

Proceedings of the Seventy-first Annual Meeting of the Mineralogical Society of America in Dallas, Texas

REPORT OF THE SECRETARY FOR 1990

The seventy-first annual meeting of the Society was held on October 29–November 1 in Dallas, Texas. Oral presentations sponsored by MSA were organized into 18 technical sessions: two on experimental petrology, six on igneous petrology, five on metamorphic petrology, two on mineralogy and crystallography; and three on volcanology. Five of these sessions were poster presentations and two were theme sessions. The number of volunteered abstracts in the five MSA-sponsored categories was 244, with an acceptance rate at 93% for all categories. MSA's representatives to the GSA Joint Technical Program Committee were R. J. Tracy, M. S. Ghiorso, and D. L. Bish. MSA's symposium, "Thermodynamic Mixing Properties of Petrologically Important Minerals," was convened by M. S. Ghiorso and R. C. Newton. Prior to the meeting, MSA's short course, Mineral Water Interface Geochemistry, was organized by Michael F. Hochella, Jr., and Art F. White.

The retiring President, P. Robinson, presented an address to the Society entitled "The Eye of the Petrographer, the Mind of the Petrologist" on Tuesday, October 30. Subsequently, President Robinson called the annual business meeting of the Society to order.

Council meetings

The first meeting of the 1990 Council was held on 7 November 1989 in St. Louis, Missouri; the second was on 29 May 1990 in Baltimore, Maryland; and the third was held on 28 October 1990 in Dallas, Texas.

The first meeting of the 1991 Council was also held in Dallas, Texas, on 30 October 1990.

Discussions and actions by Council, as summarized from minutes of the three 1990 Council meetings and the 1990 business meeting, are noted below.

Results of the 1990 election

The voting for officers and Council members of the Society for 1991 was held during the summer of 1990; the following persons were elected:

<i>President:</i>	Malcolm Ross (1991)
<i>Vice-President:</i>	Michael J. Holdaway (1991)
<i>Treasurer:</i>	James A. Whitney (1991–1993)
<i>Councillors:</i>	R. James Kirkpatrick (1991–1993) Jo Laird (1991–1993)

The ballots (852) were certified on 11 September 1990 by the Tellers Ann G. Wylie and Bjorn O. Mysen. Approximately 36% of the membership eligible to vote cast their ballots.

Membership statistics

As of December 1990 the Society's 2415 members included 1503 Members (–134), 547 Fellows (–11), 333 Students (–67), six Honorary Fellows (–1), and 26 Associated Life Members and Life Fellows (+6). Numbers in parentheses are changes from December 1989.

Necrology

It is with regret that the Society announces the deaths of the following Fellows and Members:

Edwin B. Eckel (LF)
Per-Olov Ehlin (M)
Robert M. Garrels (LF)
Ralph E. Grim (LF)
Stephen Hui (M)
Charles Milton (LF)
Adolph Pabst (LF)
Giuseppe Rossi (M)

Anyone who wishes to honor a deceased Fellow or Member by preparing a memorial should contact Memorialist B. H. Mason.

Financial affairs

Relocation and reorganization of the editorial office of *American Mineralogist* has required substantial additional support from the Society compared to previous years. The financial status of the Society is discussed in detail in the Report of the Treasurer.

American Mineralogist

Council approved appointments of the following Associate Editors, who will serve for the four-year period 1991–1994: Ross Angel, Philip E. Brown, John B. Brady, Mark S. Ghiorso, and Jonathan F. Stebbins. Issues related to *American Mineralogist* are discussed in the Report of the Editors for 1990.

Awards

The 1991 Roebling Medal will be awarded to E-an Zen (U.S. Geological Survey and the University of Maryland, College Park), the 1991 Mineralogical Society of America Award to Mark D. Barton (University of California at Los Angeles), and the Distinguished Public Service Medal of the Mineralogical Society of America to H. Catherine W. Skinner (Yale University).

The recipient of the 1991 Mineralogy-Petrology Research Grant Award is John C. Ayers of Rensselaer Polytechnic Institute, New York.

Thirteen students received the *American Mineralogist* Undergraduate Award in 1990.

Fellowship

Council approved Fellowship status for the following members of the Society:

Jan H. Bernard	Michael F. Hochella, Jr.
David L. Bish	M. Qasim Jan
Robert J. Bodnar	Jeffrey E. Post
Ernst A. J. Burke	Jonathan F. Stebbins
Harry W. Green II	Glenn A. Waychunas

Nominations for officers for the 1991 election

<i>President:</i>	Michael J. Holdaway, Southern Methodist University
<i>Vice-President:</i> (one to be elected)	Alexandra Navrotsky, Princeton University Gordon L. Nord, Jr., U.S. Geological Survey
<i>Secretary:</i> (1992–1993)	Stephen J. Guggenheim, University of Illinois at Chicago
<i>Treasurer:</i>	(not on ballot)
<i>Councillors:</i>	David L. Bish, Los Alamos National Laboratory Michael F. Hochella, Jr., Stanford University Richard J. Reeder, SUNY Stony Brook Joseph R. Smyth, University of Colorado at Boulder

Other

The MSA Lecture Program continues to be extremely well received within the geoscience community. Seventy-two requests for speakers were received by the Society. The 1990–1991 lecturers, M. Darby Dyer and Harry Y. McSween, expect to present lectures at approximately a dozen universities before the end of the 1990–1991 academic year.

MSA and AGU continue to hold a joint Spring meeting. In the second joint meeting (1990), MSA Representative to the AGU Program Committee, Joseph R. Smyth, organized 55 MSA-designated abstracts into five sessions. MSA encourages members interested in organizing special or joint sessions at the AGU-MSA Spring meeting to contact the MSA Business Office for additional information.

The following short courses have been approved by MSA Council: Modern Methods in Igneous Petrology (Fall 1990 AGU), Fe-Ti Oxides: Their Petrologic and Geophysical Significance (Spring 1991 AGU), Contact Metamorphism (Fall 1991 GSA), Physical Properties of Minerals (Spring 1992 AGU), High-Resolution Transmission Electron Microscopy (Fall 1992 GSA), and Health Effects of Mineral Dusts (Fall 1993 GSA).

MARYELLEN CAMERON

REPORT OF THE TREASURER FOR 1990

This report summarizes the financial activity of the Mineralogical Society of America for the calendar year 1990. The financial statements have been audited by Massey Good and Associates of Gaithersburg, Maryland. The financial statements given in this report are taken from the audit report.

The Statement of Assets, Liabilities, and Fund Balances (Table 1) shows a negative balance of \$48,406 in the General Operating Fund and positive balances of \$842,531 in the Endowment Fund, \$41,580 in the Crystallography Fund, and \$57,665 in the Mineralogy and Petrology Fund. Table 2, Statement of Revenue and Expense, demonstrates that these balances represent a \$98,885 decrease in the General Operating Fund, a \$37,941 increase in the Endowment fund, and increases of \$747 and \$6,627 in the Crystallography and Mineralogy and Petrology Funds, respectively. The Society's net worth therefore decreased by a total of \$74,701, or 6.0%. This loss includes an excess of expense over revenues of \$53,570. The rest represents an unrealized loss on investments not offset by investment income.

Breakdown by funds

The Society has four funds. The General Operating Fund, which accounts for all aspects of the Society's operations, showed a deficiency of revenues over expenses of \$98,885, with a balance as of December 31, 1990, of negative \$48,406 (Tables 1 and 2, column 3). The Endowment Fund, which acts as a reserve for the Society and whose income provides some support for Society operations and special projects, showed an excess of revenue over expenses of \$37,941 to yield a balance of \$842,531 (Tables 1 and 2, column 4). The Crystallography Fund and the Mineralogy and Petrology Fund, which provide biennial research grants to promising young scientists, showed an excess of revenue over expenses of \$747 and \$6,627, respectively, to yield balances of \$41,580 and \$57,665 (Tables 1 and 2, columns 6 and 7).

Discussion of changes

The losses for the year were due to a number of causes involving both decreased revenues and increased expenses. In income, MSA dues received were 3% below projections and *American Mineralogist* income was 9% below budget. These losses were partially due to 44 fewer subscribers, 46 fewer members, and 12 fewer student members than in the original budget. *Reviews in Mineralogy* brought in 24% more revenue than projected, but this was partially offset by increased costs of printing and distribution. Money market income was also lower due to lower cash balances and lower interest rates.

Under expenses, the business office came in under budget by 7% (\$12,262). *Reviews in Mineralogy* came in over budget by \$13,278, but this was offset by the increased revenue shown above. *American Mineralogist* came in over budget by 53% for the editorial office (\$28,612) and

TABLE 1. Statements of assets, liabilities, and fund balances

	1989 Total	1990 Total	Unrestricted			Restricted		
			General Operating Fund	Reserve Fund	Total	Crystallography Fund	Mineralogy and Petrology Fund	Total
Assets								
Current assets:								
Cash	\$ 267,302	\$ 205,570	\$205,570	\$ —	\$ 205,570	\$ —	\$ —	\$ —
Accounts receivable	19,656	27,185	27,185	—	27,185	—	—	—
Prepaid expenses and deposits	12,516	7,406	7,406	—	7,406	—	—	—
Investments	932,189	913,830	—	816,928	816,928	40,870	56,032	96,902
Interfund borrowings	—	—	(27,946)	25,603	(2,343)	710	1,633	2,343
Total current assets	1,231,663	1,153,991	212,215	842,531	1,054,746	41,580	57,665	99,245
Furniture and equipment, net of accumulated depreciation	14,797	16,768	16,768	—	16,768	—	—	—
Total assets	1,246,460	1,170,759	228,983	842,531	1,071,514	41,580	57,665	99,245
Liabilities and fund balance								
Current liabilities								
Accounts payable	39,537	48,318	48,318	—	48,318	—	—	—
Due to other publishers	22,898	23,571	23,571	—	23,571	—	—	—
Deferred revenues:								
Dues	58,445	53,090	53,090	—	53,090	—	—	—
Subscriptions	155,250	152,410	152,410	—	152,410	—	—	—
Total current liabilities	276,130	277,389	277,389	—	277,389	—	—	—
Fund balance	970,330	893,370	(48,406)	842,531	794,125	41,580	57,665	99,245
Total liabilities and fund balance	\$1,246,460	\$1,170,759	\$228,983	\$842,531	\$1,071,514	\$41,580	\$57,665	\$99,245

15% (\$23,885) for printing and distribution. The short courses lost \$8,249 for the year.

Business office. The business office came in under budget for two reasons. First, the position of membership coordinator was not filled with a full-time person as projected, but rather with a part-time person. Taxes and benefits for 1990 were way below budgeted amounts. This was partially caused by keeping the part-time position of Membership Coordinator, which does not carry fringe benefits, and a change in the accounting for vacation time. Other items listed in the budget under Administration came in reasonably close to budget.

Reviews in Mineralogy. Both the income and expenses for *Reviews in Mineralogy* were affected by the fact that we printed three new volumes in 1990. Volume sales were higher than budget by \$15,000. The income from subscriptions was also up due to the publication of three volumes. Editorial office expenses were up \$1,000 over the budget due to \$500 for the third volume and \$500 approved by Council for technical typing. Composition and printing and postage were also up accordingly. These factors accounted for most of the cost overruns. The cost overruns were more than offset by increased revenues. Therefore, *Reviews in Mineralogy* continues to show a profit for the Society.

American Mineralogist. The *American Mineralogist* accounts for the majority of revenue shortfalls and cost overruns. The loss of members and subscribers shows up mainly in a decrease in revenue for the *American Mineralogist*. Also, page charges fell \$5,000 below budget, and reprint sales decreased to less than half the 1989 rate, and far below the \$10,000 budgeted to come from this

source. In addition, the interest income from the Commercial Money Market is normally credited to the *American Mineralogist*, and that too was down for the year. The net result was that revenues for the *American Mineralogist* were down \$23,478.

At the same time, expenses increased greatly. A new full-time position of assistant editor was created to resolve the problem of chronic understaffing in the editorial office. As a consequence, taxes and benefits went up as well. Other categories, including typist and editorial support, office supplies, postage, and travel, had to be increased substantially because of the increased staff and the increasing workload. There were also additional transition expenses associated with transferring the office, including software and computer facilities. All of this resulted in the \$28,612 or 53% increase in the cost of running the editorial office.

The costs of printing and distribution also were over budget, since an anticipated decrease in the number of signatures published did not occur. The majority of these increased costs were in composition and printing (\$23,885) although a substantial increase was also encountered in revision lines, which were considerably higher than in the previous year.

The net result was an approximately \$60,000 increase in the deficit for the *American Mineralogist*, from a \$19,895 budgeted shortfall to \$89,896. This is essentially the entire difference in the 1990 actual expenses over budget, which shows a \$61,282 greater loss than originally projected.

Short courses. This past year, we lost \$8,249 on short courses. This loss was dominantly from a small atten-

TABLE 2. Statements of revenue and expense

	1989 Total	1990 Total	Unrestricted			Restricted		
			General Operating Fund	Reserve Fund	Total	Crystallography Fund	Mineralogy and Petrology Fund	Total
Revenue:								
Publications								
<i>American Mineralogist</i>	\$237,735	\$232,421	\$232,421	\$ —	\$232,421	\$ —	\$ —	\$ —
<i>Reviews in Mineralogy</i>	102,432	123,456	123,456	—	123,456	—	—	—
	340,167	355,877	355,877	—	355,877	—	—	—
Income from investments	125,214	68,311	11,750	48,590	60,340	3,391	4,580	7,971
Dues	85,425	82,477	82,477	—	82,477	—	—	—
Short courses	19,022	80,467	80,467	—	80,467	—	—	—
Contributions	6,225	4,650	—	1,747	1,747	856	2,047	2,903
Geological Society of Washington	4,131	4,286	4,286	—	4,286	—	—	—
Total revenue	\$580,184	\$596,068	\$534,857	\$50,337	\$585,194	\$4,247	\$6,627	\$10,874
Expense:								
Publications								
<i>American Mineralogist</i>	\$240,790	\$279,590	\$279,590	\$ —	\$279,590	\$ —	\$ —	\$ —
<i>Reviews in Mineralogy</i>	48,197	77,083	77,083	—	77,083	—	—	—
Lattice	16,900	16,978	16,978	—	16,978	—	—	—
	305,887	373,651	373,651	—	373,651	—	—	—
General and administrative	111,191	134,018	130,518	—	130,518	3,500	—	3,500
Research grant	7,000	—	—	—	—	—	—	—
Membership services								
and awards	17,604	26,000	13,604	12,396	26,000	—	—	—
Short courses	30,796	90,716	90,716	—	90,716	—	—	—
Geological Society of Washington	3,661	4,334	4,334	—	4,334	—	—	—
Meetings	23,646	20,919	20,919	—	20,919	—	—	—
Total expense	\$499,785	\$649,638	\$633,742	\$12,396	\$646,138	\$3,500	\$ —	\$ 3,500
Excess revenue over expense	\$ 80,399	\$(53,570)	\$(98,885)	\$37,941	\$(60,944)	\$ 747	\$6,627	\$ 7,374

dance at the San Francisco short course. In the future, we feel we should not schedule short courses at Fall GSA and AGU in San Francisco in the same year. Financially speaking we do not seem to have the needed clientele at the San Francisco AGU. In the future, we must also be sure that the convener's projections of attendance are reasonable.

Summary

In summary, the 1990 year was one of financial difficulty for the Society. We lost nearly \$100,000 in the General Operating Fund, which depleted our cash reserves in that fund, yielding a negative balance on paper, and as a result experienced a decrease of \$75,701 in the net value of the Society.

Unfortunately, 1991 expenses will also exceed income because of the record number of pages to be published in the *American Mineralogist* in 1991, including the Thompson issue. At the Fall GSA meeting, the Council approved taking up to \$100,000 from the Endowment, if necessary, to fund publication of up to 63 signatures in 1991 and to cover the society's other expenses for the year.

After thorough discussion at the May Council meeting, the Council adopted a plan for increasing revenues and cutting costs for 1992. The subscription rates for 1992 will be increased by approximately 15% to \$200, with an additional surcharge for foreign subscribers to pay for higher postage costs. The dues for students and regular members will be raised by \$10 to \$30 and \$50, respectively, with the increase being assigned to the *American Mineralogist*. A 3% surcharge is also being imposed on all credit card charges received by mail or phone to offset the fees the society must pay to the credit card companies.

The *American Mineralogist* will return to issues of a normal size in 1992. In addition, the editorial office and business office will continue to keep expenses to a minimum and look for other ways to cut printing costs in conjunction with negotiating the new contract with Allen Press.

With these changes, it is projected that the society should be back to a nearly balanced budget by 1992.

JAMES A. WHITNEY

TABLE 1. Changes in the Society's Endowment

Fund type	1990		1989	
	Cost	Market	Cost	Market
Unrestricted	\$816,928	\$860,995	\$819,875	\$934,585
Crystallography	52,281	40,870	51,441	49,973
Mineralogy and Petrology	70,165	56,032	63,030	62,341
Investment type				
U.S. Government obligations	40,000	40,000	80,000	80,000
Mutual funds-stocks	759,923	778,446	721,821	834,374
Cash equivalents	139,451	139,451	132,525	132,525

REPORT OF THE FINANCIAL ADVISORY COMMITTEE FOR 1990

The endowments of the Mineralogical Society of America consist of three parts: one large unrestricted fund, the Endowment Fund, and two smaller restricted funds, the Crystallography Fund and the Mineralogy and Petrology Fund. It is important to emphasize that the following report reflects the fiscal year history of monies actually invested in the MSA endowment accounts, including net transfers made during 1990. It does not include any new endowment contributions or budgeted expenditures residing in the Society's General Operating Fund at year end, pending transfer by the Treasurer in 1991.

No significant reallocation of investment instruments occurred during 1990. The Society's Endowment Fund was divided among two U.S. Treasury bills, two cash money-market funds, and two stock mutual funds, Fidelity Magellan Fund and Reich and Tang Equity Fund. Near year end, one U.S. Treasury bill (\$40,000) matured. The funds were not reinvested in a U.S. Treasury bill but were placed in a money market fund in the Society's General Operating Fund. At year end, the Endowment Fund was 26% in cash or cash equivalents and 74% in equities. The two smaller restricted funds were 100% in equity-income mutual funds.

Stock prices declined in the last quarter of 1990 in response to uncertainties regarding the economy and the conflict in the Arabian Gulf area. The market value of endowment funds decreased from \$1,046,899 in 1989 to \$997,897 in 1990, as costs rose from \$934,346 in 1989 to \$939,374 in 1990. The market value of funds actually in the endowment funds at year end was \$957,897, as \$40,000 received from a matured U.S. Treasury bill was placed into the General Operating Fund near year end. Costs increased 0.5% while the market value of funds actually in the Endowment funds decreased 8.5%. Changes in the Endowment by fund type and by investment type are given in Table 1.

The Society suffered operating losses of about \$85,000 in 1990 with a larger loss projected for 1991. The losses are associated with increased costs for editing and publishing the *American Mineralogist* (see Treasurer's report). Some, and probably most, of the losses will have to be covered by Endowment funds during 1991 and 1992.

Although the Society remains in a strong financial position, expenses and income must be balanced or the Society's Endowment fund will be depleted.

Respectfully submitted,
B. S. HEMINGWAY, Chair
D. A. HEWITT
O. B. JAMES (Acting Chair,
Management Committee)
J. H. STOUT
J. A. WHITNEY (Treasurer)

REPORT OF THE EDITORS FOR 1990 (OCTOBER 1, 1989-SEPTEMBER 30, 1990)

This year has been one of significant change for the editorial office. This is the first year in which there have been two coeditors, a change mandated by the increasing number of submissions and resultant workload. From the point of view of the coeditors, the change has worked well. The division of labor between a crystallographer-mineralogist and a petrologist-mineralogist seems to ensure adequate coverage of the great variety of subject matter. Submissions continue to represent breadth over the range of mineralogy, crystallography, and petrology, with significant increases especially in the areas of mineral physics and clay mineralogy.

The editorial office was moved from Boulder, Colorado, to Ann Arbor, Michigan, and the new managing editor, Vicki Lawrence, has hired and trained new staff. With the permission of Council, we have hired a full-time assistant editor, Joyce Sherman, who replaced our part-time editorial assistant. The staff in the managing editor's office now consists of Joyce Sherman (Assistant Editor), and Jane Rodgers (Editorial Secretary; part-time). This represents an increase in staffing equivalent to a half-time position and was necessary to alleviate the long-standing understaffing of the editorial office.

New computer equipment has been purchased and programming of new software is underway. The index for Volume 75 was printed on a laser printer with a font that closely approaches that used by Allen Press for the journal. As a result, the index has the appearance of having been typeset and has a far more professional look.

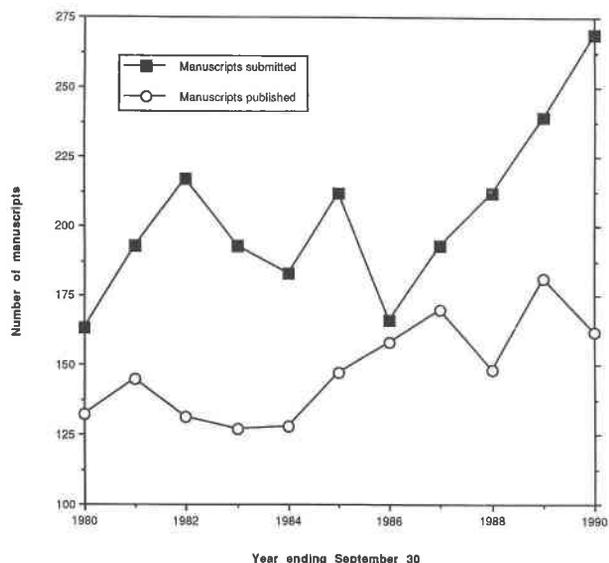


Fig. 1. Manuscripts submitted to and published by the *American Mineralogist* from 1980 through 1990.

As can be seen in Figure 1, the number of manuscripts submitted to the journal increased for the fifth year in a row to a record 269 manuscripts in 1990. Not only has the number increased, but the average length of papers has increased as well. Table 1 gives comparisons for the last three years of operations.

The special issue in honor of J. B. Thompson, Jr., has added to the problems of dealing with the increase in number, length, and complexity of papers. These factors, in addition to the move of the editorial office to Ann Arbor, the training of a whole new staff, and problems (now resolved) in having two editors, have combined to create a difficult situation for the journal and its staff. One very visible result has been that the production schedule of the *American Mineralogist* has fallen behind.

At the Fall meeting, we presented the Council with three possible solutions: fund larger issues, authorize the creation of a large backlog, or authorize a greatly increased rejection rate. After discussion, the council approved funding larger issues and a temporary half-time staff position to help process the increased load. As a result, in 1991 the journal will publish approximately 2000 pages and will make up the time lost in the production schedule.

Papers submitted in 1991 should not be affected by the glut created in 1990. In fact, since these papers will profit by the increased staffing and efficiency implemented to solve the 1990 problems, they should receive especially rapid publication.

STEVEN R. BOHLEN, Editor
 DONALD R. PEACOR, Editor
 VICKI LAWRENCE, Managing Editor

TABLE 1. Summary of *American Mineralogist* operations

Volume	No.	Number of scientific articles	Pages of scientific articles	Pages of miscellaneous	Total pages	Signatures*
September–December 1989						
74	9–10	32	256	8	264	8.25
74	11–12	26	176	35	211	6.5
January–December 1990						
75	1–2	27	246	0	246	7.69
75	3–4	26	196	0	196	6.13
75	5–6	25	271	9	280	8.75
75	7–8	26	223	5	228	7.13
75	9–10	31	266	14	280	8.75
75	11–12	26	220	24	244	7.63
Total (v. 75)		161	1422	52	1474	46.08
Total (v. 74)		171	1374	69	1443	45.25
Total (v. 73)		173	1461	71	1532	47.875
Total (v. 72)		148	1211	91	1302	40.688
		Manuscripts submitted, 10/1/89 to 9/30/90			269	
		Manuscripts submitted, 10/1/88 to 9/30/89			239	
		Manuscripts submitted, 10/1/87 to 9/30/88			212	
		Manuscripts rejected, 10/1/89 to 9/30/90			45	
		Manuscripts rejected, 10/1/88 to 9/30/89			29	
		Manuscripts rejected, 10/1/87 to 9/30/88			31	
		Manuscripts withdrawn, 10/1/89 to 9/30/90			17	
		Manuscripts withdrawn, 10/1/88 to 9/30/89			13	
		Manuscripts withdrawn, 10/1/87 to 9/30/88			17	

* One signature = 32 pages.

REVIEWERS OF MANUSCRIPTS EITHER PRINTED OR REJECTED IN 1990

Abbott, R. N.	Dunn, P. J.	Hovis, G. L.	Navrotsky, A.
Aines, R.	Dyar, M. D.	Huebner, J. S.	Newton, M. D.
Aleinikoff, J.	Dymek, R. F.	Hughes, J. M.	Nickel, E. H.
Alpers, C. N.	Ebel, D. S.	Inoue, A.	Nicol, M.
Altaner, S. P.	Eberl, D. D.	Jambor, J. L.	Nitkiewicz, A.
Angel, R. J.	Eggler, D. H.	Jenkins, D. M.	Nord, G. L., Jr.
Anovitz, L. M.	Ellis, D.	Johns, W. D.	Ohashi, Y.
Appleman, D. E.	Emslie, R. F.	Joyce, D.	O'Keefe, M.
Apps, J.	Eriksson, S. C.	Juster, T.	Olsen, S. N.
Arculus, R. J.	Farver, J.	Kashman, K.	O'Neill, H.St.C.
Arrhenius, G. O.	Finger, L. W.	Keays, R. R.	Orr, B.
Ashwal, L. D.	Fleet, M. E.	Keffer, K. D.	Papike, J. J.
Bailey, S. W.	Flemming, R.	Kerrick, D. M.	Peacor, D. R.
Barber, D. J.	Foit, F. F., Jr.	Kirkpatrick, R. J.	Peck, J.
Barker, D. S.	Fournier, R. O.	Kodama, H.	Perkins, D., III
Baronnet, A.	Francis, C. A.	Kohn, M.	Pertlik, F.
Bass, J. D.	Francis, D.	Koziol, A.	Petersen, E. A.
Bauer, J.	Freed, R. L.	Kress, V. C.	Plumlee, G.
Beard, J. S.	Frost, R.	Krupka, K. M.	Pluth, J.
Beran, A.	Gaffey, S. J.	Labotka, T. C.	Post, J. E.
Berman, R. G.	Ganguly, J.	Lager, G. A.	Presnall, D. C.
Bethke, C. M.	Gasparik, T.	Laird, J.	Prewitt, C. T.
Birnie, R. W.	Getting, I.	Lamb, W.	Reeder, R.
Bischoff, W. D.	Ghiorso, M. S.	Lambert, D. L.	Reynolds, R. C., Jr.
Bish, D. L.	Ghose, S.	Lange, R. A.	Ribbe, P. H.
Bishop, F. C.	Gibbs, G. V.	Leavens, P. B.	Rice, J. M.
Blank, J.	Giese, R. F.	Lehmann, G.	Rigden, S.
Bloss, F. D.	Gillet, P.	Leonard, B. F.	Rivers, M.
Bohlen, S. R.	Gittins, J.	Lindsley, D. H.	Roberson, H. E.
Boles, J. R.	Grambling, J. A.	Liou, J. G.	Robinson, P. D.
Brady, J. B.	Grant, J. A.	Lofgren, G. E.	Roddick, J. C.
Brearley, A.	Greenwood, H. J.	London, D.	Roeder, P.
Brookins, D. G.	Grew, E. S.	Longhi, J.	Rogers, P.S.Z.
Brown, P. E.	Griffen, D. T.	Luhr, J. F.	Romberger, S. B.
Brown, T. L.	Groat, L. A.	Luth, R. W.	Rosenberg, P. E.
Brown, W. L.	Grove, T. L.	MacKinnon, I.D.R.	Ross, C. R., II
Bukowinski, M.S.T.	Gudmundsson, G.	Mackwell, S.	Rossman, G. R.
Burnham, C. W.	Guggenheim, S. J.	Mahood, G. A.	Rouse, R. C.
Burns, R. G.	Guthrie, G.	Maroni, V.	Sack, R. O.
Burt, D. M.	Haggerty, S. E.	Mattioli, G.	Schiffman, P.
Burton, B.	Hammarstrom, J. M.	McCallum, M. E.	Schiffries, C. M.
Cabri, L. J.	Harlow, G. E.	McCormick, T. C.	Schneiderman, J. S.
Calas, G.	Harte, B.	McDowell, S. D.	Schreyer, W. F.
Candela, P. A.	Haselton, T.	McKenna, L. W.	Sclar, C. B.
Černý, P.	Hawthorne, F.	McLelland, J.	Shearer, C. K.
Chacko, T.	Hazen, R. M.	McMillan, P.	Shelton, K. L.
Chatterjee, N. D.	Hearn, B. C., Jr.	McNeil, L.	Sherman, D. M.
Chernosky, J. V., Jr.	Helgeson, H. C.	Mellini, M.	Simmons, E. C.
Chipera, S. J.	Helper, M.	Mendelssohn, M.	Skippen, G. B.
Cohen, R. E.	Hem, J.	Merzbacher, C. I.	Smith, J. J.
Condén, D.	Hemley, R. J.	Meyer, H.O.A.	Smyth, J. R.
Cosca, M. A.	Henderson, C.M.B.	Miser, D. E.	Snyder, R. L.
Crowley, K. D.	Henderson, G. S.	Moecher, D.	Speer, J. A.
De Grave, E.	Hochella, M. F., Jr.	Moore, P. B.	Spera, F. J.
Dingwell, D. B.	Hodges, K. V.	Morrison, J.	Spinnler, G. E.
Dollase, W. A.	Hoering, T. C.	Morse, S. A.	Stebbins, J.
Donahoe, R.	Hofmeister, A. M.	Mortensen, J.	Steele, I. M.
Donelick, R. A.	Holdaway, M. J.	Munoz, J. L.	Stern, M. S.
Doolan, B. L.	Hollocher, K.	Murad, E.	Stewart, D. B.
Downs, J. W.	Holloway, J. R.	Mysen, B.	Stoffregen, R.
Dunbar, N. W.	Honig, J. M.	Nassau, K.	Stormer, J. C., Jr.

Striefler, F.	Turner, S. A.	Weidner, D. J.	Windom, K. E.
Swanson, S. E.	Unruh, D. M.	Weils, R. A.	Woessner, D.
Tacker, R. C.	Valley, J. W.	Wendlandt, R. F.	Wolf, G.
Takéuchi, Y.	Veblen, D. R.	Wenk, H.-R.	Wood, S. A.
Taylor, L. A.	Vogel, T. A.	White, A. F.	Wright, A. C.
Tossell, J. A.	Von Dreele, R.	White, W. B.	Yamanaka, T.
Truesdell, A. H.	Walther, J. V.	Wicks, F. J.	Young, E. J.
Truscott, M. G.	Waychunas, G. A.	Williams, M. L.	Zolensky, M. E.
Tullis, J. B.	Weber, W. J.		

LIST OF FORMER OFFICERS, MEDAL RECIPIENTS, AND MEETING PLACES

Honorary Presidents

Edward S. Dana
1925–1935

Charles Palache
1949–1954

Edward H. Kraus
1955–1973

Edgar T. Wherry
1974–1982

Presidents

1920 Edward H. Kraus
1921 Charles Palache
1922 Thomas L. Walker
1923 Edgar T. Wherry
1924 Henry S. Washington
1925 Arthur S. Eakle
1926 Waldemar T. Schaller
1927 Austin F. Rogers
1928 Esper S. Larsen
1929 Arthur L. Parsons
1930 Herbert E. Merwin
1931 Alexander H. Phillips
1932 Alexander N. Winchell
1933 Herbert P. Whitlock
1934 John E. Wolff
1935 Clarence S. Ross
1936 William S. Bayley
1937 Norman L. Bowen

1938 Ellis Thomson
1939 Max N. Short
1940 William F. Foshag
1941 Frederick E. Wright
1942 Arthur F. Buddington
1943 John F. Schairer
1944 R. C. Emmons
1945 Kenneth K. Landes
1946 Paul F. Kerr
1947 M. J. Buerger
1948 M. A. Peacock
1949 John W. Gruner
1950 George Tunell
1951 A. Pabst
1952 Michael Fleischer
1953 J.D.H. Donnay
1954 Sterling B. Hendricks
1955 Harry H. Hess

1956 Clifford Frondel
1957 D. Jerome Fisher
1958 George E. Goodspeed
1959 Ralph E. Grim
1960 Joseph Murdoch
1961 E. F. Osborn
1962 Ian Campbell
1963 C. S. Hurlbut, Jr.
1964 Leonard G. Berry
1965 George T. Faust
1966 Brian H. Mason
1967 Felix Chayes
1968 James B. Thompson
1969 Francis J. Turner
1970 William F. Bradley
1971 Julian R. Goldsmith
1972 Hatten S. Yoder, Jr.
1973 Joseph V. Smith

1974 S. W. Bailey
1975 Arnulf Muan
1976 E-an Zen
1977 F. Donald Bloss
1978 Peter J. Wyllie
1979 David R. Wones
1980 W. Gary Ernst
1981 Gerald V. Gibbs
1982 Donald H. Lindsley
1983 Edwin Roedder
1984 Charles T. Prewitt
1985 Hans P. Eugster
1986 Paul B. Barton, Jr.
1987 Paul H. Ribbe
1988 David B. Stewart
1989 Charles W. Burnham
1990 Peter Robinson

Vice-Presidents

1920 Thomas L. Walker
1921 Waldemar T. Schaller
1922 Frederick A. Canfield
1923 George F. Kunz
1924 Washington A. Roebing
1925 Herbert P. Whitlock
1926 George Vaux, Jr.
1927 George L. English
1928 Lazard Cahn
1929 Edward Wigglesworth
1930 John E. Wolff
1931 William F. Foshag
1932 Joseph L. Gillson
1933 Frank B. Guild
1934 William A. Tarr
1935 Ellis Thomson
1936 Harold L. Alling
1937 H. V. Ellsworth

1938 Kenneth K. Landes
1939 Burnham S. Colburn
1940 Ian Campbell
1941 William J. McCaughey
1942 Martin J. Buerger
1943 John W. Gurner
1944 Harry Berman
1945 George Tunell
1946 S. B. Hendricks
1947 Carl Tolman
1948 A. Pabst
1949 J.D.H. Donnay
1950 Ralph E. Grim
1951 Michael Fleischer
1952 J.D.H. Donnay
1953 Sterling B. Hendricks
1954 Harry H. Hess
1955 Clifford Frondel

1956 D. Jerome Fisher
1957 George E. Goodspeed
1958 Ralph E. Grim
1959 Joseph Murdoch
1960 E. F. Osborn
1961 Ian Campbell
1962 C. S. Hurlbut, Jr.
1963 Leonard G. Berry
1964 George T. Faust
1965 Brian H. Mason
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1967 James B. Thompson
1968 Francis J. Turner
1969 William F. Bradley
1970 Julian R. Goldsmith
1971 Hatten S. Yoder, Jr.
1972 Joseph V. Smith
1973 S. W. Bailey

1974 Arnulf Muan
1975 E-an Zen
1976 F. Donald Bloss
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1978 David R. Wones
1979 W. Gary Ernst
1980 Gerald V. Gibbs
1981 Donald H. Lindsley
1982 Edwin Roedder
1983 Charles T. Prewitt
1984 Hans P. Eugster
1985 Paul B. Barton, Jr.
1986 Paul H. Ribbe
1987 David B. Stewart
1988 Charles W. Burnham
1989 Peter Robinson
1990 Malcolm Ross

Secretaries

1920–1922 Herbert P. Whitlock
 1923–1933 Frank R. Van Horn
 1933–1934 Albert B. Peck
 1934–1944 Paul F. Kerr
 1944–1959 C. S. Hurlbut, Jr.
 1959–1966 George Switzer
 1966–1969 Ralph J. Holmes
 1970–1971 Arnulf Muan
 1972–1975 Joan R. Clark
 1976–1979 Larry W. Finger
 1980–1983 M. Charles Gilbert
 1984–1987 Henry O. A. Meyer
 1988– Maryellen Cameron

Treasurers

1920–1923 Albert B. Peck
 1924–1929 Alexander H. Phillips
 1920–1930 Albert B. Peck
 1930–1940 Waldemar T. Schaller
 1941–1958 Earl Ingerson
 1958–1968 Marjorie Hooker
 1969–1972 Alvin Van Valkenburg, Jr.
 1973–1974 Philip M. Bethke
 1975–1976 George W. Fisher
 1976–1980 Malcolm Ross
 1981–1984 Odette B. James
 1985–1988 Gordon L. Nord, Jr.
 1989– James A. Whitney

Editors

1920–1921 Edgar T. Wherry
 1922–1956 Walter F. Hunt
 1957–1961 Lewis S. Ramsdell
 1961–1966 E. Wm. Heinrich
 1966–1972 William T. Holser
 1972–1975 F. Donald Bloss
 1976–1980 Brian Mason
 1981–1985 Michael J. Holdaway
 1986–1989 James L. Munoz
 1990– Steven R. Bohlen
 1990– Donald R. Peacor

Councillors

1920 Arthur S. Eakle, Frank R. Van Horn, Frederick E. Wright, Alexander H. Phillips.
 1921 Frank R. Van Horn, Frederick E. Wright, Alexander H. Phillips, Austin F. Rogers.
 1922 Frederick E. Wright, Alexander H. Phillips, Austin F. Rogers, Thomas L. Watson.
 1923 Alexander H. Phillips, Austin F. Rogers, Thomas L. Watson, Esper S. Larsen.
 1924 Austin F. Rogers, Thomas L. Watson, Esper S. Larsen, Arthur L. Parsons.
 1925 Thomas L. Watson, Esper S. Larsen, Arthur L. Parsons, William F. Foshag.
 1926 Esper S. Larsen, Arthur L. Parsons, William F. Foshag, William A. Tarr.
 1927 Arthur L. Parsons, William F. Foshag, William A. Tarr, Alexander N. Winchell.
 1928 William F. Foshag, William A. Tarr, Alexander N. Winchell, Ellis Thomson.
 1929 William A. Tarr, Alexander N. Winchell, Ellis Thomson, Clarence S. Ross.
 1930 Alexander N. Winchell, Ellis Thomson, Clarence S. Ross, Paul F. Kerr.
 1931 Ellis Thomson, Clarence S. Ross, Paul F. Kerr, William S. Bayley.
 1932 Clarence S. Ross, Paul F. Kerr, William S. Bayley, William J. McCaughey.
 1933 Paul F. Kerr, William S. Bayley, William J. McCaughey, Kenneth K. Landes.
 1934 William S. Bayley, William J. McCaughey, Kenneth K. Landes, E. P. Henderson.
 1935 William J. McCaughey, Kenneth K. Landes, E. P. Henderson, J. F. Schairer.
 1936 Kenneth K. Landes, E. P. Henderson, J. F. Schairer, Arthur F. Buddington.
 1937 E. P. Henderson, J. F. Schairer, Arthur F. Buddington, Arthur P. Honess.
 1938 J. F. Schairer, Arthur F. Buddington, Arthur P. Honess, R. C. Emmons.
 1939 Arthur F. Buddington, Arthur P. Honess, R. C. Emmons, Carl Tolman.
 1940 Arthur P. Honess, R. C. Emmons, Carl Tolman, D. Jerome Fisher.
 1941 R. C. Emmons, Carl Tolman, D. Jerome Fisher, Martin A. Peacock.
 1942 Carl Tolman, D. Jerome Fisher, Martin A. Peacock, Adolf Pabst.
 1943 D. Jerome Fisher, Martin A. Peacock, Adolf Pabst, C. S. Hurlbut, Jr.
 1944 Martin A. Peacock, Adolf Pabst, Michael Fleischer, S. J. Shand.
 1945 Adolf Pabst, Michael Fleischer, S. J. Shand, R. E. Grim.
 1946 Michael Fleischer, S. J. Shand, R. E. Grim, Joseph Murdoch.
 1947 S. J. Shand, R. E. Grim, Joseph Murdoch, H. H. Hess.
 1948 R. E. Grim, Joseph Murdoch, H. H. Hess, Clifford Frondel.
 1949 Joseph Murdoch, H. H. Hess, Clifford Frondel, Lewis S. Ramsdell.
 1950 H. H. Hess, Clifford Frondel, Lewis S. Ramsdell, E. F. Osborn.
 1951 Clifford Frondel, Lewis S. Ramsdell, E. F. Osborn, George T. Faust.
 1952 Lewis S. Ramsdell, E. F. Osborn, George T. Faust, Victor T. Allen.
 1953 E. F. Osborn, George T. Faust, Victor T. Allen, C. Osborne Hutton.
 1954 George T. Faust, Victor T. Allen, C. Osborne Hutton, Felix Chayes.
 1955 Victor T. Allen, C. Osborne Hutton, Felix Chayes, L. G. Berry.
 1956 C. Osborne Hutton, Felix Chayes, L. G. Berry, C. B. Slawson, A. O. Woodford.
 1957 Felix Chayes, L. G. Berry, C. B. Slawson, A. O. Woodford, S. S. Goldich.
 1958 L. G. Berry, C. B. Slawson, A. O. Woodford, S. S. Goldich, B. H. Mason, R. H. Jahns, C. Milton.
 1959 S. S. Goldich, B. H. Mason, R. H. Jahns, C. Milton, W. R. Foster, E. W. Nuffield.
 1960 R. H. Jahns, C. Milton, W. R. Foster, E. W. Nuffield, J. R. Goldsmith, Horace Winchell.
 1961 W. R. Foster, E. W. Nuffield, J. R. Goldsmith, Horace Winchell, R. M. Garrels, O. F. Tuttle.
 1962 J. R. Goldsmith, Horace Winchell, R. M. Garrels, O. F. Tuttle, Francis J. Turner, Hatten S. Yoder, Jr.
 1963 R. M. Garrels, O. F. Tuttle, Francis J. Turner, Hatten S. Yoder, Jr., W. F. Bradley, Howard T. Evans, Jr.
 1964 Francis J. Turner, Hatten S. Yoder, Jr., W. F. Bradley, Howard T. Evans, Jr., Harold L. James, Joseph V. Smith.
 1965 W. F. Bradley, Howard T. Evans, Jr., Harold L. James, Joseph V. Smith, William T. Pecora, William S. Fyfe, Walter D. Keller.
 1966 Harold L. James, Joseph V. Smith, William S. Fyfe, Walter D. Keller, Eugene N. Cameron, William S. MacKenzie.

- 1967 Eugene N. Cameron, Robert G. Coleman, William S. Fyfe, Donald L. Graf, Walter D. Keller, William S. MacKenzie.
- 1968 F. Donald Bloss, Eugene N. Cameron, Charles L. Christ, Robert G. Coleman, Donald L. Graf, William S. MacKenzie.
- 1969 Robert G. Coleman, Donald L. Graf, F. Donald Bloss, Charles L. Christ, W. Gary Ernst, Gunnar Kullerud.
- 1970 F. Donald Bloss, Charles L. Christ, W. Gary Ernst, Gunnar Kullerud, David R. Wones, Peter J. Wyllie.
- 1971 W. Gary Ernst, Gunnar Kullerud, David R. Wones, Peter J. Wyllie, Sturges W. Bailey, George Switzer.
- 1972 David R. Wones, Peter J. Wyllie, Sturges W. Bailey, George Switzer, George W. Brindley, Edwin Roedder.
- 1973 Donald H. Lindsley, George Switzer, George W. Brindley, Edwin Roedder, Daniel E. Appleman, David B. Stewart.
- 1974 George W. Brindley, Edwin Roedder, Daniel E. Appleman, David B. Stewart, Arthur L. Boettcher, Philip M. Orville.
- 1975 Daniel E. Appleman, David B. Stewart, Arthur L. Boettcher, Philip M. Orville, Iris Y. Borg, Barclay Kamb.
- 1976 Arthur L. Boettcher, Philip M. Orville, Iris Y. Borg, Barclay Kamb, Ian MacGregor, Charles T. Prewitt.
- 1977 Iris Y. Borg, Barclay Kamb, Ian MacGregor, Charles T. Prewitt, Gerald V. Gibbs, Paul B. Moore.
- 1978 Ian MacGregor, Charles T. Prewitt, Gerald V. Gibbs, Paul B. Moore, Arden Albee, Bernard W. Evans.
- 1979 Gerald V. Gibbs, Paul B. Moore, Arden L. Albee, Bernard W. Evans, Roger Burns, H. Catherine W. Skinner.
- 1980 Arden L. Albee, Bernard W. Evans, Roger Burns, H. Catherine W. Skinner, Paul Ribbe, Peter Robinson.
- 1981 Roger Burns, H. Catherine W. Skinner, Paul Ribbe, Peter Robinson, Charles W. Burnham, P. R. Buseck.
- 1982 Paul Ribbe, Peter Robinson, Charles Burnham, P. R. Buseck, James J. Papike, Donald R. Peacor.
- 1983 Charles Burnham, P. R. Buseck, James J. Papike, Donald R. Peacor, James R. Craig, Alexandra Navrotsky.
- 1984 James J. Papike, Donald R. Peacor, James R. Craig, Alexandra Navrotsky, Gordon E. Brown, Jr., Hugh P. Taylor, Jr.
- 1985 Gordon E. Brown, Jr., James R. Craig, Cornelis Klein, Anthony J. Naldrett, Alexandra Navrotsky, Hugh P. Taylor, Jr.
- 1986 Gordon E. Brown, Jr., J. Stephen Huebner, Cornelis Klein, Anthony J. Naldrett, Robert C. Newton, Hugh P. Taylor, Jr.
- 1987 James R. Craig, Michael J. Holdaway, J. Stephen Huebner, Cornelis Klein, Robert C. Newton, Douglas Rumble, III.
- 1988 M. Charles Gilbert, Robert M. Hazen, Michael J. Holdaway, J. Stephen Huebner, Robert C. Newton, Douglas Rumble III.
- 1989 M. Charles Gilbert, Frank C. Hawthorne, Robert M. Hazen, Michael J. Holdaway, Douglas Rumble, III, David R. Veblen.
- 1990 Rosemary V. Buden, Maria L. Crawford, Frank C. Hawthorne, R. James Kirkpatrick, Jo Laird, David R. Veblen.

Recipients of the Roebbling Medal

- | | | |
|-----------------------------|--------------------------|-------------------------------------|
| 1937 Charles Palache | 1959 Felix Machatchki | 1975 O. Frank Tuttle |
| 1938 Waldemar T. Schaller | 1960 Tom F. W. Barth | 1976 Carl W. Correns |
| 1940 Leonard James Spencer | 1961 Paul Ramdohr | 1977 Raimond Castaing |
| 1941 Esper S. Larsen, Jr. | 1962 John W. Gruner | 1978 James B. Thompson |
| 1945 Edward H. Kraus | 1963 John Frank Schairer | 1979 W. H. Taylor |
| 1946 Clarence S. Ross | 1964 Clifford Frondel | 1980 Dmitrii Sergeevich Korzhinskii |
| 1947 Paul Niggli | 1965 Adolf Pabst | 1981 Robert M. Garrels |
| 1948 William Lawrence Bragg | 1966 Max H. Hey | 1982 Joseph V. Smith |
| 1949 Herbert E. Merwin | 1967 Linus Pauling | 1983 Hans P. Eugster |
| 1950 Norman L. Bowen | 1968 Tei-ichi Ito | 1984 Paul B. Barton, Jr. |
| 1952 Frederick E. Wright | 1969 Fritz Laves | 1985 Francis J. Turner |
| 1953 William F. Foshag | 1970 George W. Brindley | 1986 Edwin Roedder |
| 1954 Cecil Edgar Tilley | 1971 J.D.H. Donnay | 1987 Gerald V. Gibbs |
| 1955 Alexander N. Winchell | 1972 Elburt F. Osborn | 1988 Julian R. Goldsmith |
| 1956 Arthur F. Buddington | 1973 George Tunell | 1989 Helen D. Megaw |
| 1957 Walter F. Hunt | 1974 Ralph E. Grim | 1990 Sturges W. Bailey |
| 1958 Martin J. Buerger | 1975 Michael Fleischer | |

Recipients of the Mineralogical Society of America Award

- | | | |
|---------------------------|---------------------------|---------------------------|
| 1951 Orville F. Tuttle | 1965 Peter J. Wyllie | 1978 J. Stephen Huebner |
| 1952 Frederick H. Stewart | 1966 David B. Stewart | 1979 Ho-Kwang Mao |
| 1953 L. H. Ahrens | 1967 Alfred E. Ringwood | 1980 Susan Werner Kieffer |
| 1954 Hatten S. Yoder, Jr. | 1968 Barclay Kamb | 1981 Alexandra Navrotsky |
| 1955 Julian R. Goldsmith | 1969 W. Gary Ernst | 1982 Robert M. Hazen |
| 1956 George C. Kennedy | 1970 Bernard W. Evans | 1983 David R. Veblen |
| 1957 Rustum Roy | 1971 Robert A. Berner | 1984 Bernard J. Wood |
| 1958 Charles E. Weaver | 1972 Arthur L. Boettcher | 1985 John M. Ferry |
| 1959 Harry F. W. Taylor | 1973 Paul Brian Moore | 1986 Antonio C. Lasaga |
| 1960 Donald L. Graf | 1974 James J. Papike | 1987 Donald J. DePaolo |
| 1961 Joseph V. Smith | 1975 Roger G. Burns | 1988 Raymond Jeanloz |
| 1962 Douglas S. Coombs | 1976 Friedrich A. Seifert | 1989 Michael A. Carpenter |
| 1963 Nobuo Morimoto | 1977 J. G. Liou | 1990 Russell J. Hemley |
| 1964 William S. Fyfe | | |

Recipient of the Distinguished Public Service Medal

1990 Malcolm Ross

Annual Meeting Places

1920 Chicago, Illinois
 1921 Amherst, Massachusetts
 1922 Ann Arbor, Michigan
 1923 Washington, D.C.
 1924 Ithaca, New York
 1925 New Haven, Connecticut
 1926 Madison, Wisconsin
 1927 Cleveland, Ohio
 1928 New York, New York
 1929 Washington, D.C.
 1930 Toronto, Canada
 1931 Tulsa, Oklahoma
 1932 Cambridge, Massachusetts
 1933 Chicago, Illinois
 1934 Rochester, New York
 1935 New York, New York
 1936 Cincinnati, Ohio
 1937 Washington, D.C.
 1938 New York, New York
 1939 Minneapolis, Minnesota
 1940 Austin, Texas
 1941 Boston, Massachusetts
 1942 No meeting held
 1943 No meeting held

1944 No meeting held
 1945 Pittsburgh, Pennsylvania
 1946 Chicago, Illinois
 1947 Ottawa, Canada
 1948 New York, New York
 1949 El Paso, Texas
 1950 Washington, D.C.
 1951 Detroit, Michigan
 1952 Boston, Massachusetts
 1953 Toronto, Canada
 1954 Los Angeles, California
 1955 New Orleans, Louisiana
 1956 Minneapolis, Minnesota
 1957 Atlantic City, New Jersey
 1958 St. Louis, Missouri
 1959 Pittsburgh, Pennsylvania
 1960 Denver, Colorado
 1961 Cincinnati, Ohio
 1962 Houston, Texas
 1963 New York, New York
 1964 Miami Beach, Florida
 1965 Kansas City, Missouri
 1966 San Francisco, California
 1967 New Orleans, Louisiana

1968 Mexico City, Mexico
 1969 Atlantic City, New Jersey
 1970 Milwaukee, Wisconsin
 1971 Washington, D.C.
 1972 Minneapolis, Minnesota
 1973 Dallas, Texas
 1974 Miami Beach, Florida
 1975 Salt Lake City, Utah
 1976 Denver, Colorado
 1977 Seattle, Washington
 1978 Toronto, Canada
 1979 San Diego, California
 1980 Atlanta, Georgia
 1981 Cincinnati, Ohio
 1982 New Orleans, Louisiana
 1983 Indianapolis, Indiana
 1984 Reno, Nevada
 1985 Orlando, Florida
 1986 San Antonio, Texas
 1987 Phoenix, Arizona
 1988 Denver, Colorado
 1989 St. Louis, Missouri
 1990 Dallas, Texas

LIST OF 1991 OFFICERS AND COMMITTEES

Mineralogical Society of America

1130 Seventeenth Street NW, Suite 330, Washington, DC 20036

Membership in the Mineralogical Society of America is open to persons interested in the fields of mineralogy, petrology, crystallography, and allied sciences. Membership application forms may be obtained from the address given above. Annual dues are \$40.00 (\$20.00 for students), which includes a subscription to *American Mineralogist*. Members may also subscribe to *Mineralogical Abstracts* at the reduced rate of \$25.00, *Journal of Metamorphic Geology* at the reduced rate of \$102.50, *Journal of Petrology* at the reduced rate of \$137.00, and *Physics and Chemistry of Minerals* at the reduced rate of \$250.00.

OFFICERS SERVING IN 1991

President

Malcolm Ross, U.S. Geological Survey, MS 959, National Center, Reston, Virginia

Past President

Peter Robinson, University of Massachusetts, Amherst, Massachusetts

Vice-President

Michael Holdaway, Southern Methodist University, Dallas, Texas

Treasurer

James A. Whitney, University of Georgia, Athens, Georgia

Secretary

Maryellen Cameron, Miami University, Oxford, Ohio

Councillors

1990–1992

Rosemary V. Buden, EG&G Idaho, Inc., Idaho Falls, Idaho

1990–1992

Maria L. Crawford, Bryn Mawr College, Bryn Mawr, Pennsylvania

1989–1991

Frank C. Hawthorne, University of Manitoba, Winnipeg, Manitoba, Canada

1991–1993

R. James Kirkpatrick, University of Illinois, Urbana, Illinois

1991–1993

Jo Laird, University of New Hampshire, Durham, New Hampshire

1989–1991

David R. Veblen, Johns Hopkins University, Baltimore, Maryland

APPOINTIVE POSTS FOR 1991

Roebing Medal Committee

R. James Kirkpatrick, Chair
 David A. Hewitt

John B. Lyons
 Charles T. Prewitt
 Douglas Rumble
 Jan Tullis

MSA Award Committee

Jo Laird, Chair
 John L. Rosenfeld
 Georges Calas
 Antonio C. Lasaga
 Bruce D. Marsh
 John W. Valley

Research Grant Committee (Even-numbered years, crystallography; odd-numbered years, min/pet; 1991 Committee will recommend a recipient for the 1992 award in Crystallography)

Frank C. Hawthorne, Chair
 M. Darby Dyar
 Anne M. Hofmeister
 John M. Hughes
 Ronald C. Peterson
 Howard T. Evans

Public Service Award Committee

David B. Stewart (1991), Chair
 L. Levien (1989–1991)
 F. D. Bloss (1990–1992)
 A. M. Gaines (1990–1992)
 W. G. Ernst (1991–1993)
 Hatten S. Yoder, Jr. (1991–1993)

MSA Lecture Program Committee

G. R. Rossman (1989–1991), Chair
 R. N. Abbott (1989–1991)
 J. L. Warner (1990–1992)
 R. T. Helz (1990–1992)
 William Carlson (1991–1993)
 Guy L. Hovis (1991–1993)

Committee on External Medals and Awards

A. C. Lasaga (1989–1991), Chair
 A. Montana (1990–1992)
 J. Stephen Huebner (1991–1993)

Nominating Committee for Fellows

R. A. Wiebe (1990–1992), Chair
 B. J. Wood (1989–1991)
 B. Ronald Frost (1991–1993)
 Richard L. Hervig (1991–1993)

MSA Delegates to the Joint Technical Program Committee of the GSA

M. S. Ghiorso, Representative (1988–1991), Chair
 D. L. Bish, Conferee (1990–1992)
 John E. Grover, Abstractor (1991–1993)

MSA Delegate to the AGU Program Committee

J. R. Smyth (1989–1991)

Nominating Committee for Officers

M. Charles Gilbert, Chair
 Edward D. Ghent
 Timothy L. Grove

Stephen J. Guggenheim
 Charles V. Guidotti

Tellers Committee

A. G. Wylie (1990–1991), Chair
 Sorena S. Sorensen (1991–1992)

Committee on Committees

Michael Holdaway, Chair
 M. Cameron, Secretary
 Gordon L. Nord, Jr.
 Alexandra Navrotsky
 Russell J. Hemley
 Philip E. Brown

Committee on Management

G. L. Nord (term ends in 1992), Chair
 M. C. Gilbert (term ends in 1991)
 George W. Fisher (term ends in 1993)
 M. Cameron, Secretary
 J. A. Whitney, Treasurer
 B. S. Hemingway, Chair, Financial Advisory Committee

Financial Advisory Committee (6-year terms)

B. S. Hemingway (1987–1992), Chair
 G. L. Nord, Chair, Committee on Management
 J. A. Whitney, Treasurer
 J. H. Stout
 D. A. Hewitt

Publications Committee

M.S.T. Bukowinski (1989–1991), Chair
 D. M. Burt (1990–1992)
 James L. Munoz (1991–1993)

Committee on Short Courses

D. M. Sherman (1989–1991), Chair
 K. E. Windom (1988–1991)
 P. H. Ribbe (Editor, *Reviews in Mineralogy*)
 Jeffrey E. Post (1991–1993)

Archivist

H. Belkin

Memorialist

B. Mason (appointed 1985)

Mineral Museums Advisory Council

P. C. Keller (1983)

American Mineralogist

Editor: S. R. Bohlen
 Editor: D. R. Peacor
 Managing Editor: V. Lawrence

Board of Associate Editors

New Mineral Names (1987–)
 J. L. Jambor
 1987–1991
 D. T. Griffen
 1988–1991
 D. L. Bish
 F. F. Foit, Jr.

1989–1992

W. D. Carlson
 T. D. Hoisch
 J. Longhi
 G. A. Waychunas

1990–1993

C. R. Bacon
 J. M. Hughes
 T. C. McCormick
 R. C. Reynolds, Jr.
 D. J. Weidner
 R. F. Wendlandt

1991–1994

Ross Angel
 John B. Brady
 Philip E. Brown
 Mark S. Ghiorso
 Jonathan F. Stebbins

Reviews in Mineralogy

Editor: P. H. Ribbe

Mineralogical Abstracts

Principal Editor: R. A. Howie
 Organizer for American Abstracts: K. A. Riggs

Representatives to Other Organizations

American Crystallographic Association: B. J. Wuensch
 (appointed 1981)

American Geological Institute: M. C. Gilbert (1991)
 Clay Minerals Society: D. Bish (appointed 1988)
 Friends of Mineralogy: E. E. Foord (appointed 1987)
 JCPDS International Centre for Diffraction Data: D. K.
 Smith (appointed 1974)
 International Mineralogical Association: C. W. Burnham
 (appointed 1989)
 AGU Mineral Physics Committee: R. M. Hazen (“pro
 tem”—appointed 1988)

MSA Representatives on IMA Commissions

Crystal Growth: R. J. Kirkpatrick (1983)
 Mineral Data & Classification: P. B. Moore (1977)
 Museum: C. A. Francis (1987)
 New Minerals & Mineral Names: P. J. Dunn (1988)
 Ore Microscopy: J. R. Craig (1977)
 Physics of Minerals: S. Ghose (1989)
 History & Teaching: C. Klein (1985)
 Gem Materials: H.O.A. Meyer (1982)
 Applied Mineralogy: M. Ross (1986)

MSA Representatives on IMA Working Groups

Electron Microscopy Applied to Mineralogy: P. R. Buseck
 Abstracts: K. A. Riggs
 Cosmic Mineralogy: R. Hewins (1988)