

The Lattice

MEMBERS NOMINATE OUTSTANDING STUDENTS IN MINERALOGY FOR SOCIETY'S UNDERGRADUATE AWARD

Ten MSA members have taken advantage of the Society's American Mineralogist Undergraduate (AMU) Award program to recognize outstanding students who have shown an interest and ability in the discipline of mineralogy. Each student was cited by his or her department for outstanding achievement in mineralogy-related courses.

The AMU Awards allow MSA to join with individual professors to formally recognize outstanding students. Each student is presented a certificate at an awards ceremony at his or her university or college. In addition, each recipient receives a complimentary student membership, including *American Mineralogist*, for 1993.

The next deadline for nominating students is January 1, 1994. Please mark your calendars now so you can be watching for that exceptional student. To nominate a student, send a letter on departmental letterhead giving the student's full name (for the certificate), departmental address, year in school, interest area, MSA sponsor name, and

the date and brief description of the award ceremony at which the certificate will be presented. The letter must be signed by the department chair. Send the letter to the MSA Business Office, 1130 Seventeenth Street, NW, Suite 330, Washington, D.C. 20036.

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

Dori J. Farthing
The College of Wooster
Sponsored by Lori Bettison-Varga

Robin Fisher
Smith College
Sponsored by John B. Brady

Carmala Garzione
University of Maryland at College Park
Sponsored by Luke L.Y. Chang

Susan Gibbons
Queens College
Sponsored by David H. Speidel

John Hechler
Laurentian University
Sponsored by A.M. McDonald

Gary MacDougall
Acadia University
Sponsored by Sandra M. Barr

Fred Ochs III
University of Wisconsin-Madison
Sponsored by Jill Banfield

Steven John Semick
The George Washington University
Sponsored by Richard P. Tollo

William E. Steinhart
University of Pittsburgh
Sponsored by Edward G. Lidiak

Michael J. Zieg
Michigan State University
Sponsored by Michael Anthony Velbel

ICDD Crystallography Scholarship Awards

The International Centre for Diffraction Data announces that it is accepting applications for its 1994 crystallography scholarship awards.

Qualifications: The applicant should be a graduate student with a major interest in crystallography (crystal structure analysis, crystal morphology, modulated structures, correlation of atomic structure with physical properties, systematic classification of crystal structures, phase identification and materials characterization). There are no restrictions on country, race, age or sex. The term of the scholarship is one year. Application for renewal may be made by the recipient at the end of the first year.

Submit: (a) A one-page proposal by the graduate student describing the type of crystallographic research to be partially

supported by the scholarship. (b) A supportive letter from the sponsoring professor of an accredited university or an institute of technology.

Restrictions: (a) The scholarship stipend of \$2000 is to be used by the graduate student to help defray tuition and laboratory fees. A portion of the stipend may be applied to registration fees to accredited scientific meetings related to crystallography. (b) No more than one scholarship may be awarded to any one accredited institution per year. (c) The funds of the scholarship are not to be used for travel.

Deadline for application: October 31, 1993.

Mail applications to:

Secretary, International Centre for Diffraction Data
Newtown Square Corporate Campus
12 Campus Boulevard
Newtown Square, PA 19073-3273

From the President

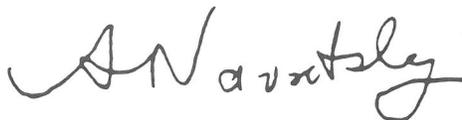
It gives me great pleasure to announce that Richard Reeder from Stony Brook and Theodore Labotka from Tennessee are the new editors of *American Mineralogist*. They take over officially September 1, 1993. Rich is a mineralogist and crystallographer with major interests in carbonates, including crystallography, electron microscopy, phase transitions, and, recently, surface properties and reactions. His PhD was with Rudy Wenk at Berkeley. Ted is a petrologist with interests in mass and energy transport through the crust, fluid-rock interactions, thermal history and tectonic evolution of metamorphic terrains, phase equilibria in pelitic and calcic schists, and thermodynamics. His PhD was with Arden Albee at Caltech. Both Ted and Rich are mid-career scientists with active research programs and broad interests. I am delighted they have agreed to serve and thank them in advance for taking on such an important task for the Society. I also extend heartfelt thanks to Steve Bohlen and Don Peacor, the outgoing editors, for four years of exemplary service, grueling work, and unselfish leadership. Thanks, gracias, merci, tak, spasio, arigato, etc.

The editorial transition should be a smooth one. Continue sending your new manuscripts to the editorial office in Ann Arbor. That office will remain

unchanged in staffing and general operation through at least 1994. This decouples the strain of new editor startup from the tribulations of starting a new office. In due time, we will see how things develop and what to do next. However, the Ann Arbor office will be moving from campus into town, probably around September first, but at present we do not know its new address.

Thanks are due members and nonmembers for a large and varied - both in nature of respondent and nature of response - return of Jonathan Stebbins' questionnaire on MSA directions. The committee is sifting through the data. There will be a short presentation by Jonathan and a chance for discussion during the first hour of the reception on Tuesday, October 26 at 5:30-7:30 pm in Boston, which we hold jointly with the Geochemical Society. Come one, come all. That Tuesday at GSA is, as always, also the date for my Presidential address, the MSA luncheon, and my handing of the presidential gavel to Bernard Evans.

A. Navrotsky



President

EMU *Directory of Institutions* Now Available

The European Mineralogical Union (EMU) announces that the second edition of the *Directory of Institutions*, updated May 1993, is now available. Four-hundred seventy-five institutions that are active in mineralogy, petrology, geochemistry, and related fields are listed in this 128-page booklet, which was published as a supplement to volume 5 of the *European Journal of Mineralogy*. The institutions are listed by country and place, with their address (including the new postal area code numbers valid in Germany as of July 1, 1993), telephone, fax, and telex numbers, the names of directors and staff members, and fields of interests.

Approximately 4,300 names of directors and staff members also are listed alphabetically, keyed to the institution, and with e-mail addresses given when available.

The *Directory* is compiled by the Mineralogical Societies of Austria, Belgium, Bulgaria, Denmark, Finland, France, Germany, Great Britain, Ireland, Hungary, Italy, The Netherlands, Norway, Portugal, Spain, Sweden and Switzerland.

The *Directory* costs 20 DM and is available directly from:

E. Schweizerbart'sche
Verlagsbuchhandlung
(Nägele u. Obermiller)
Johannesstrasse 3A
70176 Stuttgart, Germany



The *Lattice* is published quarterly (February, May, August, November) by the Mineralogical Society of America. It 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 member rates at MSA's spring meeting with the American Geophysical Union; participation in a Society that supports the many facets of mineralogy.

Dues for 1993 are \$55 for professional members; \$30 for students. Membership is on a calendar year basis. Individuals who join after January 1, 1993 will be sent all back issues of the journal for volume 78, 1993.

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 1993 volume of the *American Mineralogist* for the annual rate of \$225 in the US, \$230 in Canada and Mexico and \$235 in all other countries. 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.

1993 President: Alexandra Navrotsky
Princeton University
Past-President: Michael J. Holdaway
Southern Methodist University
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University of Washington
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University of Illinois at Chicago
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Reston, VA 22092
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Mineralogical Society of America
1130 Seventeenth Street N.W., Suite 330
Washington, D.C. 20036
Telephone: (202) 775-4344
FAX: (202) 775-0018

MEETING CALENDAR 1993-1994

1993

September

25-30 Annual Meeting of the Clay Minerals Society in San Diego, CA. *Details:* Dr. Richard W. Berry, Dept. of Geological Sciences, San Diego, CA 92182-0377. Telephone: (619) 594-6394, Fax: (619) 594-4372.

September-October

25-1 IAVCEI 1993 - General Assembly of the International Association of Volcanology and Chemistry of the Earth's Interior, in Canberra, Australia. *Details:* IAVCEI General Assembly, ACTS, GPO Box 2200, Canberra ACT 2601 Australia. International Telephone: 61-6-2573299; International Fax: 61-6-2573256.

October

22-24 MSA Short Course, Health Effects of Mineral Dusts, Harbor House Resort and Conference Center, Nantucket. *See details elsewhere in this newsletter.*

25-28 Annual Meeting of the Mineralogical Society of America and the Geological Society of America, Boston, MA. *See details elsewhere in this newsletter.*

November

15-30 IGCP Project 294 thematic meeting Low temperature metamorphism: Processes, products, and economic significance, Santiago, Chile. *Convener:* Professor M. Vergara, Universidad de Chile, Department de Geologia y Geofisica, Casilla 13518-Correo 21, Santiago, Chile. Fax: 56 2 6963050.

November-December

29-3 Fall Meeting of the Materials Research Society, Boston, MA. *Details:* MRS, 9800 McKnight Rd., Pittsburgh, PA 15237. Telephone: (412) 367-3003; Fax: (412) 367-4373.

December

6-10 AGU Fall Meeting, in San Francisco, CA. *Abstract deadline: September 9, 1993.*

1994

January

5-7 1993/94 Winter Conference of the Mineralogical Society of Great Britain (theme: *Rates of Geological Processes*), Glasgow University, Scotland. *Details:* Dr. T. Dempster, Dept. of Geology and Applied Geology, University of Glasgow, Glasgow G12 8QQ, Scotland, UK.

April

4-8 Spring Meeting of the Materials Research Society, San Francisco, CA. *Details:* MRS, 9800 McKnight Road, Pittsburg, PA 15237. Telephone: (412) 367-3003; Fax: (412) 367-4373. *Abstract deadline: November 1, 1993.*

13-15 EMPG-V - "Fifth International Symposium of Experimental Mineralogy, Petrology, and Geochemistry." *Details:* Dr. R.J. Angel, Dept. Geological Sciences, University College London, Gower St., London, WC1E 6BT, UK. Telephone: +44-71-387-7050; Fax: +44-71-388-7614.

May

15-18 Geological Association of Canada and Mineralogical Association of Canada Annual Meeting, Waterloo, Ontario. *Details:* Alan V. Morgan, Dept. of Earth Sciences, University of Waterloo, Ontario N2L 3G1, Canada. Telephone: (519) 885-1211, ext. 3231; Fax: (519) 746-7484.

19-21 PACROFI V - Pan American Current Research on Fluid Inclusions, Morelos, Mexico. *Details:* Georgina Izquierdo M., Dept. de Geotermia, Instituto de Investigaciones Eléctricas, Apdo. postal 475, Cuernavaca 62000, Morelos, Mexico. Telephone: (73) 183811, ext. 7321; Fax: (73) 182526. *Abstract deadline: February 14, 1994.*

(Meeting Calendar continued on next page)

Members in the News

MSA President *Alexandra Navrotsky* of Princeton University, *Donald J. DePaolo*, University of California, Berkeley, and *Ho-Kwang Mao*, Carnegie Institution, Washington, D.C., were among the sixty new members and fifteen foreign associates elected on April 27 to the National Academy of Sciences in recognition of their distinguished and continuing achievements in original research.

Frank C. Hawthorne, Geological Sciences, University of Manitoba, Winnipeg, Manitoba, Canada, has been awarded the Willet G. Miller medal of the Royal Society of Canada. This is a biennial award for research in Earth Sciences, and was presented at the annual meeting of the Royal Society of Canada in Montreal.

Karl A. Riggs, geologic consultant, has received a gold medal from the American Biographical Institute. The embossed medal reads "MEDAL OF HONOR commemorating distinguished life-long achievements."

Professor Lowell T. Trembath, University of New Brunswick, has had a new mineral named after him by *Peter C. Burns*, University of Manitoba. The new mineral, trembathite, ideally $(\text{Mg,Fe})_3\text{B}_7\text{O}_{13}\text{Cl}$, was discovered at the Denison Potican potash mines in Sussex, N.B.

IN MEMORIAM

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

Kamineneni, Choudari
Member, 1991

Moh, Günter H.
Member, 1967

Shaub, Benjamin M.
Life Fellow, 1934

Meeting Calendar (continued)

1994

May

23-27 AGU/MSA/GS Spring Meeting, Baltimore, MD. Abstract deadline: March 3, 1994.

August-September

29-2 VM Goldschmidt Conference - An International Conference for the Advancement of Geochemistry, Edinburgh, UK. Details: Dr. Peter Symms (VM Goldschmidt Conf. 1994), Dept. of Geology and Geophysics, The University of Edinburgh, The Grant Institute, West Mains Road, Edinburgh EH9 3JW, Scotland UK.

September

4-9 International Mineralogical Association (16th General Meeting of the IMA), Pisa, Italy. Details: Prof. Stefano Merlino, Organizing Committee IMA '94, Dipartimento di Scienze della Terra, Università di Pisa, Via S. Maria, 53, I-56126 Pisa, Italy. Fax: +39 (0)50 40976; E-mail: IMA94@VM.CNUCE.CNR.IT.

WELCOME!

The following new members and students have joined MSA effective January 1, 1993. Welcome! Applications for membership may be obtained from the MSA Business Office, 1130 Seventeenth Street, N.W., Suite 330, Washington, DC 20036.

Austin, Phil, 7212 N. Ola Ave., Tampa, FL 33604. O:(813) 974-2236. (ST-93)GE. Sponsor: MSA.

Barsoum, Maher, 3091 Pennant Way, San Diego, CA 92122. (M-93). Sponsor: MSA.

Brackin, Stephanie, Beloit College, Box 723, 700 College Street, Beloit, WI 53511. (ST-93)IP. Sponsor: Steven G. Weaver.

Dominy, Simon C., 2 Cranleigh Road, Merton Park, London SW19 3LU, England. O:(081) 547-2000. (ST-93)EG. Sponsor: P.J. Treloar.

Encarnacion, John, University of Michigan, 1006 C.C. Little Bldg., Ann Arbor, MI 48109. O:(313) 764-1435. (ST-93). Sponsor: MSA.

Gaber, Bruce Paul, Code 6900, Naval Research Laboratory, Washington, DC 20375. O:(202) 767-4304. F:(202) 404-8506. (M-93)CC. Sponsors: Mark S. Ghiorso and Richard O. Sack.

Grant, Christopher, 3652 Village Ave., #9, Eugene, OR 97402. O:(503) 346-4601. (ST-93)MI. Sponsors: M. Darby Dyar and Jack M. Rice.

Grguric, Ben, WMC/Olympic Dam Operations, P.O. Box 150, Roxby Downs, S.A. 5725, Australia. (M-93). Sponsor: MSA.

Hardy, Stephanie L., 1915 East High St., Waynesburg, PA 15370. O:(412) 627-6757. (ST-93)MI. Sponsor: MSA.

Hirsch, David M., University of Texas at Austin, Dept of Geological Sciences, 61140, Austin, TX 78712. O:(512) 471-5762. F:(512) 471-9425. (ST-93)MP. Sponsors: William Carlson and Cambria Denison.

Johnsen, Ole, Geological Museum, Oster Voldgade 5-7, Copenhagen DK-3550, Denmark. O:(45) 3532-2337. F:(45) 3532-2325. (M-93)MI. Sponsor: Harry Micheelsen.

Johnston, Cliff, Crop Soil Environmental Science, 1150 Lilly Hall, Purdue University, W. Lafayette, IN 47907. (M-93)CM. Sponsor: MSA.

Kusaba, Keiji, ESS, SUNY at Stony Brook, Stony Brook, NY 11794-2100. O:(516) 632-8338. F:(516) 632-8140. (M-93)CC. Sponsor: MSA.

Lupulescu, Marian, Union College, Geology Department, Schenectady, NY 12308. O:(518) 370-6519. F:(518) 370-6789. (M-93)EG. Sponsor: MSA.

Min, Kyoungwon, Seoul National University, Dept of Geology, Seoul 151-742, Korea. O:(02) 887-1277. (ST-93)MP. Sponsors: Pan Seok Yang and Geon Young Kim.

Pond, Donald Fay, 309 5th Avenue, #431, Brooklyn, NY 11215. (M-93)MI. Sponsor: MSA.

Reiners, Peter W., University of Washington, Dept of Geological Sciences, AJ-20, Seattle, WA 98195. O:(206) 543-1996. F:(206) 543-3836. (ST-93)IP. Sponsors: Ralph L. Dawes and Clifford Todd.

Riley, Dean N., 364 E. Northwood Avenue, Columbus, OH 43201. O:(614) 292-3132. (ST-93)MP. Sponsors: James W. Downs and Rodney Tettenhorst.

Rywak, Anthony A., Cornell University, Box 226 Baker Lab, Chemistry Dept, Ithaca, NY 14853. O:(607) 255-4840. (ST-93)GE. Sponsors: William A. Bassett and Andy H. Shen.

Uloprogge, Jacob Teunis, Parkdreef 86, Zoetermeer 2724 EK, The Netherlands. O:(31) 79-423575. (M-93)CM. Sponsors: D. Visser and T.G. Nijland.

Watanabe, Yoshiharu, 4-5-10 Nishimachi, Iwatsuki 339, Japan. O:(043) 251-1111. F:(048) 756-2586. (ST-93)MI. Sponsors: Atsuyuki Inoue and Yoshikuni Hiroi.

Zhang, Jinmin, 630 W. 168th St., Dept of Biochemistry, New York, NY 10032. O:(212) 305-8238. F:(212) 305-7379. (M-93)MI. Sponsor: MSA.

Funding Federal Geoscience Programs

The following summary of the American Geological Institute's recent congressional testimony was provided as a news release from AGI's Government Affairs Program. For further information, contact Craig Schiffries, Coordinator of Government Affairs for AGI, at AGI, 4220 King St., Alexandria, VA 22302 (Telephone: (703) 379-2480, Fax: (703) 379-7563).

In a first for the geoscience community, the American Geological Institute presented testimony to the four congressional subcommittees that consider appropriations for the U.S. Geological Survey, Department of Energy, and the National Science Foundation. The House and Senate Subcommittees on Interior and Related Agencies invited AGI to testify on the fiscal year 1994 appropriations for the USGS and DOE's Fossil Energy Research and Development Program. The House and Senate Subcommittees on Veteran Affairs, Housing and Urban Development, and Independent Agencies invited AGI to testify on NSF's budget request for FY94.

Craig M. Schiffries, Coordinator of Government Affairs for AGI, made the point in his oral and written testimony that geoscience information plays an increasingly important role in an ever growing range of societal issues. "When it comes to appropriations for geoscience research and development," he said, "nothing less than the survival of our way of life and our planet are at stake.

"Federal investments in geoscience research and development continue to pay enormous dividends. For example, the U.S. Geological Survey reports that the successful prediction of the 1991 eruption of Mt. Pinatubo in the Philippines resulted in the safe evacuation of more than 100,000 people and billions of dollars in U.S. military equipment."

USGS budget. Schiffries testified to the House Interior Subcommittee on March 30, before President Clinton had presented his budget. Highlighting the importance of the USGS, Schiffries told Rep. Sydney Yates (D-Ill.), "Earth science in the public service, is the central mission of the U.S. Geological Survey. Virtually every American citizen and virtually every federal, state, and local agency benefits either directly or indirectly from USGS products and services."

AGI's testimony to the Interior Subcommittee, which Sen. Robert Byrd (D-W. Va) chairs, was presented April 30. It also emphasized the importance of strengthening USGS programs. "Despite the growing importance of its mission," Schiffries said, "the USGS budget failed to keep pace with inflation during the past twelve years. From FY 1981 to FY 1993, the USGS budget (appropriated funds and reimbursements) declined by 8 percent in constant dollars, and the budget for the geologic division declined by 28 percent. AGI urges the subcommittee to support a resumption of real growth for the entire USGS, and to begin redressing the long-term negative growth of the geologic division. It is ironic that the USGS budget declined over a period when the nation recognized its increasing vulnerability to geologic hazards, global environmental change, water pollution, improper waste disposal, and reliance on unstable sources of foreign oil and minerals."

Schiffries noted that The National Geologic Mapping Act of 1992 was enacted to increase the production of detailed geologic maps. It authorizes a total of \$42.75 million in FY 1994, including \$18 million for matching grants to states. The state geological surveys are eager to implement this program to meet critical information needs in their respective states. They have certified that state funds are available to match the full amount authorized for the state geologic mapping component in FY 1994.

He told the committees that eleven federal agencies have a major involvement in the Global Change Research Program, and a failure to provide adequate funding for the baseline studies being conducted by the USGS could undermine the effectiveness of the entire program, which has a total budget of more than \$1 billion per year.

"If recent history is a reliable guide," Schiffries said, "funds spent on geologic hazards reduction programs will be repaid many times over by reduced losses, reduced loss of tax revenues, and reduced expenditure for federal emergency and disaster relief funds." He also spoke in support of the USGS's National Water Quality Assessment Program.

DOE Fossil Energy R&D. In urging support of DOE programs, Schiffries noted that in 1992, the U.S imported more than 6 million barrels of oil a day at a cost of about \$50 billion dollars. "AGI is pleased and encouraged," he said, "by the Department of Energy's recent action to refocus its oil and gas R&D programs to include near-term and mid-term needs as well as its traditional long-range, high-risk elements. We recommend that support for more applied near-term recovery research be continued and expanded. We also endorse the recent restructuring of the Office of Fossil Energy's oil and gas program management. Combining responsibility for oil and gas program activities at the Deputy Assistant Secretary level will enhance synergies between these two very closely related programs."

Testimony to both panels stressed the needs for and national benefits from advanced recovery initiatives for oil and gas reservoirs; a geoscience data repository system; and technology transfer so that independent oil and gas producers would have access to emerging advanced exploration, reservoir management, and production technologies.

NSF budget. Schiffries presented AGI's testimony to the House Subcommittee on VA, HUD & Independent Agencies on May 5 and to the Senate Subcommittee on May 21. His oral and written statements urged Congress to reaffirm its commitment to American preeminence in science and technology by fully funding the fiscal 1994 NSF budget request of \$3.18 billion.

Emphasizing our nation's needs for geoscience research, he cited two reports which the National Academy of Sciences released recently. *Solid-Earth Sciences and Society* demonstrates how geoscience research and information enhance society's ability to make wise decisions on resource development, waste disposal, environmental protection, national hazard reduction, and land use. The report summarizes the state of the solid-earth sciences and outlines a research agenda, with priorities keyed to real-world challenges facing society. Another recent report by the National Academy of Sciences,

(continued on next page)

Oceanography in the Next Decade, points out that today's sense of urgency about ocean studies is precipitated by human impacts on oceanic systems and the need for a better understanding of the ocean's role in controlling global chemical, hydrological, and climate processes.

Funding research. The NSF Directorate for Geosciences supports research in earth, oceanographic, and atmospheric sciences. It is the main source of federal support for academic research in the geosciences, providing about 70 percent of the total federal support for basic geoscience research conducted at U.S. universities. The budget request for the NSF Directorate for Geosciences is \$448.53 million, including \$149.10 million for Atmospheric Sciences, \$89.65 million for Earth Sciences, and \$209.78 million for Ocean Sciences. The budget request maintains support for many core geoscience research programs and expands support in several critical areas, including hydrology, environmental research, and the U.S. Global Change Research Program.

"AGI urges Congress," Schiffries said to the subcommittee chairman, Rep. Louis Stokes (D-Ohio), "to fund fully the fiscal 1994 budget request for the NSF Directorate for Geosciences. This is a modest investment in the future of our nation and our planet.

"NSF support for geoscience research activities covers the entire spectrum from individual investigators to major research centers and large research programs. Many of the most creative and important advances in geoscience research continue to be made by individual investigators and small research teams. Individual investigators and small research teams are the backbone of the research and graduate education system. NSF should maintain and enhance support for this vital component of geoscience research."

Stressing the importance of funding current NSF programs to Senator Barbara Mikulski (D-Md.), Schiffries said, "While continuing to serve as the mainstay for the individual investigator, the NSF should also continue addressing other components of our national research enterprise that deserve and require its attention and support. The NSF has evolved into an agency that devotes a significant proportion of its resources to major projects and research centers, as well as to interagency, multidisciplinary, and international programs. The U.S. Global Change Research Program demonstrates NSF's ability to participate effectively in a large, multidisciplinary, interagency research program. The Ocean Drilling Program demonstrates its ability to foster extensive international cooperation. NSF is also successfully building new research partnerships with industry, state agencies, and other organizations. NSF should pursue these new activities with incremental funds in order to avoid diverting resources from its traditional strengths."

Improving geoscience education. In AGI's testimony to both subcommittees Schiffries emphasized NSF's critical role in improving geoscience education. "At the K-12 level," he said, "geoscience education has been largely underemphasized and underfunded for 40 years. We cannot afford to let that situation persist for another 40 years.

"The NSF can improve the nation's scientific literacy by fostering the integration of geoscience education into mainstream science education programs at the K-12 level and the

college level. We recommend that the NSF and the geoscience community jointly develop and implement strategic plans for improving geoscience education and achieving parity with other scientific disciplines. A major transformation is taking place in geoscience education, and we urge NSF to continue playing an active role in that transformation."

Sixth International Kimberlite Conference

The Sixth International Kimberlite Conference will be held in Novosibirsk, Russia August 7-12, 1995. The conference is sponsored by the International Mineralogical Association, the Commission on Igneous and Metamorphic Petrogenesis of IUGS, the Russian Academy of Sciences and its Siberian Branch, the Russian-Sakha Diamond Corporation, and the Russian Mineralogical Society. Topics will include: kimberlites, lamproites, and related rocks, including the structure and the formation of diatremes in general; the upper mantle and lower crust, including all aspects of the study of xenoliths and modeling of the upper mantle and the lower crust; diamonds and their genesis; and exploration and economic aspects. Field trips are planned to examine the Arkhangelsk kimberlites (northern part of the East European Platform), the Yakutian kimberlites (northern part of the Siberian Platform), crustal and mantle xenolith locality in alkali basalts at Khakasia (southern Siberia), and the Kokchetav diamondiferous metamorphic rocks (northern Kazakhstan).

Abstract deadlines: September 1, 1994 (500-word abstract to be reviewed by the program selection committee); March 1, 1995 (final 3-page extended abstract to be published in conference abstract volume).

Deadline for return of Notice of Interest: January 31, 1994

Details and the Notice of Interest are contained in the First Circular that may be obtained from:

Dr. N. P. Pokhilenko

The Secretary, Sixth International Kimberlite Conference
United Institute of Geology, Geophysics, and Mineralogy
Russian Academy of Sciences, Siberian Branch
630090 Novosibirsk - 90

Russia

Telex: 133123 KORA SU

Fax: 007 3832 352692

e-mail: chief@diamond.nsk.su

Information also may be obtained (*before August 31, 1993*)
from: Prof. N. V. Sobolev

Department of Geology

Union College

Schenectady, NY 12308

USA

Fax: (518) 370-6789

MSA Short Course *Health Effects of Mineral Dusts*

Date: October 22-24, 1993
Location: Harbor House Resort and Conference Center, Nantucket
Conveners: George Guthrie, Los Alamos National Lab
Brooke Mossman, University of Vermont

Although the asbestos minerals (fibrous serpentine and amphibole) are notorious as potential health hazards, several other mineral dusts have also been shown to be toxic, fibrogenic, and carcinogenic. The biochemical reactions that lead to disease occur at the mineral-fluid interface. Hence, a thorough understanding of mineral-induced disease requires an integrated approach that addresses mineralogical and geochemical concerns. We are convening a 2½-day short course that will bring together experts in both the mineralogical and biological communities to discuss current issues in mineral-dust hazards.

Mineralogical topics will cover: (1) natural occurrences and properties of minerals for which toxicological data have been determined, including structures, compositions, microstructures, and surface properties, (2) analytical techniques for characterizing biologically-important properties, and (3) potential geochemical mechanisms.

Biological topics will cover: (1) epidemiology of mineral-induced disease, (2) biological activities of various minerals, as determined by *in vivo* and *in vitro* assays, and (3) biochemical mechanisms.

Both areas will present sufficient introductory material for individuals outside of the discipline.

The scientific aspects of mineral-related regulatory policies will also be discussed.

Two panel discussions are planned to allow active participation between the speakers and audience. Panel discussions will cover policy-related topics and scientific topics, such as directions for future research. A poster session/reception will provide the opportunity for those who attend to present results of relevant current research.

The intended audience for this short course includes bioscientists and geoscientists actively involved in research on the health effects of minerals, individuals involved in formulating policies related to mineral regulation, and any individuals interested in an introduction to this topic.

See Short Course registration form on page 8. For more information, contact George Guthrie at (505) 665-6340.

Geochemical Aspects of Minerals in Physiological Fluids

MSA Symposium at Fall 1993 GSA
(Symposium #S11, Monday afternoon, October 25)

The MSA Symposium at the 1993 fall GSA will dovetail with the MSA Short Course (*Health Effects of Mineral Dusts*). The symposium will cover advanced geochemical and mineralogical issues pertaining to minerals in physiological fluids. Mineralogical properties (such as dissolution properties and active sites) will be related to their potential roles in the initiation of diseases (such as pulmonary fibrosis and lung cancer).

Topics/Speakers:

Probing biologically active sites on mineral surfaces - Cliff Johnston

The surface thermodynamic properties of silicate minerals and their interactions with biological materials - Rossman F. Giese

Mineral solubility calculations for bodily fluids - Everett Schock

Biodurability of mineral dusts - Joseph Jurinski
Arsenic and lead bioavailability from smelter wastes - Andy Davis

Bioreactivity of iron mobilized from mineral surfaces - A. Aust

Petrographic and geochemical investigation of biogenic phosphate minerals in an equine enterolith - Peter Schiffman, Laurie McDuffee, and Michael Dunlap

Particles of magnetic iron oxide provide a window into lung defenses against inhaled mineral dusts - Peter Valberg

Chlorine and Fluorine as Monitors of Fluid-Rock Interaction: New Developments

GC-MSA Symposium at Fall 1993 GSA
(Symposium #S17, Thursday morning, October 28)

The Geochemical Society and the Mineralogical Society of America will co-sponsor a symposium entitled *Chlorine and fluorine as monitors of fluid-rock interaction: New developments* at the 1993 Geological Society of America Meeting in Boston. The goal of the symposium is to bring together researchers working on diverse aspects of halogen geochemistry. Presentations in the symposium will cover topics such as crystal chemical effects of halogens, experimental studies of halogen partitioning, Cl isotopes, halogens in groundwater, new methods of halogen analysis, and the relationship between halogens and economic mineralization.

**THE DEADLINE FOR THE
NOVEMBER ISSUE OF *THE LATTICE*
IS OCTOBER 29TH**

Registration Form

MSA Short Course

Health Effects of Mineral Dusts October 22-24, 1993

Return this registration form, completed, to the MSA Business Office, 1130 17th Street, N.W., Suite 330, Washington, D.C. 20036. FAX: (202)775-0018. Payment must accompany this form. Registration is limited to 100 individuals on a first-come, first-served basis. Please type or print. All cancellations must be made in writing and received by October 1. No refunds will be made on cancellation notices after this date.

Name _____
(first) (middle initial) (last)

Address _____

(city) (state) (zip/postal code) (province) (country)

Telephone numbers _____ (office) _____ (fax)

Please circle the appropriate registration category.

PRICES INCLUDE ALL LODGING AND MEALS

	Member	Non-Member
Professional: in single room	\$625	\$680*
Professional: in double room	\$475	\$530*
Student: in double room	\$300	\$330*

*includes MSA dues for 1993.

Please check method of payment:

____ Enclosed is a check or money order in the amount of \$ _____.
____ Please charge my ____ Visa ____ Mastercard
____ Diner's Club ____ American Express card in the amount of \$ _____.

(Your credit card will be charged when the registration form is received.)

(card number) (name on card--please print)

(signature) (exp. date)

Please list any special requirements regarding meals.

MSA ACTIVITIES AT GSA

Each year MSA and 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 are due this year to MSA representative Craig Schiffries, American Geological Institute, conferee Robert W. Luth, University of Alberta and abstractor Raymond Joesten, University of Connecticut.

In addition to handling the review of 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 the 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.

Third Meeting, 1993 Council

Sunday, October 24

Boston Marriott Copley Place

Cape Cod Room

8:30 a.m. - 5:00 p.m.

The 1993 Council will act on recommendations from the Nominating Committee for Fellows, the Roebling Medal Committee, the MSA Award Committee, and the Research Grant (Crystallography) Committee at its final meeting. The report of the Tellers Committee will also be certified. Council actions will be announced at the Business Meeting on Tuesday, October 26. As discussed in the May issue of *The Lattice*, any interested member is welcome to attend this meeting.

MSA Booth, #306-308

Sunday, October 24

5:00 p.m. - 9:00 p.m.

Monday, October 25

9:30 a.m. - 5:30 p.m.

Tuesday, October 26

9:30 a.m. - 5:30 p.m.

Wednesday, October 27

9:30 a.m. - 3:00 p.m.

Be sure you visit the MSA booth at the Hynes Convention Center. The latest volume in the *Reviews in Mineralogy* series, *Health Effects of Mineral Dusts*, will be available, as will the other books in the series. Stop by and talk to other members, meet Society officers, the MSA Business Office staff and the managing editors of *American Mineralogist*.

MSA Symposia and Theme Session

Hynes Convention Center

MSA will be involved in two symposia and a special session during the annual meeting. On Monday afternoon, George Guthrie, Los Alamos National Laboratory, will convene "Geochemical Aspects of Minerals in Physiological Fluids." (See page 7 for a list of speakers and topics). With the Geochemical Society, MSA is sponsoring a symposium entitled, "Chlorine and Fluorine as Monitors of Fluid-Rock Interaction: New Developments." This will be held on Thursday morning and will be convened by Jean Morrison, University of Southern California, and James Munoz, University of Colorado. A special theme session, "Teaching Mineralogy," will be convened John B. Brady, Smith College and Jo Laird, University of New Hampshire. The date and time of this session has not yet been determined.

Presidential Address and Annual Business Meeting

Tuesday, October 26

Hynes Convention Center

MSA President Alexandra Navrotsky will give her presidential address, "Recurring Patterns in Mineral Energetics." 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, October 26

Boston Marriott Copley Place

Ballroom E

12:15 - 2:00 p.m.

Brian H. Mason, recipient of the 1993 Roebling Medal and Lukas Baumgartner, recipient of the MSA Award for 1993 will be honored at this annual luncheon. Following these presentations, 1993 President Alexandra Navrotsky will pass the gavel to the 1994 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.

MSA Reception

Tuesday, October 26

Boston Marriott Copley Place

Ballroom G

5:30 - 7:30 p.m.

All members and scientists interested in mineralogy, petrology and crystallography are invited to attend and enjoy a drink with colleagues. Again this year the reception is being held jointly with the Geochemical Society. During the first hour of the reception Jonathan Stebbins, chairperson of the *ad hoc* committee on future directions of MSA, will present a short report on the results of the committee's questionnaire. There will be an opportunity for discussion after his presentation.

First Meeting, 1994 Council

Tuesday, October 26

Boston Back Bay Hilton

Copley Room

7:45 - 11:00 p.m.

Members of the 1994 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 Council.

GSA/MSA Meeting Information

The 1993 GSA/MSA Annual Meeting will be held October 25-28 in Boston, Massachusetts. Registration, housing, and transportation information, the meeting registration form, the housing request form, and the abstracts volume order form are included in this newsletter. Additional information may be obtained from the GSA Meetings Department at (303) 447-2020.

GSA/MSA MEETING INFORMATION

REGISTRATION

Preregister Today!

Preregistration Deadline:

Must be received no later than September 24

1. There is a \$15-\$30 savings in 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. Badges must be worn for access to ALL activities, 10:00 a.m. Sunday through 5:00 p.m. Thursday.
3. Registration discounts are given to both GSA and Associated Society members. Associated Societies that qualify for this discount are indicated on the registration form. Please indicate your affiliation(s) to register using the member rates. Nonmembers who become GSA members by October 15, 1993, can register at the member rate.
4. Full payment 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. The confirmation card will be your receipt for charge card payments. No other receipt will be sent.
5. Register one professional or student per form. Copy the form for your records.
6. Guest registration is required for those attending guest activities, technical sessions, or the exhibit hall. Guest registrants MUST be accompanied by either a registered professional or student. A guest is defined as a nongeologist spouse or friend of a professional or student registrant.
7. Students must show a CURRENT student ID in order to obtain student rates. Students not having a current student ID when either registering on-site or picking up badges at the preregistration counter will be required to pay the professional fee.

8. Because of a new registration process, it is imperative that ALL preregistrations are RECEIVED by the preregistration deadline of September 24. All registrations received after September 24 will be held for on-site processing.

CANCELLATIONS, CHANGES, AND REFUNDS

All requests for registration additions, changes, and cancellations must be made in writing and received by October 1. GSA will refund preregistration fees for cancellations received in writing by October 1. NO REFUNDS WILL BE MADE ON CANCELLATION NOTICES RECEIVED AFTER THIS DATE. Refunds will be mailed from GSA after the meeting. Refunds for fees paid by credit card will be credited according to the card number on the preregistration form. There will be NO refunds for on-site registration and ticket sales.

REGISTRATION FEES

	Full Meeting		One-Day
	Advance	On-Site	
	(by Sept. 24)		
Professional—Member	\$165	\$195	\$ 98
Professional—Nonmember	\$205	\$235	\$118
Student—Member	\$ 65	\$ 80	\$ 40
Student—Nonmember	\$ 85	\$100	\$ 50
Guest or Spouse	\$ 75	\$ 90	Not Available
K-12 Teachers	\$ 15	\$ 25	Not Available
Short Course or Field Trip Only	\$ 25	\$ 25	Not Available

ON-SITE REGISTRATION SCHEDULE

Hynes Convention Center

* Friday, October 22	12:00 noon to 4:00 p.m.
Saturday, October 23	12:00 noon to 4:00 p.m.
Sunday, October 24	9:00 a.m. to 6:00 p.m.
Monday, October 25	7:30 a.m. to 5:00 p.m.
Tuesday, October 26	7:30 a.m. to 5:00 p.m.
Wednesday, October 27	7:30 a.m. to 5:00 p.m.
Thursday, October 28	7:30 a.m. to 11:00 a.m.

*PREREGISTRANTS ONLY!

ABSTRACTS WITH PROGRAMS

Advance-Copy Purchase
1993, Volume 25, Number 6

PRICE \$22 NET EACH

If you reside in the U.S., Canada, or Mexico you may take advantage of the advance-copy purchase option of the Annual Meeting *Abstracts with Programs*. Due to the prohibitive airmail costs and delays for overseas mailings, we regret that we cannot make this offer to everyone. Copies will be mailed about three weeks prior to the meeting. Price includes shipment by first-class mail. *No additional discounts may be applied to this offer.*

The volume will also be for sale at the meeting. Please check to make sure that you have not already purchased a copy of this volume on your membership dues statement or through GSA Publication Sales. *No refunds will be given for duplicate orders.*

TO PLACE YOUR ORDER

Prepayment is required. Check, money order (in U.S. funds, payable on U.S. banks), or major credit cards are accepted. Order directly from GSA Publication Sales by mail, phone, or fax. To assure receipt prior to the meeting, *all orders must be received by Friday, September 10.* By mail or fax, use the form provided. By phone, call toll-free 1-800-472-1988 (outside Colorado), or use our business phone (303) 447-2020 during office hours (8:00 a.m. to 4:30 p.m. MT).

ON-SITE PURCHASE

Copies of *Abstracts with Programs* will be for sale in the registration area of the Hynes Convention Center. Price: \$22 net each. No additional discounts will apply.

ADVANCE-COPY PURCHASE ORDER FORM

1993 Abstracts with Programs
Volume 25, Number 6

Return this form by Friday, September 10. This purchase option is only for those residing in U.S., Canada, and Mexico. No refunds given for duplicate orders. Copy form for your records.

SHIP TO: Check here if GSA Member

Name _____

Address _____

City _____ State _____ ZIP _____

Daytime Phone _____

Quantity _____ at \$22 net each (no additional discounts given)

Amount enclosed \$ _____

Method of payment: (prepayment required)

Check or money order enclosed (U.S. funds, U.S. banks)

Credit card (circle one) MC VISA AmEx Diners

Card No. _____ Exp. Date _____

Name of cardholder (print) _____

Signature of cardholder _____

Send to: GSA Publication Sales, P.O. Box 9140, Boulder, CO 80301

1-800-472-1988 • (303) 447-2020 • fax 303-447-1133

Orders must be received by September 10

Preregistration Form

1993 GSA ANNUAL MEETING

Boston, Massachusetts • October 25-28

Please print clearly • THIS AREA IS FOR YOUR BADGE

Name as it should appear on your badge—last name first _____

Employer/University Affiliation _____

City _____ State or Country _____

Phone numbers:
(include area code)
Business _____
Tax _____
Home _____

Mailing Address (use two lines if necessary)

City _____ State _____

ZIP Code _____ Country (if other than USA) _____

GUEST INFORMATION • Please print clearly • This area is for your guest's badge

Name as it should appear on badge—last name first _____

City/State or Country _____

Please inform us in advance of special considerations that you or your guest require.
 I will need special considerations. Please call me.

PREREGISTRATION FEES (Registration required for participation in all meeting activities.)
 (PLEASE CHECK ONE)

Professional Member	(1) \$165	or	1 Day	or	1 Day	Amount
Professional Non-Member	(3) \$205		(2) \$98		1	\$
Student Member	(5) \$65		(4) \$118		1	\$
Student Non-Member	(7) \$85		(6) \$40		1	\$
K-12 Teacher	(42) \$15		(8) \$50		1	\$
Spouse/Guest (fill in name above for badge)	(9) \$75		Same		1	\$
Field Trip/Education Course only	(98) \$25		Same		1	\$

Total Registration Fees \$ _____

Column A		Column B	
Qty.	Amount	Qty.	Amount
(20) \$30		(60) \$23	
Bld Watching		Geotechnical Soc. Lunch	
(21) \$20		NAGT Lunch	
Boston Overview		Women Geosci. Breakfast	
(22) \$26		Education Division Lunch	
Beacon Hill Walking Tour		GIS Lunch	
(23) \$48		Hydrogeology Division Lunch	
Newport, Rhode Island		MSA Lunch	
(24) \$8		Paleontological Soc. Lunch	
Newbury St. Walking Tour		SEG Lunch	
(25) \$33		Coal Division Lunch	
Botanical/Gardner Museums		Engineering Division Lunch	
(26) \$43		History Division Lunch	
Lexington and Concord			
(27) \$31			
Old Salem and Marblehead			
SPECIAL EVENTS			
(45) \$65			
Boston Symphony and Dinner			
(46) \$12			
Jazz Concert and Dessert			
(47) \$18			
Bravo Boston GSA Chorale			
(48) \$28			
Chorale with Reception			
(56) \$48			
Lobster Clam bake Cruise			
Total Column A \$		Total Column B \$	

FIELD TRIPS

Amount	Amount
(100) \$290	Gabbro-Diorite Intrusions
(101) \$365	2 Tectonic/Metamorphic Events
(102) \$400	3 Tectonic/Strat. Transect, MA
(103) \$320	4 Petrologic/Isotopic Studies
(104) \$300	5 Granite Pegmatites
(105) \$335	6 Taconic Zone Transect, VT
(106) \$280	7 Sea-level/Coast/Shore
(107) \$280	8 Lithotectonic Terranes
(108) \$240	9 Glacial Marine Invasions
(109) \$290	10 Adirondack Highlands
(110) \$285	11 Anthracite Fields
(111) \$195	12 Coastal Lithotectonic Belt
(112) \$210	13 Metamorphic Events, Pelites
(113) \$360	14 Migmatites
(114) \$310	15 Ring Dikes & Plutons
(115) \$345	16 Taconian Quebec, VT
(116) \$255	17 Hartford Rift Basin
(117) \$300	18 Plutonic Complexes
(118) \$185	19 Fluid/Chemical Movement
(119) \$65	20 Proterozoic Geology
(120) \$50	21 Archaeological Geology
(121) \$65	22 Pleistocene Geology
(122) \$80	23 Dimension Stone Quarries
(123) \$15	24 Harbor & Islands Tour
(125) \$40	26 East Point
(126) free	27 Active Tunnel Projects
(127) \$295	28 Coastal Geologic Hazards
(128) \$270	29 Allegh. & Avalon. Tectonism
(129) \$300	30 Geology/Geomorphology
(130) \$255	31 High/Low/Metamorphic
(131) \$20	32 Building Blocks
(132) \$160	33 Glaciation, Deglaciation
(133) \$295	34 Avalon & Nashoba
(134) \$55	35 Ground-Water Contamination
Total Column C \$	

K-12 PROGRAMS

(302) \$30	Boston Harbor
(303) \$26	Coastal Geology
(304) \$35	Boston Basin
(305) \$10	Downtown Boston
(306) \$40	Cape Cod Landscapes
(307) free	Earth Science Workshop
(308) free	Teaching Earth Sci/Geol
(309) free	Share-a-Thon Presenter
Total Column C \$	

EDUCATION COURSES

Amount	Amount
(150) \$135	1 GIS and the Geosciences
(151) \$115	Professional Student
(152) \$145	2 Urban Geology: Foundation for Health
(153) \$125	Professional Student
(154) \$230	3 Asia: The Past 500 Million Years
(155) \$210	Professional Student
(156) \$270	4 Contaminant Hydrogeology
(157) \$250	Professional Student
(158) \$240	5 Fracture Mechanics of Rock
(159) \$220	Professional Student
(160) \$150	6 Alternative Pedagogies
(161) \$130	Professional Student
(162) \$150	7 Application of Sed. to Hydrogeology
(163) \$130	Professional Student
(164) \$285	8 Computer Mapping at Your Desk
(165) \$275	Professional Student
(166) \$130	9 Env./Engr. Geology/Land Use
(167) \$110	Professional Student
(168) \$175	10 Geochem/Stable Isotopes of Paleosols
(169) \$155	Professional Student
(170) \$175	11 Isotope Hydrology
(171) \$155	Professional Student
(172) \$280	12 Fractals: Use in Earth Sciences
(173) \$270	Professional Student
Total Column D \$	
Total Column E \$	
Total Column F \$	
Total Column G \$	
Registration Fees \$	

Total Remittance \$ _____

Preregistration must be received by
September 24

FOR OFFICE USE

A _____ V _____ M _____ CK# _____
 DR _____ CR _____

Bal. AR 1233 _____
 Ref. AP 2008 _____
 Refund Check # _____

Remit in U.S. funds payable to:
1993 GSA Annual Meeting
 (All registrations must be prepaid. Purchase Orders not accepted.)

Payment by: Check American Express VISA MasterCard

Card Number _____ Expires _____

Signature _____

MAIL TO: GSA ANNUAL MEETING
P.O. BOX 9140
BOULDER, CO 80301-9140

TRAVEL AND LODGING

Getting To Boston

By Air. Logan International Airport is just two miles outside the city. The airport is served by most major airlines. There is convenient public transportation from the airport to downtown Boston and suburban locations. Logan's 1-800-23-LOGAN ground transportation hot line provides round-the-clock schedule information on transportation alternatives to and from Logan.

GSA's official travel agent, Cain Travel Group, has negotiated discounted rates with the major Boston carriers. Cain can also assist you with the special discounts and coupon offerings in your area. Call today for the best availability.

To make a reservation, call Cain Travel and identify yourself as a GSA traveler. Tickets can be paid for by check (payable to Cain Travel), or by major credit card, or invoiced to your company. Final payment must reach Cain Travel no later than 10 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 adjustment.

As with all airline reservations, please use caution regarding change and cancellation penalties that accompany low-fare tickets. This especially applies to field trip participants whose trips may be canceled after the September 24 preregistration deadline. Be sure you understand the restrictions on the type of ticket you purchase.

Cain Travel will have an on-site Customer Service Desk at the Hynes Convention Center during the meeting.

Students: The GSA Foundation has awarded matching grants to each of the six GSA sections to assist students wishing to travel to GSA section and annual meetings. For applications, contact individual section secretaries, or call GSA headquarters.

By Car. Getting into Boston: from the west, Route 90 (Massachusetts Pike) is the clearest route inbound; from the south, Routes 95, 24, and 3 all feed into Route 128 east, which leads into Route 9 inbound; from the north, use Routes 95, 1, and 93. Driving in Boston can be a confusing experience, however. Heavy traffic, narrow and unexpected one-way streets, and the high cost of parking are just a few of the surprises. If driving is necessary, it is helpful to check a detailed Boston street map before setting out.

By bus, train, and subway. The Greyhound Bus terminal is located downtown at 10 St. James Street, Boston, (617) 423-5810. This is near the Arlington Street MBTA subway stop across from the Boston Park Plaza Hotel. AMTRAK serves Boston, New York, and Washington, and is also nationwide. Back Bay is the most convenient arrival station because it is within three blocks of the Hynes Convention Center, the Marriott Copley Place, and other GSA hotels. For AMTRAK information, call (617) 482-3660 or 1-800-392-6099. The MBTA Subway Commuter Rail extends from downtown Boston to as far as 60 miles away. It is a popular

and convenient way to get around Boston. Commuters become familiar with the system easily, and it is generally the best way to get from the hotels to the convention center. Discounted MBTA passes will be sold on site. For MBTA information call (617) 722-3200.

Getting To Your Hotel

Logan International Airport is approximately 6 miles from the Hynes Convention Center downtown. Ground transportation to and from the airport can be quite hectic; however, there are several modes of transportation that can ease your trip.

T Subway and airport shuttle buses. The T (Massachusetts Bay Transportation Authority) runs from Airport Station at Logan International Airport to the Hynes Convention Center. Free shuttle buses provide service from your airline terminal to Airport Station. Once at Airport Station board the *in-bound* Blue Line train to Government Center. At Government Center change to the *in-bound* Green Line and take the B, C, or D train to the Hynes/Auditorium/ICA station. Service operates from 5:00 a.m. to 1:00 a.m. One-way cost is \$0.85.

Airways transportation. This service operates from 7:00 a.m. to 8:00 p.m. daily. Buses depart from outside the baggage claim level every hour. Look for the red and gray mini-buses. Tickets can be purchased from the bus driver. Airways Transportation picks up from all major downtown hotels. Your hotel bell captain has information about pick-up and departure times. No reservation is necessary. For information call (617) 442-2700. One-way cost is \$8.50.

Taxis. Several taxicab companies serve the city of Boston. Taxicab service to and from the airport and within the city is easy to obtain and a convenient way to travel. Taxicab stands are located throughout the city, or you can hail a cab on the major streets. Taxicabs cost a minimum of \$1.50 and \$0.20 for each 1/7 mile thereafter, plus all toll fees and an additional \$1 for cabs originating at Logan International Airport. Approximate cost from the airport to downtown is \$18 to \$21.

Car rental. Alamo is the official car rental agency for the meeting. Identify yourself as a GSA delegate by giving Group ID number 85204 and Plan Code GR to get guaranteed, discounted, daily/weekly rates as follows: economy \$33/\$139; compact \$35/\$149; intermediate \$37/\$159; standard \$39/\$179; premium \$45/\$199; luxury \$49/\$239. An additional convention discount may be available by having your Alamo agent check Rate Code 7G. Rates include unlimited mileage. An Alamo rental counter is located on the baggage claim level in each terminal at Logan International Airport. Look for the blue and yellow Alamo vans. Advance reservations are recommended. Call Alamo at 1-800-732-3232.

Getting Around in Boston

Boston is definitely a city for walking. Take advantage of the reliable and efficient T system throughout the city. Traffic can be very slow, and finding a parking space for a car can be difficult.

GSA will not be providing a daily shuttle for registrants. It is easy to get around downtown on foot, but you should plan for up to a 20 minute walk from some downtown hotels to the Hynes Convention Center. Refer to the hotel descriptions and the map for exact distances. There is a covered walkway from the Marriott Hotel to the Hynes Convention Center. This walkway can be entered at various points if you are walking from other downtown hotels.

Lodging

Boston is a wonderful city offering the best in convention facilities and a variety of hotel options. With the spectacular fall foliage, October is Boston's peak time of year for visitors. GSA has arranged special rates at eleven hotels near the Hynes Convention Center and four hotels available by public transportation. They have been selected to suit a variety of tastes and budgets. All meet GSA's standards for rate reliability, cleanliness, service, and location.

Meeting activities will take place in the historic Back Bay section of Boston, which is the location of the Hynes Convention Center as well as of GSA's headquarters hotel, the Boston Marriott Copley Place, and the

Win a FREE TRIP



Make your Boston reservations through Cain Travel Group and become eligible to win one round-trip ticket on United Airlines anywhere within the contiguous United States. The drawing will be held November 15, 1993. Cain Travel Group, GSA's official travel agent, guarantees the lowest possible fares for the Boston Annual Meeting. For discounts, convenience, and fast service, call:

1-800-346-4747 TOLL FREE

**(303) 443-2246 collect from outside the U.S.
fax 303-443-4485**

8:30 a.m.—5:30 p.m. MST, Monday—Friday

**If airfares drop, Cain will automatically reissue
your ticket at the lower rate!**

Call CAIN TRAVEL GROUP Today

Boston Park Plaza Hotel. The Marriott is a first-class property connected to the Convention Center by enclosed walkways. It is also connected to the Copley Place Shopping Galleries, with more than 100 fine shops. Back Bay is one of Boston's oldest and most upscale areas. Scores of cultural and historic landmarks, art galleries, theaters, fine shops, and restaurants are within easy walking distance.

The key to getting your first choice is to make your reservation early. Because October is Boston's busiest month, we strongly recommend that GSA meeting attendees get their reservations in as early as possible. Convention hotels will fill quickly.

TO MAKE YOUR HOTEL RESERVATION

Fill out the Official Housing Request Form and mail or fax it to the Boston's GSA Housing Bureau at the address shown on the form. Reservations will not be accepted by phone. All reservations must be RECEIVED BY FRIDAY, SEPTEMBER 24. From the September 24 deadline until October 1, the Housing Bureau will continue to accept reservations by mail or fax, but rooms will be on a space-available basis only. Most properties will be full at this time; therefore it is important that you make your reservation early. The Housing Bureau will continue to process reservations until October 1.

AFTER Friday, October 1, you should contact the GSA hotel of your choice directly, or you may contact the Housing Bureau for information on hotel availability at (617) 536-9028. Note that most hotels will be filled by September 24, and hotels will be able to offer the special GSA rate only on a space-available basis. *Under no circumstances should they be offering rooms to GSA registrants at a higher rate.*

If you are interested in a suite, please call the hotel of your choice for information. The Housing Bureau will NOT be handling suite reservations.

ASSIGNMENT

Hotel rooms will be assigned on a first-come, first-served basis as requests are received by the Housing Bureau. Please list your first six hotel choices in order of your preference. If the hotels you have chosen are sold out, the Housing Bureau will review your selection preference on the Housing Form. Be sure to mark either (1) proximity to convention center or (2) comparable room rate. You will receive an acknowledgment from the Housing Bureau with your hotel assignment. Check all information carefully for accuracy, including arrival date, departure date, and guarantee information. If you do not receive an acknowledgment within two weeks, contact the Housing Bureau to check the status of your reservation.

Within two weeks from the time you receive the Housing Bureau acknowledgment, you should receive a confirmation from your hotel. This is notice that the hotel has received your reservation from the Housing Bureau and that the reservation has been entered into their system. Please check the confirmation carefully.

ROOM DEPOSITS AND GUARANTEES

Reservations must be guaranteed. A first night's room deposit will guarantee your reservation, assuring you that no matter what time you arrive on your scheduled arrival day, your room will be held until 6:00 a.m. the following morning.

Deposits can be made by (1) providing credit card information on the Housing Form, or (2) sending payment directly to the hotel once you have received your confirmation. The deposit amount should be the cost of one night's stay plus 9.7% tax at your assigned hotel. Note that the Housing Bureau will accept ONLY credit cards; not checks or cash. Checks and cash received will be returned to you. When making payment directly to the hotel, be sure to give your confirmed reservation number.

CHANGES AND CANCELLATIONS

Changes and cancellations BEFORE Friday, October 1, should be communicated to the Housing Bureau by phone (617) 536-9028 or fax 617-536-0813. Call the Housing Bureau for all last-minute inquiries, cancellations, changes, or problems. Their hours are 8:30 a.m. to 5:00 p.m. Eastern time, Monday through Friday.

AFTER October 1, you should contact the hotel directly with any changes. Please note that a cancellation notice must be received by the hotel AT LEAST 48 hours in advance to receive a refund on your first night's room deposit. The hotel has the right to bill you for one night's housing if you fail to properly cancel a guaranteed reservation. Please show courtesy as a professional by notifying the hotel if your plans change.

Please don't be a No Show. If you must make changes, please call the hotel at least 48 hours before your scheduled arrival. This consideration helps us all.

SPECIAL NEEDS



The Americans with Disabilities Act ensures that barrier-free hotel rooms will be made available to GSA registrants. Those with special needs should specify this on the Housing Form. After inspecting all GSA properties, we recommend that disabled registrants consider staying at the Back Bay Hilton, Marriott Copley Place, or Westin Hotel. There will be no shuttle service between hotels and the Hynes Convention Center. However, the Hilton is directly across the street from the Hynes, and the Marriott and Westin are accessible via an indoor skywalk. If you have questions, please contact Becky Martin, GSA headquarters.

STUDENT HOUSING

Outside of the Back Bay area, reasonably priced rooms have been reserved at four properties. Public transportation to the Hynes Convention Center is convenient. Take the Green Line (T), Hynes/ICA Station. Make your reservation for the Holiday Inn and Howard Johnson with the Boston Housing Bureau on the Housing Request Form. For the Days Inn and the YMCA, call the hotel direct and identify yourself as a GSA Meeting attendee.

Holiday Inn Boston Brookline \$80 (1-4 people) 75 rooms blocked
1200 Beacon Street, Brookline, MA 02146, (617) 277-1200
Free Parking, full-service restaurant, indoor pool, 3/4 baths (no full tubs).
Transportation: Use the Green Line (T), C Train, Brookline Station
(\$0.85 each way, approximately 20 minutes).

Howard Johnson Hotel \$95 (1-4 people) 75 rooms blocked
575 Commonwealth Avenue, Boston, MA 02215, (617) 267-3100
On Boston University campus, free parking, full-service restaurant (20% discount in hotel restaurants by showing your student ID).
Transportation: Use the Green Line (T), Kenmore Square Station
(\$0.85 each way, approximately 10 minutes).

Days Inn Boston/Newton \$65 (1-4 people) 50 rooms blocked
399 Grove Street, Newton, MA 02162, (617) 969-5300 (general),
(617) 969-1828 (to make your reservation).
The \$65 rate includes up to two complimentary full breakfasts per room.
Free parking, full-service restaurant.
Transportation: Use the Green Line (T), D Train, Riverside Station
(\$2 into the city, \$0.85 out of the city, approximately 45 minutes).

YMCA, Central Branch \$33 single, \$48 double
316 Huntington Avenue, Boston, MA 02115, (617) 536-7800
Rate includes full breakfast, athletic facilities, common bathroom facilities.
Transportation: Use the Green Line (T), Northeastern University Station
(\$0.85 each way, approximately 10 minutes).

ALTERNATIVE LODGING

Boston is an expensive city, but beating the high cost of lodging is still a priority of the GSA staff and the 1993 Annual Meeting Committee.

- Consider properties outside the Back Bay area. Public transportation by subway and bus is available. The rates typically range from \$65 to \$95 per night for a single room in October.
- Check your library copy of the *Hotel and Motel Redbook*, which lists metro properties. Because of the hundreds of properties in the area, GSA cannot provide a complete list.
- Call 1-800-555-1212 or check the Yellow Pages to learn the 800 number for your favorite hotel chains, such as Super 8 Motel or Comfort Inn, which have properties outside the downtown area. You will need to provide your own transportation or use Boston public transportation.

GSA CONVENTION HOTEL RATES

	Single	Double	Triple	Quad
1 Boston Marriott Copley Place (headquarters)	\$145	\$165	\$185	\$205
2 Boston Park Plaza Hotel	\$119	\$130	\$150	\$170
3 57 Park Plaza Hotel	\$ 99	\$ 99	\$ 99	\$ 99
4 Tremont House	\$105	\$120	None	None
5 Back Bay Hilton	\$125	\$145	\$165	\$185
6 MidTown Hotel	\$ 89	\$ 99	\$109	\$119
7 The Colonnade	\$138	\$138	\$153	\$168
8 Westin Hotel, Copley Place	\$160	\$160	\$180	\$200
9 Copley Square Hotel	\$ 95	\$105	\$115	\$125
10 Lenox Hotel	\$135	\$155	\$175	\$195
11 John Hancock Conf. Center	\$ 80	\$ 90	None	None

Student Housing

Holiday Inn Boston Brookline	\$ 80	\$ 80	\$ 80	\$ 80
Howard Johnson Hotel	\$ 95	\$ 95	\$ 95	\$ 95
Days Inn Boston/Newton*	\$ 65	\$ 65	\$ 65	\$ 65
YMCA, Central Branch*	\$ 33	\$ 48	None	None

*Call hotel direct

GSA Annual Meeting, October 25-28, Housing Request Form

Your Housing Request Form must be received BY FRIDAY, SEPTEMBER 24. Please read all hotel information prior to filling out this form. Use one form per room. Make additional copies if needed. Be sure to keep a copy for your records. Please print or type and either:

- 1) **Mail to:** GSA Housing Bureau
Prudential Tower, Suite 400
P.O. Box 490
Boston, MA 02199
- OR
- 2) **Fax to:** 1-617-536-0813 (do not fax *and* mail)

For changes, cancellations, and inquiries call the Boston Housing Bureau at (617) 536-9028.

TYPE OF ACCOMMODATION NEEDED:

- Arrival Date _____ Time _____ a.m./p.m.
- Departure Date _____ Time _____ a.m./p.m.
- Single (1 person, 1 bed) Triple
- Double (2 persons, 1 bed) Quad
- Double/Double (2 persons, 2 beds) Add rollaway
- Rate requested \$ _____ (NOTE: All rooms are subject to 9.7% tax)

(For suites, call the hotel)

- Non-Smoking Room Requested
- Special Room Requirement _____

MAIL CONFIRMATION TO:

Name _____

Address _____

City _____

State _____ ZIP _____ Country _____

Telephone (_____) _____

NAMES OF ALL ROOM OCCUPANTS:

1. _____ 3. _____
2. _____ 4. _____

HOTEL PREFERENCE BY NAME:

1. _____ 4. _____
2. _____ 5. _____
3. _____ 6. _____

If all six requested hotels are unavailable, please process this reservation according to: Comparable Room Rate Proximity to Convention Center

GUARANTEED ROOM RESERVATION AUTHORIZATION:

All GSA hotels require reservations to be guaranteed. I understand that the hotel may bill me for one night's housing if I fail to properly cancel a guaranteed reservation. Please check one:

- Credit card information is provided below to guarantee my reservation. (Do not send checks or cash to the Housing Bureau.)
- My guarantee will be made directly to the hotel after I receive my hotel confirmation.

Please guarantee my room reservation with the following:

- American Express MasterCard VISA Other _____

Name (as listed on credit card) _____

Signature _____

Card Number _____

Exp. Date _____

G&A 1993 Convention Hotels

Please make your reservation with the Boston Housing Bureau.
Note: All rooms are subject to a 9.7% occupancy tax.

- 1 Boston Marriott Copley Place (Headquarters)**
110 Huntington Avenue, Boston, MA 02116
(617) 236-5800 (600-room block)
3 blocks from the Convention Center, 10-minute walk

Across from the famous Copley Square in the Back Bay Section of Boston, the Marriott offers 38 floors of elegance. You can expect excellent Marriott service, convenience, and comfort. Guests can dine in three restaurants, enjoy leisurely cocktails in The Terrace Lounge or the Sushi Bar, or share in the excitement at the sports bar. A fully equipped health club with indoor pool, whirlpool, sauna, and massage therapy is available. Self and valet parking are available for \$17 and \$20 respectively per night. An enclosed walkway takes you conveniently and quickly to the Hynes Convention Center. The hotel is also connected to Copley Place Shopping Galleries, an upscale complex with more than 100 fine shops, restaurants, and entertainment options.

Check-in: 4:00 p.m. Check-out: 12:00 noon
CC: AX, CB, MC, V

- 2 Boston Park Plaza Hotel**
64 Arlington Street, Boston, MA 02116
(617) 426-2000 (500-room block)
9 blocks from the Convention Center, 25-minute walk

Overlooking the picturesque Public Gardens, the Park Plaza Hotel recalls the grand hotels of yesteryear. Built in 1927, the hotel offers elegant four-star dining to casual dining in the charming Cafe Rouge. And don't miss Legal Sea Foods, a Boston institution. Relax in one of the hotel's three lounges. The Swan Lobby Lounge is the ideal spot for afternoon tea. Fitness devotees can take advantage of the hotel's complimentary Fitness Club. Valet parking is \$14 per day with in and out privileges.

Check-in: 3:00 p.m. Check-out: 12:00 noon
CC: AX, D, DC, ER, MC, V

- 6 MidTown Hotel**
220 Huntington Avenue, Boston, MA 02115
(617) 262-1000 (100-room block)
4 blocks from the Convention Center, 10-minute walk

For the traveler on a budget, this hotel offers a blend of economy and comfort. This property has pleasant, spacious rooms with free parking for hotel guests. The hotel has one restaurant that serves breakfast, lunch, and dinner at reasonable prices beginning at 6:30 a.m. daily.

Check-in: 1:00 p.m. Check-out: 12:00 noon
CC: AX, CB, D, DC, MC, V

- 7 The Colonnade**
120 Huntington Avenue, Boston, MA 02116
(617) 424-7000 (50-room block)
2 blocks from the Convention Center, 5-minute walk

The Colonnade caters to those who like the intimacy and comfortable elegance of a contemporary European-style hotel. Amenities include on-site parking for \$17 per day, fitness room, casual and fine-dining restaurants, jazz lounge, and a rubber duck for your tub.

Check-in: 3:00 p.m. Check-out: 12:00 noon
CC: AX, D, MC, V

- 8 Westin Hotel, Copley Place**
10 Huntington Avenue, Boston, MA 02116
(617) 262-9600 (50-room block)
4 blocks from the Convention Center, 10-minute walk

The excellence and quality of the Westin name holds true at this lovely 36-story property. One of Westin's three restaurants is award-winning Turner Fisheries, well known for their excellent clam chowder. The hotel also features a casual European-style restaurant for breakfast, lunch, and dinner. Live classical piano music echoes through the busy atrium lobby and lounge, which connects the hotel to Copley Place, a shopper's heaven. Enjoy the indoor pool, jacuzzi, and health club after a full day. The Westin is connected to the Hynes Convention Center by the skywalk.

Check-in: 3:00 p.m. Check-out: 1:00 p.m.
CC: AX, CB, DC, D, ER, MC, V

- 3 57 Park Plaza Hotel**
200 Stuart Street, Boston, MA 02116
(617) 457-2632 (100-room block)
10 blocks from the Convention Center, 20-minute walk

The 24-story 57 Park Plaza Hotel is located just a short stroll from shopping, theater, art, culture, movies, and the financial district. The hotel offers on-premises complimentary under-cover parking, free Showtime movies, heated indoor pool, and sauna. The 57 Restaurant is a favorite dining spot for local theater-goers, while the Plaza Cafe offers casual dining for breakfast, lunch, and dinner, opening at 6:30 a.m. daily.

Check-in: 3:00 p.m. Check-out: 12:00 noon
CC: AX, DC, MC, V

- 4 Tremont House**
275 Tremont Street, Boston, MA 02116
(617) 426-1400 (60-room block)
11 blocks from the Convention Center, 25-minute walk

One of Boston's landmarks of the Jazz Age, the handsomely restored Tremont House captures the style and flavor of the city and puts you at the center of the Hub's most appealing attractions and neighborhoods. It is located in the heart of the theater district, and the Boston Common, historic center of the city. Built in 1925, the hotel has retained its flare for entertainment, featuring two dance clubs and the legendary NY Stage Deli. The Deli serves breakfast, lunch, and dinner.

Check-in: 3:00 p.m. Check-out: 12:00 noon
CC: AX, CB, D, DC, ER, MC, V

- 5 Back Bay Hilton**
40 Dalton Street, Boston, MA 02115
(617) 236-1100 (250-room block)
1 block from the Convention Center, 5-minute walk

Just minutes from the Hynes Convention Center, the Back Bay Hilton offers spacious, soundproof rooms with sweeping views of the surrounding city. With only 16 rooms per floor, you are assured of maximum privacy. Boodles, the hotel's restaurant, is an award-winning authentic grill, serving breakfast, lunch, and dinner. Boodles Bar offers the area's widest selection of American specialty beers. Amenities include a year-round pool, warm-weather sun deck, and fitness center.

Check-in: 3:00 p.m. Check-out: 12:00 noon
CC: AX, CB, D, DC, ER, MC, V

- 9 Copley Square Hotel**
47 Huntington Avenue, Boston, MA 02116
(617) 536-9000 (90-room block)
3 blocks from the Convention Center, 10-minute walk

Built in 1891, this recently renovated small property has an excellent location and offers a warm European atmosphere. Having all the comforts of home, such as in-room coffee makers, the hotel offers excellent dining options. Pops' Place has the ambiance of an outdoor cafe. After visiting the hotel's well-known Original Sports Saloon, you may want to try the Cafe Budapest, specializing in gourmet Hungarian cuisine. There is adjacent indoor parking for \$12 daily, plus in and out fees.

Check-in: 3:00 p.m. Check-out: 12:00 noon
CC: AX, D, DC, ER, MC, V

- 10 Lenox Hotel**
710 Boylston Street, Boston, MA 02116
(617) 536-5300 (100-room block)
2 blocks from the Convention Center, 10-minute walk

Built in 1900, the Lenox prides itself on keeping its inn-like atmosphere with working fireplaces, high ceilings, and eclectic decor. This small hotel was recently featured in *Country Inns and Back Roads*. Although an older property, the Lenox has been completely renovated and has all the modern conveniences. The Lenox boasts a cozy pub, grill restaurant, and sing-along piano bar—Diamond Jim's—voted Boston's best in 1991 and 1992.

Check-in: 3:00 p.m. Check-out: 12:00 noon
CC: AX, CB, D, DC, MC, V

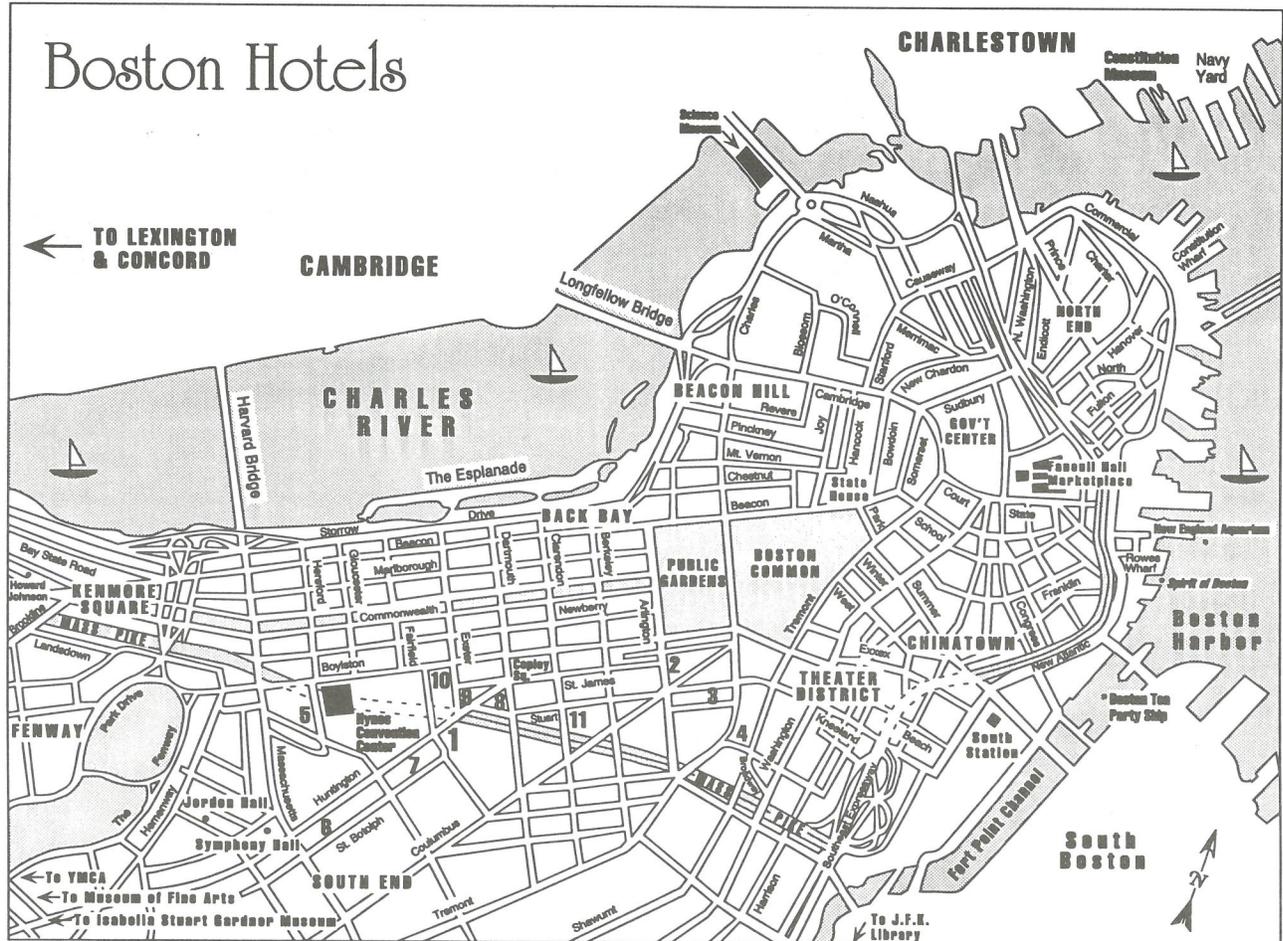
- 11 John Hancock Conference Center**
40 Trinity Place, Boston, MA 02116
(617) 572-7700 (40-room block)
5 blocks from the Convention Center, 15-minute walk

This basic, clean facility may make the GSA Annual Meeting more affordable for some. Rooms are comfortable and have one queen size bed, cable television, and a separate bath. Privately owned, this conference center is busy with outside meetings and events. There are no restaurants in the center, but plenty of options in the area.

Check-in: 2:00 p.m. Check-out: 12:30 p.m.
CC: MC, V

Credit Card (CC) Codes: AX = American Express, CB = Carte Blanche, D = Discover, DC = Diners Club, ER = En Route, MC = MasterCard, V = VISA.

Boston Hotels



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- 5** Back Bay Hilton **6** MidTown Hotel **7** The Colonnade **8** Westin Hotel, Copley Place
- 9** Copley Square Hotel **10** Lenox Hotel **11** John Hancock Conference Center



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