professional fee. In spite of their increasing cost, MSA short course fees are many times less than those run by institutions or industry and they should stay that way.

I just bought my copy of Frank Hawthorne's Spectroscopy volume, number 18 in the *Reviews in Mineralogy* series; 698 pages for only \$12.60 with my 30% discount. Already 1400 volumes have been shipped to the libraries. Hopefully the wide distribution of the *Reviews* series is enough compensation for the tremendous effort put forth by the contributors. Only the Oxide volume is out of print, retired after several reprintings. The rest are in plentiful supply at rock bottom prices. In spite of the low price, *Reviews* has consistently made money for the Society forestalling increases in dues and subscription rates.

The financial details of the Society are published in the *American Mineralogist* and generally interest only the next Treasurer, or maybe past Treasurers. This is my last year as Treasurer of the Mineralogical Society of America and I am happy to give my successor a financially sound Society and one that is meeting the two goals stated above.

*Gordon L. Nord Jr.*

## REVIEWS IN MINERALOGY 50% DISCOUNT SALE

M.S.A. is reducing inventory to make space for newer volumes.

The following books are offered at 50% off their regular price to members and nonmembers alike for a limited time.

Vol.	Title	50% Discount Price	Quan.	Amount
1	Sulfide Mineralogy	\$ 6.50	_____	_____
2	Feldspar Mineralogy	\$ 8.50	_____	_____
5	Orthosilicates	\$ 9.00	_____	_____
7	Pyroxenes	\$ 9.00	_____	_____
8	Kinetics of Geochemical Processes	\$ 8.50	_____	_____
9A	Amphiboles and Other Hydrous Pyriboles - Mineralogy	\$ 8.50	_____	_____
			Total	_____

**ALL ORDERS AT THESE SPECIAL PRICES MUST BE PREPAID.** Please enclose check or money order made payable to: Mineralogical Society of America. Or charge your order to Visa, Mastercard or American Express.

Ship to (please print): \_\_\_\_\_

Payment Enclosed \$ \_\_\_\_\_

Please charge my (circle):

Visa                      Mastercard                      American Express

Card number \_\_\_\_\_

Expiration date \_\_\_\_\_

Signature \_\_\_\_\_



# REGISTRATION FORM

## Hydrous Phyllosilicates Exclusive of Micas

### October 29-30

### Denver, Colorado

Please return this registration form, completed, to the MSA Business Office, 1625 I Street N.W., Suite 414, Washington, D.C. 20006. Payment must accompany this form. Registration is limited to 120 individuals on a first-come, first-served basis.

Please print or type.

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

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(city) (state) (zip/postal code) (province) (country)

Telephone numbers ( ) ( )  
(office) (home)

Please indicate appropriate registration category:

MSA Member	Professional _____ \$220	Student** _____ \$50
Non-member*	_____ \$260	_____ \$70

\* includes 1989 membership dues.

\*\* student registration fees offset by corporate contributions.

\_\_\_\_\_ Please send application for student scholarship.

Please check method of payment:

\_\_\_\_\_ Enclosed is a check or money order in the amount of \$ \_\_\_\_\_.

\_\_\_\_\_ Please charge my \_\_\_\_\_ Visa \_\_\_\_\_ Mastercard \_\_\_\_\_ American Express credit card in the amount of \$ \_\_\_\_\_. (Your credit card will be charged when the registration form is received. Should a refund to be required, a credit will be applied to your charge card.)

\_\_\_\_\_ (card number) \_\_\_\_\_ (name on card—please print)

\_\_\_\_\_ (expiration date) \_\_\_\_\_ (signature)

Please list any special meal requirements \_\_\_\_\_

## MSA Activities at GSA

### MSA members are invited to participate in Society activities

Each year MSA and the other associated societies of the Geological Society of America (GSA) work together prior to the annual meeting to review and select abstracts and schedule symposia and poster sessions. It is the combined efforts of these individuals that consistently produce a quality meeting. Special thanks this year to MSA representative Jo Laird, University of New Hampshire, conferee Mark Ghiorso, University of Washington, abstractor Robert J. Tracy, Virginia Polytechnic Institute and ex-officio conferee Roger Burns, Massachusetts Institute of Technology.

In addition to selecting abstracts and scheduling technical sessions, the MSA representative coordinates with the Business Office to schedule the Society's social activities. This cooperation, in conjunction with GSA staff, keeps Society activities from overlapping technical sessions and attempts to put these activities in conveniently located meeting rooms.

While this scheduling involves many individuals, its purpose is to benefit the members of MSA. To this end, you are encouraged to participate in the MSA sponsored activities and to express your suggestions and needs to the Business Office and GSA.

August, 1988

### Third Meeting of the 1988 Council

Sunday, October 30

Marriott Hotel

Room: Colorado A

7:30 a.m. - 5:30 p.m.

The 1988 Council will act on recommendations from the Nominating Committee for Officers, the Nominating Committee for Fellows, the Roebling Medal Committee, the MSA Award Committee, and the Research Grant (Mineralogy Petrology) Committee at its final meeting. The report of the Tellers Committee will also be certified. Council decisions will be announced at the Business Meeting on Tuesday, November 1.

### MSA Reception

Tuesday, November 1

Marriott Hotel

Room: Denver 1,2 and 3

5:30 - 7:30 p.m.

All MSA members and scientists interested in mineralogy, petrology, and crystallography are invited to attend and enjoy a drink with colleagues.



## MSA Symposium: The Chemistry and Physics of Minerals in the Mantle.

Monday, October 31  
Denver Convention Complex  
Room: 1AF  
2:00-4:45 p.m.

Much exciting new research today is directed toward understanding the lithosphere and mantle. In MSA's symposium this year, convenor Henry O. A. Meyer has arranged coverage of many of the most stimulating topics by leading researchers in the field. Subjects and speakers are listed below.

Mantle mineralogy and chemistry from seismology - D. Anderson;  
Mineralogy of the upper mantle: Constraints from seismology - N. I. Christensen;  
State of perovskite in the lower mantle - D. J. Weidner and A. Yeganeh-Haeri;  
Silicate perovskite and the nature of the earth's mantle - R. Jeanloz and E. Knittle;  
Mechanics of phase transformations - R. C. Liebermann, A. R. Remsberg and Y. Wang;  
Rheology of the lower mantle - J.-P. Poirier;  
Crystal chemistry in the mantle: Truth versus artifact - L. W. Finger;  
Vibrational dynamics of mantle silicates - R. J. Hemley;  
Trace elements and isotope systematics in mantle minerals - A. Zindler, E. Jagoutz, J. Rosenbaum and J. Rubenstone;  
Oxidation state of the upper mantle - B. J. Wood and S. Esperanca;  
Redox heterogeneities in the upper mantle - S. E. Haggerty.

### First Meeting, 1988 Council

Tuesday, November 1  
Marriott Hotel  
Room: Silverheels  
8:00 - 11:00 p.m.

Members of the 1989 Council will hold a dinner meeting to set goals and priorities for the coming year. This is the first opportunity for new Council members to participate in the ongoing activities of the Council.

## MSA Booth, #130-132

Monday, October 31, 10:00 a.m. - 5:30 p.m.  
Tuesday, November 1, 9:00 a.m. - 5:00 p.m.  
Wednesday, November 2, 8:00 a.m. - 2:00 p.m.  
Denver Convention Complex  
Currigan Exhibition Hall

Be sure you visit the MSA booth at Currigan Hall. The newest volume in the *Reviews in Mineralogy* series, *Hydrous Phyllosilicates*, will be available, as will the other books in this series. The booth has been expanded so there will be room for members to talk to colleagues, as well as Society officers, the managing editor of the *American Mineralogist* and other staff. Bring a friend who should be a member of the Society and we'll help you sign up him or her!

### Presidential Address

#### Annual Business Meeting

Tuesday, November 1  
Denver Convention Complex  
Room: 1BE  
10:45 a.m. - Noon

MSA President David B. Stewart will give his presidential address, "Crustal Processes in Maine", beginning at 10:45 a.m. The address will be followed by an open business meeting. MSA bylaws require that such a meeting be held annually whereby the membership is provided reports by the officers to familiarize themselves with Society activities. All members are encouraged to attend.

### Annual Awards Luncheon

Tuesday, November 1  
Marriott Hotel  
Room: Colorado F  
12:15 p.m. - 2:00 p.m.

Julian Goldsmith, recipient of the 1988 Roebling Medal, and Raymond Jeanloz, recipient of the MSA Award for 1988, will be honored at this annual luncheon. Following these presentations, 1988 President David B. Stewart will pass the gavel to the 1989 President and a new Council will take office. The Annual Luncheon provides members with an opportunity to meet colleagues and to recognize outstanding contributors to the science.

# WELCOME

*ONLY ONCE IN A HUNDRED YEARS . . . When the Geological Society of America celebrates its 100th anniversary in Denver, October 31 through November 3, it will be a tribute not only to the Society but also to the science of geology. Unique events will be a part of this tribute.*

*More than 6000 geoscientists are expected during the Celebration. All segments of the geologic professions will be represented. Registrants will have the opportunity to participate in new technical formats and special programs, to view unique Centennial displays, to exchange ideas with colleagues, to familiarize themselves with exhibitor products, and to expand professionally through seminars and field trips.*

*General Chairman Robert J. Weimer, Professor Emeritus, Colorado School of Mines, chairs a committee of 17 members from the Denver area. An additional group of 400 volunteers will participate in hosting and assisting at meeting functions. Colorado's major scientific and geologic associations and corporations are lending their support to the occasion. More than 18 Denver corporations and institutions have become sponsors.*



# PREREGISTRATION FORM

1988 GSA Centennial Celebration ■ October 31–November 3

Preregistration must be RECEIVED by October 7. Payment and form MUST accompany each preregistration request. Unpaid purchase orders NOT accepted as valid registration. Cancellation deadline: October 14. No refunds on cancellations received after this date. Shaded areas are badge information.

Please print \*\* Copy for your records \*\* One form per registrant

Name (Last)	(First)	
Institution/Employer		
Nickname for badge		
Mailing Address		
City	State	ZIP code
Country	Business phone	Home phone
Guest/Spouse Name (Last)	(First)	
City	State/County	

Circle Member Affiliations:	(1) GSA (Member #)	(2) CF	(3) GS
(4) GIS	(5) MSA	(6) NAGT	(7) PS
(8) SEG	(9) AWG	(0) SGE	(00) SVP

(registration required for participation in all events)

Price	Qty	Amount
(1) \$100	1	\$
(2) \$58	1	\$
(3) \$140	1	\$
(4) \$78	1	\$
(5) \$40	1	\$
(6) \$24	1	\$
(7) \$60	1	\$
(8) \$34	1	\$
(9) \$35	1	\$

Abstracts with Programs (reserved for on-site pickup) ..... (10) \$ 19 \$

Historic Denver Walking Tour	Oct 31	\$ 5
Georgetown—Nostalgic Mining Mecca	Oct 31	\$
Molly Brown Trunk Showing and Tour	Nov 1	\$ 30
Colorado Springs Cache	Nov 2	\$ 38
Historic Denver Walking Tour (repeat)	Nov 2	\$ 5

GSA Centennial Orchestra	Nov 1	\$ 5
5K Run (check T-shirt size: S M L XL)	Nov 2	\$ 12
10K Run (check T-shirt size: S M L XL)	Nov 2	\$ 12
Centennial Birthday Bash	Nov 2	\$ 19
Total Column A		\$

Deposit Date	FOR OFFICE USE ONLY
Balance Due \$	Comment
Refund \$	A/R
Refund Ck #	A/P
Refund Date	

Mail to: '88 GSA Centennial, P.O. Box 9140, Boulder, CO 80301

## TICKETED MEAL FUNCTIONS

	Oct 31	(20)	Price	Qty	Amount
Engineering Geology Luncheon	Oct 31	(20)	\$ 16		
History of Geology Luncheon	Oct 31	(21)	\$ 16		
Geophysics Luncheon	Nov 1	(22)	\$ 16		
Geoscience Information Society Luncheon	Nov 1	(23)	\$ 16		
Hydrogeology Luncheon	Nov 1	(24)	\$ 16		
Mineralogical Society Luncheon	Nov 1	(25)	\$ 16		
National Assoc. Geology Teachers Luncheon	Nov 1	(26)	\$ 16		
Paleontological Society Luncheon	Nov 1	(27)	\$ 16		
Sedimentary Geology Breakfast	Nov 1	(28)	\$ 11		
Assoc. Women Geoscientists Breakfast	Nov 2	(29)	\$ 11		
Coal Geology Luncheon	Nov 2	(30)	\$ 16		
Geochemical Society Luncheon	Nov 2	(31)	\$ 16		
Quaternary Geology & Geomorphology Luncheon	Nov 2	(32)	\$ 16		
Society of Economic Geologists Luncheon	Nov 2	(33)	\$ 16		

## FIELD TRIPS\*

1 Precambrian, SE Wyoming	Oct 27-30 (34)	\$250	1	\$
2 Pikes Peak Plutons and Pegmatites	Oct 28-30 (35)	\$275	1	\$
3 Early Tertiary Coals, Powder River Basin	Oct 27-30 (36)	\$305	1	\$
4 Hayden's Tertiary Lakes-White River Formation	Oct 27-30 (37)	\$495	1	\$
5 Geology, Hydrogeology, Nebraska Sandhills	Oct 28-30 (38)	\$247	1	\$
6a Hydrogeology, Paleohydrology (w/ airfare)	Oct 27-30 (39)	\$305	1	\$
6b Hydrogeology, Paleohydrology (w/o airfare)	Oct 27-30 (40)	\$210	1	\$
7 Basin and Range to Edge of Plains	Oct 26-30 (41)	\$380	1	\$
8 Pennsylvanian-Permian Deposition, Eagle Basin	Oct 29-30 (42)	\$135	1	\$
9 Archaeological Geology, High Plains	Oct 28-30 (43)	\$175	1	\$
10 Compression and Crustal Wedging, Front Range	Oct 30 (44)	\$ 55	1	\$
11 Geomorphology of Canyonslands, Utah	Oct 28-30 (45)	\$190	1	\$
12a Lake Bonneville, Neotectonics (w/ lodging)	Oct 27-30 (46)	\$195	1	\$
12b Lake Bonneville, Neotectonics (w/o lodging)	Oct 27-30 (47)	\$105	1	\$
13 Hydrogeology, Mountains and Foothills, Denver	Oct 30 (48)	\$ 67	1	\$
14 Vertebrate Paleontology, W. Colorado and Utah	Oct 28-29 (49)	\$230	1	\$
15 Landslides and Construction Problems	Oct 28-29 (50)	\$170	1	\$
16 Telliurite Deposits, Boulder County	Oct 29 (51)	\$ 66	1	\$
17 In the Presence of Eternity	Nov 4 (52)	\$ 25	1	\$
18a Deformation Cordilleran Orogenic (w/ airfare)	Nov 3-6 (53)	\$330	1	\$
18b Deformation Cordilleran Orogenic (w/o airfare)	Nov 3-6 (54)	\$230	1	\$
19 Proterozoic Glacial-Marine Sedimentation	Nov 3-6 (55)	\$190	1	\$
20 Upper Cretaceous Sandstones, Wyoming	Nov 3-6 (56)	\$370	1	\$
21 Dinosaur Tracks, Purgatoire Valley	Nov 3-6 (57)	\$220	1	\$
22 Cretaceous-Tertiary Boundary, Raton Basin	Nov 3-5 (58)	\$200	1	\$
23 Geology and Mineral Resources, Colorado	Nov 4-5 (59)	\$140	1	\$
24 Pleistocene Floods, Big Thompson River	Nov 4 (60)	\$ 35	1	\$
25 Tectonics & Sedimentation, Phanerozoic Rocks	Oct 31 (61)	\$ 16	1	\$
26 Proterozoic Core, Central Front Range	Nov 1 (62)	\$ 16	1	\$
27 Dinosaurs Near Denver	Nov 2 (63)	\$ 16	1	\$
28 Denver's Geologic Setting	Nov 3 (64)	\$ 16	1	\$

## SHORT COURSES\*

1 Use of Microcomputers, Structural Geology	Oct 28-30 (65)	\$190	1	\$
2 Ore Deposition Associated with Magmas	Oct 28-30 (66)	\$225	1	\$
3 Geographical Information Systems	Oct 29 (67)	\$194	1	\$
4 Glacial Facies Models	Oct 29-30 (68)	\$146	1	\$
5 Seismic Imaging of the Continental Crust	Oct 29 (69)	\$125	1	\$
6 Hazardous-Waste Site Characterization	Oct 29-30 (70)	\$152	1	\$
7 Quantitative Sedimentary Basin Modeling	Oct 29-30 (71)	\$138	1	\$
8 Seminar in Geoscience Writing	Oct 30 (72)	\$ 88	1	\$
9 Evolution of Reef Communities	Nov 4 (73)	\$138	1	\$
□ Check here if already registered for a short course.				
Total Column B		\$		
Total Column A		\$		
Column A + B = Total Remittance		\$		
(full payment must be enclosed)				

Remit in U.S. funds, payable to '88 GSA Centennial Celebration or charge:

□ American Express □ Diners Club/ Carte Blanche □ MasterCard □ VISA

Card expires: mo. / yr. card number

Signature

(PREREGISTRATION MUST BE RECEIVED BY OCTOBER 7)



# 1988 CENTENNIAL TECHNICAL

SUNDAY OCT. 30	MONDAY OCT. 31	TUESDAY NOV. 1	WEDNESDAY NOV. 2
8:00 a.m. to 12:00 noon Pre-meeting Session	8:00 a.m. to 12:00 noon Centennial Opening Session	8:00 a.m. to 12:00 noon Session 2	8:00 a.m. to 12:00 noon Session 4
#17 Last Interglacial/Glacial I #19 Andean Magmatism I #21 Seismicity Faulting Hazards I #22 Thermal Evolution Sevier I #23 Mineral Deposits I	<p>OPENING CEREMONIES</p> <p>CENTENNIAL SYMPOSIUM: NORTH AMERICA IN 4-D</p>	# 4 Hazard Reduction # 5 Mars # 6 Modern Glaciomarine Deposits # 8 History Frame/Human Evolution #13 Work Stations #24 EEZ-SCAN (posters)  Coal/Tectonics/Geophysics II Economic II Geochemistry II Metamorphic petrology II Mineralogy/Crystallography I Paleontology II Structural II Tectonics II Volcanology I  PRECAMBRIAN SEDIMENTARY PETROLOGY STRATIGRAPHY I TECTONICS I TECTONICS/GEOPHYSICS I	# 3 Processes Continental Growth #14 Computer Assisted Phylogeny I #16 Sedimentary Petrology Teaching  Experimental petrology Geochemistry IV Igneous petrology II Marine I Paleontology III Precambrian II Quaternary II Sedimentology I Structural III Tectonics IV  <i>8. Secular Variation in Sedimentary Record I</i>  MICROPALAEONTOLOGY MINERALOGY/CRYSTALLOGRAPHY PALEONTOLOGY I PETROLEUM REMOTE SENSING TECTONICS II TECTONICS/GEOPHYSICS II
<b>LUNCHEONS:</b>	Engineering, History	Geophysics, GIS, Hydrogeology, MSA, NAGT, PS	Coal, GS, QG&G, SEG
1:00 p.m. to 5:00 p.m. Pre-meeting Session	1:00 p.m. to 5:00 p.m. Session 1	1:30 p.m. to 5:30 p.m. Session 3	1:30 p.m. to 5:30 p.m. Session 5
#17 Last Interglacial/Glacial II #18 Supercollider #19 Andean Magmatism II #20 Siljan Ring Well #21 Seismicity Faulting Hazards II #22 Thermal Evolution Sevier II #23 Mineral Deposits II	# 2 Cretaceous Coals #11 Chemistry & Physics Mantle #15 Case Histories Mineral Discoveries #25 Dynamics of Climate Change  Archaeology Economic I Geochemistry I Metamorphic petrology I Paleontology I Precambrian I/Theme 1 Quaternary I Structural I Tectonics I Tectonics/Geophysics I  <i>1. Diagenesis of Lacustrine Rocks</i>  ENGINEERING EXPERIMENTAL PETROLOGY GENERAL GEOLOGY EDUCATION GEOSCIENCE INFORMATION IGNEOUS PETROLOGY MARINE OCEANOGRAPHY PLANETARY SEDIMENTOLOGY I	# 1 Phanerozoic Tectonics N.A. # 7 Ancient Glaciomarine Deposits # 9 New World Geoarchaeology #12 A Tale of Two Cratons #28 Solution Collapse Breccias  Economic III Engineering/Tectonics/ Geophysics III General/Planetary/Remote sensing Geochemistry III Geology education I/History Igneous petrology I Metamorphic petrology III Mineralogy/Crystallography II/ Sedimentary petrology I Tectonics III  ARCHAEOLOGY COAL HYDROGEOLOGY SEDIMENTOLOGY II STRATIGRAPHY II STRUCTURAL I	#10 Problems of Contaminant Transport #14 Computer Assisted Phylogeny II  Economic IV/Theme 7 Geoscience information/ Metamorphic petrology IV Glacial/Geology education II Igneous petrology III Marine II/Micropaleontology I/ Oceanography Paleontology IV Petroleum/Theme 8 II Sedimentary petrology II Sedimentology II Stratigraphy I Structural IV Tectonics V  <i>7. Physics &amp; Chemistry Mylonites I</i> <i>8. Secular Variation in Sedimentary Record II</i>  ECONOMIC I ENVIRONMENTAL I GEOCHEMISTRY I GEOMORPHOLOGY GLACIAL HISTORY TECTONICS/GEOPHYSICS III
Exhibits Open Welcoming Reception	GSA Presidential Address and Awards Ceremonies Awards Reception and Alumni Parties	Geology & Public Policy Forum GSA Centennial Orchestra	CENTENNIAL BIRTHDAY BASH!

**Key:** # = symposia (invited and open)  
color = oral sessions (volunteered)  
italics = theme sessions (volunteered)  
upper case = poster sessions (volunteered)

Combined sessions shown with slash.  
Contents listing shows full title of symposia and theme sessions.  
Symposia, theme, and volunteered sessions may be in either oral or poster mode.



# PROGRAM SCHEDULE

## THURSDAY

NOV. 3

8:00 a.m. to 12:00 noon

Session 6

#26 Accumulation of Organic Matter  
#27 Late Proterozoic Evolution N.A.  
#29 Fractals in Geology

Economic V  
Geochemistry V  
Geomorphology I/Theme 6  
Hydrogeology I  
Igneous petrology IV  
Sedimentology III  
Structural V/Volcanology II  
Tectonics VI

3. *Geophysical Patterns in N.A. I*  
4. *Global Sedimentary Geology*  
6. *Paleontologic Constraints/  
Terranes*  
7. *Physics & Chemistry Mylonites II*

ECONOMIC II  
ENVIRONMENTAL II  
METAMORPHIC PETROLOGY  
PALEONTOLOGY II  
QUATERNARY

1:00 p.m. to 5:00 p.m.

Session 7

#27 Late Proterozoic Evolution N.A.  
(posters)  
#29 Fractals in Geology (posters)  
#30 Apparent Polar Wander Paths

Economic VI  
Environmental/Theme 3  
Geochemistry VI  
Geomorphology II  
Hydrogeology II  
Igneous petrology V  
Micropaleontology II  
Paleontology V/Quaternary III  
Paleontology VI/Sedimentology IV  
Stratigraphy II  
Tectonics VII  
Tectonics VIII

2. *Geology & Public Policy*  
3. *Geophysical Patterns N.A. II*  
(oral & posters)

GEOCHEMISTRY II  
STRUCTURAL II  
VOLCANOLOGY

## SYMPOSIA

### NORTH AMERICA IN 4-D, OPENING SYMPOSIUM

- |  |         |
|--|---------|
| 1. Phanerozoic Tectonics of North America  | Oct. 31 |
| 2. Controls on the Distribution and Quality of Cretaceous Coals  | Nov. 1  |
| 3. Processes of Continental Growth: Geophysical and Geologic Evidence  | Oct. 31 |
| 4. Hazard Reduction in the 21st Century  | Nov. 2  |
| 5. Mars: Geologic Analyses and Future Missions   | Nov. 1  |
| 6. Modern Glaciomarine Deposits: Polar vs. Temperate Environments  | Nov. 1  |
| 7. Ancient Glaciomarine Deposits: Polar vs. Temperate Environments   | Nov. 1  |
| 8. History of the Establishment of a Geologic Framework for Human Evolution  | Nov. 1  |
| 9. New World Geoarchaeology  | Nov. 1  |
| 10. Use of Geophysical Methods for Hydrogeologic Characterization and for Problems of Contaminant Transport              | Nov. 2  |
| 11. The Chemistry and Physics of Minerals in the Mantle  | Oct. 31 |
| 12. A Tale of Two Cratons: Contrasts in Crust-Mantle Evolution   | Nov. 1  |
| 13. Individual Work Stations: Information Supermarkets for Geoscientists   | Nov. 1  |
| 14. Computer-Assisted Phylogeny Programs in Research and Teaching—Parts I & II   | Nov. 2  |
| 15. Case Histories of World-Class Mineral Discoveries  | Oct. 31 |
| 16. Sedimentary Petrology: Old Foundations and New Implications for Teaching   | Nov. 2  |
| 17. Last Interglaciation/Glaciation Transition (122–64 ka) in North America—Parts I & II                                 | Oct. 30 |
| 18. The Role of Geology in the Superconducting Super Collider Site-Selection Process                                     | Oct. 30 |
| 19. Andean Magmatism and Its Tectonic Setting—Parts I & II   | Oct. 30 |
| 20. Siljan Ring Well, Sweden: Deep Drilling in Crystalline Rocks   | Oct. 30 |
| 21. Seismicity, Quaternary Faulting, and Earthquake Hazards in the Rocky Mountain Region—Parts I & II                    | Oct. 30 |
| 22. Thermal Evolution of the Sevier Hinterland—Parts I & II  | Oct. 30 |
| 23. Historical Perspectives and Future Directions in Mineral Deposits Research and Major Metals Utilization—Parts I & II | Oct. 30 |
| 24. EEZ-SCAN: Results of the U.S. Geological Survey GLORIA Survey Program (Posters)                                      | Nov. 1  |
| 25. The Dynamics of Climate Change   | Oct. 31 |
| 26. Productivity, Accumulation, and Preservation of Organic Matter: Recent and Ancient Sediment Records                  | Nov. 3  |
| 27. Late Proterozoic Evolution of Western North America: A Re-Evaluation (Oral & Posters)                                | Nov. 3  |
| 28. Mineral Resources of Solution-Collapse Breccias and Filled Sinkholes   | Nov. 1  |
| 29. Fractals in Geology (Oral & Posters)   | Nov. 3  |
| 30. Paleomagnetism and North American Apparent Polar Wander Paths: Cenozoic to Precambrian                               | Nov. 3  |

## THEME SESSIONS

- |  |         |
|--|---------|
| 1. Diagenesis of Lacustrine Rocks  | Oct. 31 |
| 2. Geology and Public Policy for the 21st Century                        | Nov. 3  |
| 3. Geophysical Patterns in North America (oral and posters)—Parts I & II | Nov. 3  |
| 4. Global Aspects of Sedimentary Geology                                 | Nov. 3  |
| 5. Organic Compounds in Groundwater will not be held                     |         |
| 6. Paleontologic Constraints on Accreted Terranes                        | Nov. 3  |
| 7. Physics and Chemistry of Mylonites—Part I                             | Nov. 2  |
| Part II  | Nov. 3  |
| 8. Secular Variation in Sedimentary Record—Parts I & II                  | Nov. 2  |

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**1 DENVER MARRIOTT CITY CENTER—  
CO-HEADQUARTERS**

1701 California Street, Denver, CO 80202  
(303) 297-1300 (500-room block)  
4 blocks from Currigan Hall

Single: \$74 Double: \$84

Children under 18 accompanied by parent—Free

Full-service hotel; complete fitness center (indoor swimming pool, whirlpool, saunas, exercise equipment); 2 restaurants; Gallery Bar; cocktail lounge with piano; concierge; laundry and valet service; valet parking, currently \$10/day

Check-in: 3 p.m. Check-out: 12 noon

CC: AX, CB, D, DC, MC, V

**2 HYATT REGENCY DENVER—  
CO-HEADQUARTERS**

1750 Welton Street, Denver, CO 80202  
(303) 295-1200 (400-room block)  
4 blocks from Currigan Hall

Single: \$74 Double: \$84

Children under 18 accompanied by parent—Free

Full-service hotel; 1 block from 16th Street shopping mall; full-service casual and elegant dining; piano bar and terrace lounge; outdoor running track and tennis courts; complete health club facility adjacent; laundry, valet service; garage self-parking, currently \$4.50/day; valet parking, currently \$9/day

Check-in: 3 p.m. Check-out: 12 noon

CC: AX, CB, D, DC, MC, V

**3 BROWN PALACE HOTEL**

321 Seventeenth Street, Denver, CO 80202  
(303) 297-3111 (230-room block)  
7 blocks from Currigan Hall

Single: \$85 Double: \$100

Children under 18 accompanied by parent—Free

95-year history, distinguished by unerring commitment to excellence; 2 restaurants; 2 lounges; 24-hour room service; valet parking, currently \$7.50/day; gift shop; florist; Mobil 4-star and AAA 4-diamond ratings

Check-in: 2 p.m. Check-out: 1 p.m.

CC: AX, CB, DC, MC, V

**4 COMFORT INN**

401 Seventeenth Street, Denver, CO 80202  
(303) 296-0400 (175-room block)  
8 blocks from Currigan Hall

Single: \$45 Double: \$45

Children under 16 accompanied by parent—Free

Free cocktails for 2½ hours every evening; complimentary continental breakfast daily; 24-hour room service; valet and laundry service; valet parking, currently \$5/day; free HBO, CNN, ESPN; connected by walkway to Brown Palace

Check-in: 2 p.m. Check-out: 12 noon

CC: AX, CB, D, DC, MC, V

**5 EXECUTIVE TOWER INN**

1405 Curtis Street, Denver, CO 80202  
(303) 571-0300 (250-room block)  
1 block from Currigan Hall

Single: \$60 Double: \$70

Children under 17 accompanied by parent—Free

Restaurant; coffee shop; cocktail lounge; free use of full athletic club (racquetball, squash, tennis, indoor olympic pool, basketball court, steam, sauna, whirlpool, jogging tracks); coin-operated laundromat; indoor self-parking, currently \$3/day

Check-in: 2 p.m. Check-out: 12 noon

CC: AX, CB, DC, MC, V

**6 HOLIDAY INN DENVER DOWNTOWN**

1450 Glenarm Place, Denver, CO 80202  
(303) 573-1450 (250-room block)  
3½ blocks from Currigan Hall

Single: \$55 Double: \$65

Children under 18 accompanied by parent—Free

Restaurant; cocktail lounge; room service; valet laundry; free indoor self-parking, valet parking upon request; gift shop; pay movie channels; access to athletic facility at reduced rate

Check-in: 3 p.m. Check-out: 12 noon

CC: AX, CB, D, DC, MC, V

**7 RADISSON HOTEL DENVER**

1550 Court Place, Denver, CO 80202  
(303) 893-3333 (650-room block)  
6½ blocks from Currigan Hall

Single: \$60 Double: \$70

Children under 18 accompanied by parent—Free

Three restaurants and lounges featuring continental cuisine and nightly entertainment; full health club (outdoor heated pool, aerobics classes, exercise and weight equipment, saunas, tanning bed, licensed massage therapist); concierge floor; laundry and valet service; inside parking, currently \$1.25–\$5.25/day; in-house barber shop; package liquor; gift shops; airline ticket agent; print shop; currency exchange

Check-in: 3 p.m. Check-out: 12 noon

CC: AX, CB, D, DC, MC, V

**8 WESTIN HOTEL TABOR CENTER**

1672 Lawrence Street, Denver, CO 80202  
(303) 572-9100 (150-room block)  
4 blocks from Currigan Hall

Single: \$84 Double: \$98

Children under 18 accompanied by parent—Free

Deluxe hotel connected to Tabor Center (featuring 70 shops and restaurants); oversized guest rooms and honor bar/ refrigerator; color TV, complimentary HBO, Spectravision; large working desk area; casual 3-meal restaurant, Augusta 5-star dining room; lobby lounge with live piano entertainment; 24-hour room service; free health club facilities (indoor/outdoor pool, hot tub, saunas, exercise and weight room); underground parking, currently \$6/day

Check-in: 3 p.m. Check-out: 1 p.m.

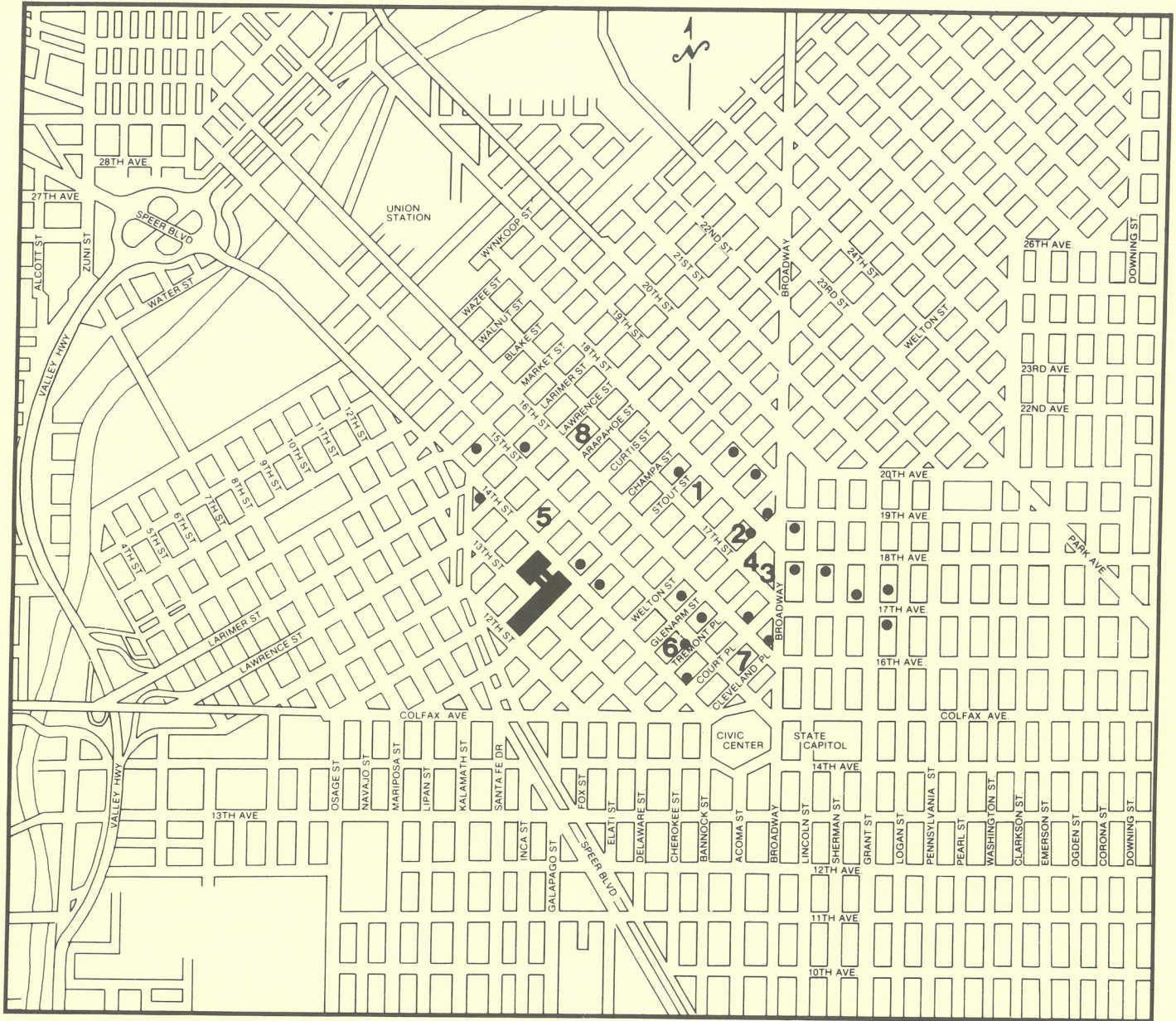
CC: AX, CB, D, DC, MC, V

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Credit card (CC) codes: AX = American Express / CB = Carte Blanche / D = Discover / DC = Diners Club / MC = MasterCard / V = VISA



# DOWNTOWN DENVER



1. DENVER MARRIOTT CITY CENTER
2. HYATT REGENCY DENVER
3. BROWN PALACE HOTEL
4. COMFORT INN
5. EXECUTIVE TOWER INN
6. HOLIDAY INN DENVER DOWNTOWN
7. RADISSON HOTEL DENVER
8. WESTIN HOTEL TABOR CENTER

**CURRIGAN EXHIBITION HALL  
DENVER CONVENTION COMPLEX**

Dots indicate public parking lots. Rates range from 50¢ minimum charge per ½ hour to \$6 maximum charge for all day. Some lots are open 24 hours per day, allowing for overnight parking. Most lots, however, are unattended after 8:00 p.m.



# GSA OFFICIAL HOUSING REQUEST FORM

Please complete BY OCTOBER 7 and send to: Denver Convention Bureau/GSA Housing  
225 West Colfax Avenue  
Denver, CO 80202  
(303) 892-1151

(Please print or type all information below)

## HOTEL/MOTEL PREFERENCE:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Rate requested \$ \_\_\_\_\_

## TYPE OF ACCOMMODATION NEEDED:

- |                                   |                            |
|-----------------------------------|----------------------------|
| _____ Single (1 bed, 1 person)    | _____ 1 Bedroom Suite      |
| _____ Double (1 bed, 2 persons)   | _____ 2 Bedroom Suite      |
| _____ Dbl/Dbl (2 beds, 2 persons) |                            |
| _____ Triple                      | _____ Add rollaway to room |
| _____ Quad                        |                            |

NOTE: All rooms are subject to 11.8% tax.

ARRIVAL DAY/DATE \_\_\_\_\_ TIME \_\_\_\_\_ a.m./p.m.

DEPARTURE DAY/DATE \_\_\_\_\_ TIME \_\_\_\_\_ a.m./p.m.

## NAMES OF OCCUPANTS:

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

## GUARANTEED ROOM RESERVATION AUTHORIZATION:

I understand that my reservation will not be held after 6:00 p.m. unless I guarantee my reservation. I also understand that the hotel may bill me for one night's housing if I fail to properly cancel a guaranteed reservation.

- \_\_\_\_\_ Credit card information provided below to guarantee my reservation.
- \_\_\_\_\_ My guarantee will be made directly to the hotel *after* I have received my hotel confirmation.
- \_\_\_\_\_ I will take my chances. No guarantee deposit will be provided.

DO NOT SEND ANY MONIES WITH THIS FORM

Please guarantee my room reservation with the following:

\_\_\_\_\_ American Express    \_\_\_\_\_ Carte Blanche    \_\_\_\_\_ Diners Club    \_\_\_\_\_ Discover    \_\_\_\_\_ MasterCard    \_\_\_\_\_ VISA

NAME (as listed on credit card) \_\_\_\_\_

SIGNATURE \_\_\_\_\_

CARD NUMBER \_\_\_\_\_ EXP. DATE \_\_\_\_\_

## MAIL CONFIRMATION TO:

Name \_\_\_\_\_ Telephone (    ) \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

State \_\_\_\_\_ ZIP \_\_\_\_\_ Country \_\_\_\_\_



# REGISTRATION

**PREREGISTER TODAY! PREREGISTRATION DEADLINE:  
MUST BE RECEIVED NO LATER THAN OCTOBER 7.**

1. There is a substantial savings in registration fees if you register before the preregistration deadline! Advance registration is suggested for many of the special activities because of participation limits. Use the preregistration form provided in this announcement.
2. Registration is required for *all* attendees. Badges must be worn for *ALL* activities 10:00 a.m. Sunday through 5:00 p.m. Thursday. PLEASE, do not lose your badge. A fee will be charged for replacement of lost badges.
3. Registration discounts are given to GSA or Associated Society members. Associated Societies that qualify for this discount are indicated on the registration form. Please indicate your affiliation(s) and member number, and register using the member rates.
4. Full payment and form **MUST** accompany registration. Unpaid purchase orders are not accepted as valid registration. Charge cards are accepted as indicated on the preregistration form. If using a charge card, please recheck the card number given—errors will delay your registration.
5. Register one professional or student per form. Copy the form for your records. One-day registrants **MUST** indicate the day they plan to attend on the registration form.
6. Guest registration is required for guests attending guest activities, special events, the exhibit hall, and luncheons. The registration fee does not include admission to the technical sessions. Guest registrants **MUST** be accompanied by either a professional or student registrant.
7. **CURRENT** student ID is required to obtain student rates at both the on-site and preregistration counters. Students not carrying a current student ID when they arrive to pick up registration materials will be required to pay the professional fee.

## Registration Fees

	Advance*	On-Site	One-Day
Professional—Member	\$100	\$115	\$58
Professional—Nonmember	\$140	\$155	\$78
Student—Member	\$ 40	\$ 47	\$24
Student—Nonmember	\$ 60	\$ 67	\$34
Guest	\$ 35	\$ 45	N/A

\*Registration fees received before October 7.

## New Membership Discounts

A \$40 member discount on registration applies to any professional member of GSA or Associated Society. The Associated Societies that qualify are listed on the registration form. Professional registrants who paid the nonmember registration fee and apply for GSA membership by March 31, 1989, will be entitled to a \$40 reduction in the 1989 membership fee. Students will receive a \$20 discount from the 1989 Student Associate membership fee. Only **ONE** discount will apply per person. In order to receive the reduction, a copy of the meeting registration form **MUST** be attached to the membership application. Membership applications are available from GSA headquarters. During the meeting, you can pick up applications at the GSA Bookstore (Exhibit Hall, Booth #435) or at the Employment Service, Membership Desk, or Registration Area, Denver Convention Complex and Currihan Hall A.

## HOUSING

GSA has blocked rooms at eight hotels that are offering special convention rates to GSA meeting attendees. GSA endorses these hotels for quality, cleanliness, and service.

### To Make Your Hotel Reservation

BY FRIDAY, OCTOBER 7, fill out the attached Official Housing Request Form and mail it immediately to the address shown on the form. No reservations will be accepted if not submitted on this form.

AFTER FRIDAY, OCTOBER 7, you are responsible for making your own reservation directly with the hotel. Note that (1) many hotels will be filled at that time, and (2) hotels are not required to offer the special GSA rate as shown.

### Assignment

Hotel rooms will be assigned on a first-come, first-served basis as they are received by the Housing Bureau. Once your request is received, the bureau will send an acknowledgment to both you and your assigned hotel.

You will then receive a confirmation from the hotel. This is a notice that the hotel received the information from the bureau and that the reservation has been entered into their system.

### Changes and Cancellations

BEFORE OCTOBER 7, all changes and cancellations to your room reservation must be sent, in writing, to the Housing Bureau.

AFTER OCTOBER 7, all changes and cancellations to your room reservation must be telephoned in to your hotel.

Supply your hotel reservation number at the time of any change or cancellation.

Your notice of cancellation must be received **AT LEAST 48 HOURS** in advance of your scheduled arrival in order to receive full refund of your first night's room deposit.

NOTE: All rooms are subject to a (current) 11.8% room tax.

### Room Deposits/ Guarantees

All GSA hotels require a first night's room deposit. Deposits can be made by (1) including a credit card number on the housing form, or (2) sending payment directly to the hotel once you have received your confirmation. The amount of deposit should be the cost of one night's stay at your assigned hotel. Note that the Housing Bureau will accept **ONLY** credit card numbers. If making payment directly to the hotel, be sure to give them your confirmed reservation number.

Once the hotel receives your deposit, it automatically guarantees your reservation.

The guarantee assures you that no matter what time you arrive on your scheduled arrival day, your room will be held until 6:00 a.m. of the following day.

If you have not guaranteed your reservation, the hotel is not required to hold your room beyond 6:00 p.m. of the scheduled arrival day.



# TRANSPORTATION

## AIR

GSA has again designated The Cain Travel Group of Boulder, Colorado, as the official airline reservation agent for the GSA Centennial Celebration. Meeting participants are encouraged to call Cain's toll-free number to take advantage of discounted fares on selected airlines. United and Delta Airlines have been named official carriers.

Reduced rates are 5% off any available discount fare that generally has restrictions. If you do not meet the requirements for the discount fare, you will be offered 40% off the unrestricted coach fare.

To make a reservation:

- Call 1-800-346-4747 (toll-free outside Colorado), 303-443-2246 (inside Colorado), or collect from Canada. Hours are Monday through Friday, 8:00 a.m. to 5:30 p.m., Mountain Time.
- Call early for best availability and identify yourself as a GSA traveler.
- Be sure that you understand the restrictions on the type of ticket you request.
- Tickets can be paid for by check (payable to Cain Travel), major credit card, or invoice to company. The final payment must reach Cain Travel no later than seven days prior to departure to allow for mailing time.
- All tickets will be mailed via certified mail upon receipt of payment unless requested otherwise.
- After tickets are issued, you are protected from fare increases; if a fare decreases, call Cain Travel for an adjustment.
- Cain Travel will have an on-site Customer Service Desk at Currigan Hall.

## GROUND

Denver's Stapleton Airport is 5 miles from Currigan Hall, the Denver Convention Complex, and the downtown area (an approximate 15-minute ride). Transportation options are as follows.

### The Airporter

Airport to hotel. Open from 8:00 a.m. to 10:00 p.m., 7 days a week. To purchase a ticket go to the ground transportation counter opposite door 6 in the baggage claim area. Departures are every 15 minutes. Cost: \$5.

Hotel to airport. During the week, The Airporter stops at all major downtown hotels every half hour. For service on weekends, call 24 hours in advance for reservations, 393-0621. Cost: \$5.

### Taxi Cabs

Airport service. Three cab companies service the airport and downtown area; they are regulated, metered vehicles. Charges are \$1.25 for the first mile and \$1.00 for each additional mile.

### Regional Transportation District (RTD)

The city transportation system services downtown and major sight-seeing locations. RTD runs from 5:00 a.m. to 1:00 a.m., 7 days a week. Buses stop every 15 to 30 minutes. Route maps will be posted in all GSA hotel lobbies. Cost: 75¢ per ride (10¢ for senior citizens). For general information, call RTD at 778-6000.

### GSA Shuttle

GSA will operate a free shuttle service throughout the meeting. GSA hotel guests will be transported to and from Currigan Hall during meeting hours. The shuttle will also operate during special events at Currigan Hall and the hotels.

This service will be provided each day (Sunday, October 30, through Thursday, November 3) beginning at 6:30 a.m. and continuing at 15-minute intervals through the meeting hours. The service will continue into the evening for the special events.

Look for shuttle schedules posted in GSA hotel lobbies and in registration packets. Each bus will be identified by a "GSA Shuttle Bus" sign in the front window.

### Car Rental

Alamo is the official car rental agency for the meeting. Identify yourself as a GSA delegate and get guaranteed, discounted, daily/weekly rates as follows: economy \$24/\$75; compact \$26/\$99; intermediate \$28/\$119; standard (two-door) \$29/\$149; luxury \$31/\$179. Add \$2 per day for 4-door models. Unlimited mileage. Vehicles returned to any other Alamo location will be subject to drop charges. Call Alamo for advance reservations, (800) 732-3232. Give the GSA Group I.D. No. 34148 and the GSA Rate Plan Code No. G5.



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Washington, D.C. 20006

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