



MicroNews

Spring 1999 Newsletter of the Microbeam Analysis Society

<http://www.microanalysis.org/>

PRESIDENT'S MESSAGE

Dear Members,

I am looking forward to the Annual Meeting, as I hope you are. We have already received more papers than we did last year, and Portland should be a great location for the meeting as well as for some sightseeing. This year Ryna Marinenko and Jim McGee are organizing a special MAS symposium honoring 50 years of electron probe microanalysis. Papers will cover all aspects of EPMA, not just WDS. Once again, we will have a MAS Social; the time and place of which will be announced in the next *MicroNews* and of course at the meeting. At the Atlanta meeting last year, our 30 years of EDS symposium drew the highest number of attendees at the entire meeting. If you missed that session, however, you will get a second chance, because full versions of the papers are in the latest issue (vol. 4, No. 6) of *Microscopy* and *Microanalysis*.

Congratulations to our new Council Members. Charles Lyman of Lehigh University is our President-Elect, and I know he will bring a great deal of energy as well as experience to the society. Our new Directors are Ian Anderson of Oak Ridge National Lab and Raynald Gauvin from the University of Sherbrooke in Canada. Both have been active in microanalysis, and Raynald has been active in the Microscopical Society of Canada. Ian has won the Burton Award from MSA, and Raynald has won the Heinrich Award from MAS. We welcome them to the Council.

We have had another change that will affect the members. Scott Wight, our Membership Services Director will be leaving that post after devoting a great deal of time and effort on behalf of the society. Our new Membership Services Director will be Lou Ross from the University of Missouri-Columbia. Lou is one of the co-founders of the Missouri-Illinois-Kansas MAS (MIKMAS) and served as its first President for three years. Lou will now handle membership-related matters, except dues. For dues, you are invited to look at the back page of this issue. If you have not paid dues for this year, the new bylaws will cause you to be dropped from the mailing list by the end of June. So be sure to renew.

We now have two new local affiliated societies. The Philadelphia Society for Microscopy and the Sensors and Surface Technology Partnership at URI were approved at the winter council meeting and are now official affiliates. If you are an officer of any of the affiliates and are planning your program for next year, be sure to talk with Paul Hlava at the meeting in Portland. If anyone works for a company that would benefit from Sustaining Membership but is not a member, please contact Cathy Johnson for an explanation of the benefits and a packet of material on the subject.

This year I will present the Presidential Science Award to Rob Sareen of Gresham Scientific Instruments for his pioneering work in X-ray detectors and the Service Award to Tom Huber of JEOL USA for his years of helping the Society as President and as Corporate Liaison Officer. The Heinrich Award for a distinguished scientist under the age of 40 goes to John Bruley of IBM Analytical Services.

Again, remember the Portland meeting Aug. 1-5, 1999. You can meet old friends, attend talks, view posters, enjoy our Social, visit the exhibits, and of course stop by the MAS booth.

John Friel

EDITOR'S NOTE

In this issue of *MicroNews* you will find the results of the MAS elections as well as information on our new Membership Services representative in the President's Message. You will also find a report from the accountant, Bill Thompson, on the assets, liabilities and account balances for MAS. Harvey Freeman, the MAS Treasurer, has also included a MAS budget for the year.

We have included a column on the history of the MAS award again in this issue. That is because the history changed this past year (1998) when Hitachi Instruments decided to terminate sponsorship of the Macres Award. Thank you, Hitachi, for your generosity in supporting the award for so many years. Thanks also to Oxford Instruments which has generously offered to sponsor the award beginning in 1999.

To the local affiliates, I want to remind you to update your email addresses with me when responsibilities change so that the right person is contacted about upcoming meetings.

Ryna Marinenko

MEETING AND SHORT COURSE CALENDAR

Meetings

Scanning 99 Conference and Exhibition, Apr. 11-14, 1999, Chicago, IL

Contact: Mary Sullivan, Fax + 1 201 818 0086, email: scanning@fams.org. www.scanning-fams.org

EMAS 99, Workshop on Dev and Applic in Microbeam Analysis, May 3-7, Konstanz, Germany
Contact: Secretariat, Univ Antwerp, Belgium, Fax +32 3 820 2376 email: vantdack@uia.ua.ac.be

INTER-MICRO-99 Meeting, June 28-July 1, Chicago, IL

Contact: Nancy Daerr, McCrone Res Inst. Fax: + 1 312 842 1078, email: ndaerr@mcri.org, Internet: <http://www.mcri.org>

MICROSCOPY & MICROANALYSIS '99, Aug. 1-5, 1999 Portland, OR

Contact: MSA Meeting Manager, Tel:+1(877)MSA-MAS1 (toll-free in US), +1(708)361-6045; FAX: +1 (708)361-6166, e-mail: MSA@tradeshownet.com, internet: <http://www.msa.microscopy.com>

Imaging Tech '99, Aug.17-19, 1999, Chicago, IL, USA

Contact: Jennifer Putman, ASM Intl, Fax +1(440)338-4634; email: jputman@po.asm-intl.org

Scanning Microscopy International, Aug. 22-24, 1999, Conf: Cells & Materials: Bone & Soft Tissue Biomaterial Interactions, Davos, Switzerland

Contact: Dr. Geoff Richards. AO ASIF Res. Inst., Fax +41 (0) 81 4142 288, email: geoff.richards@ao-asif.ch internet: www.ao-asif.ch

EMAG 99 Electron Microscopy and Analysis Group Conference and Exhibition, Aug. 25-27, 1999, Sheffield, UK

Contact: Institute of Physics, FAX: +44 (0) 171 470 4900, email: conferences@iop.org
Internet: www.iop.org

1st Intl Conf on Scanning Probe Microscopy of Polymers, Aug. 27-29, 1999, Santa Barbara, CA, USA
Contact: Terry Mahr, Fax: +1(805)967 7717; email: terry@di.com; Internet: www.di.com/poly/poly

4th Multinational Congress on Electron Microscopy, Sept. 5-8, Veszprem, Hungary
Contact: +36 88 328 643, email: mcem@almos.vein.hu, Internet: www.vein.hu/conference/mcem

12th Intl Conf on Secondary Ion Mass Spectrometry, Sept. 5-10, 1999, Brussels, Belgium

Contact: SIMS12 Secretariat, email: sims12@pcpm.ucl.ac.be internet: www.mapr.ucl.ac.be/sims12

29th Meeting of the German Society for Electron Microscopy, Sept. 5-10, Dortmund, Germany

Contact: Dr. Karl Zierold, MPI f. Mol Physiol, Rheinlanddamm 201, 44139 Dortmund, Germany. Tel: +49 231 1206 455, Fax: +49 231 1206 464, e-mail: karl.zierold@mpi-dortmund.mpg.de

California Microscopy Colloquium, Oct. 2-5, 1999, San Francisco S.U., CA, USA

Contact: Greg Antipa, Web: www.online.sfsu.edu/~camicro/

ECASIA '99, 8th Conf on App of Surf Int Analysis, Oct. 4-10, Seville, Spain,

Contact: Dept Fisica Aplicada, Facultad de Ciencias, Univ Autnoma de Madrid, Cantoblanco E28049, Spain. Fax: +34 1 397 3969, email:ECASIA99@uam.es, Internet: www.uam.es/fa/ecasia99.html

Eastern Analytical Symposium and Exposition, Nov. 14-19, 1999, Somerset, NJ, USA

Contact: EAS hotline; +1 302 738 6217 email: easinfo@aol.com www.eas.org

16th Australian Conference on Electron Microscopy 2000, February 6-11, 2000, , Canberra, Australia

Contact: Dr Stuart Craig. Fax +61 2 6246 5000, email: stuart.craig@pi.csiro.au

IUMAS 2000, July 8-15, 2000, Kona, Hawaii.

Contact:David B. Williams, (610)758-4224 FAX: (610)758-4244; Email: DBW1@lehigh.edu

MICROSCOPY & MICROANALYSIS '2000
Phildelphia, PA

MICROSCOPY & MICROANALYSIS 2001, Long Beach, CA

MICROSCOPY & MICROANALYSIS 2002, Quebec City, Quebec, Canada

Short Courses

Introduction to TEM Techniques and Applications,

Apr.12-16, 1999, Chicago, USA

Contact: Nancy Daerr, McCrone Res Inst. Fax + 1 (312)842-1078; email: ndaerr@mcri.org www.mcri.org

Analytical and Quantitative Light Microscopy

Courses, May 6-14, 1999, MBL, Woods Hole, MA, USA

Contact: Carol Hamel, Tel: +1(508)548-3705; email: admissions@mbl.edu www.mbl.edu

Microinjection Techniques in Cell Biology Course,

May 18-25, 1999, MBL, Woods Hole, MA, USA

Contact: Carol Hamel, Tel: +1(508)548-3705; email: admissions@mbl.edu www.mbl.edu

Quantitative Image Analysis, May 20-22 and May 24-

26, 1999, NC State U., Mc Kimmon Conf. & Train.

Center, Raleigh, NC. Also June 14-16, 1999, Danish Teknological Inst.; Taastrup, Denmark.

Contact: John Russ, NC State U.; CPE, Box 7401, Raleigh, NC 27695-7401; (919)515-2261; FAX: (919)515-7614; internet: <http://members.aol.com/ipcourse/>

PASEM 99, Practical Aspects Series of Short Courses

on Microscopy. May 17-28, Univ. Maryland, College Park, MD

Contact: Tim Maugel, Fax +1 301 314 9358, email: 11@umail.umd.edu internet: <http://www.life.umd.edu/pasem>

Lehigh U. Microscopy Short Courses, June 13-25,1999, Lehigh U., Bethlehem, PA

Contact: Prof. David B. Williams, Chairman; Department of Materials Science and Engineering; Whitaker Laboratory; 5 East Packer Avenue; Lehigh University; Bethlehem, PA 18015-3195; (610)758-4224 FAX: (610)758-4244; Email: DBW1@lehigh.edu; web site: <http://www.lehigh.edu/~inmatsci/Microscourses.html>

Introduction to SEM and EDS for the New SEM Operator, June 13

Scanning Electron Microscopy and X-ray Microanalysis, June 14-18

Advanced Scanning Electron Microscopy with Digital Image Processing, June 21-24

Quantitative X-ray Microanalysis of Bulk Specimens and Particles, June 21-25

Microdiffraction: Electron and X-ray Techniques, June 21-25

Cryo SEM: Low Temperature Microscopy and Analysis, June 23-25

Analytical Electron Microscopy: Analysis of TEM Specimens, June 21-24

Atomic force Microscopy and Other Scanned Probe Microscopies, June 22-25

3D Microscopy of Living Cells Course, June 16-27 and

June 29-July 1, 1999, Vancouver, BC, Canada

Contact: Jim Pawley, U. Wisconsin, Madison; Fax +1 608 265 5315, email: jbpawley@facstaff.wisc.edu, Internet: www.cs.ubc.ca/spider/ladic/course/bulletin.html

Electronic Image Acquisition, Processing and Analysis Course, June 21-25, Chicago, IL.

Contact: Nancy Daerr, McCrone Res Inst. Fax: + 1 312 842 1078, email: ndaerr@mcri.org, Internet: <http://www.mcri.org>

Affiliated Societies Meetings

AREMS, visit web site for information

www.clinch.edu/cvc/arems/arems.html

MAMAS, May. 18, 1999, NIST

Contact: R. Marinenko, (301)975-3901, email: ryna.marinenko@nist.gov

MMMS, visit web site for information: <http://www.msa.microscopy.com/MSALAS/MMMS/MMMSHomePage.html>

www.msa.microscopy.com/MSALAS/MMMS/MMMSHomePage.html

MMS, 4/24/99 Project Micro, Sci. Mus. Of Minn.

5/13/99, 8:00am -4:00pm, Ann. Sprg. Symp., Sheraton Midway, St. Paul

Contact: Mike Coscio
email: mike.coscio@medtronic.com

SCSMM, 4/22/99 Cal State Fullerton

Contact: zedmason@csulb.edu

M2S, May 7-8, 1999 Woods Hole

Contact: P. Sherwood, sherwood@helix.mgh.harvard.edu

MAS TOUR SPEAKER PROGRAM

The 1998-1999 Tour Speaker season is fast coming to a close. If your society wants to have MAS sponsor a speaker for your group, you should move quickly. Contact Paul Hlava (505.844.1890, pflhava@sandia.gov) as soon as possible. So far we have sponsored speakers for seven of our affiliated societies. In addition, we have tours scheduled for April, May, and October. These engagements are as follows:

April 9, 1999 - David Wollman - West Coast MAS

April 27, 1999 - Paul Hlava - Metropolitan Micros. Society

May 13, 1999 and May 18 - David Wollman -Minn.

Microsc. Soc., Mid-Atlantic Microbeam Anal. Soc.

I also suggest that everyone start thinking about speakers and topic choices for next year's tour speakers. What would you like to hear about? Tell your MAS representative and he/she can fight for your choices at our annual meeting in August. - Paul Hlava

Microbeam Analysis Society, Inc.
Statement of Assets, Liabilities, and
Fund Balances - Modified Cash
As of DECEMBER 31, 1998

ASSETS

Current Assets	
Cash in Bank - FNB Rochester	9,431.69
MicroNews Checking Account	873.59
Money Market - CS Schwab	63,942.60
Total Current Assets	\$ 74,247.88
Other Assets	
Schwab - Vanguard Bal Fund	19,064.22
Investment Cash - Schwab	675.00
US Treasury Note - CS Schwab	99,963.67
Premiums on Notes	797.93
Total Other Assets	\$ 120,500.82
TOTAL ASSETS	\$ 194,748.70

LIABILITIES

Current Liabilities	
Deferred Membership Dues	
Deferred Income-MSA Journal	45.00
Deferred Income-Regular Membr	279.17
Deferred Income-Student Membr	2.50
Deferred Income - Air Mail	5.00
Total Deferred Membership Dues	\$ 331.67
TOTAL LIABILITIES	\$ 331.67

FUND BALANCES

Unrestricted - Chuck Fiori	5,475.97
Member's Equity	178,193.53
Net Current Year Revenue	1,885.34
TOTAL FUND BALANCES	\$ 194,717.03
TOTAL LIABILITIES & FUND BALANCES	\$ 195,048.70

Submitted by William Thompson, CPA, Accountant

MICROBEAM ANALYSIS SOCIETY

PROPOSED BUDGET FOR 1999 INCOME and EXPENSE

Income

Member Dues (519 Regular, 16 Student, 14 Emeritus)	\$	13000
Sustaining Members (23)		8050
Paper Award Reimbursements		1000
Investment Income (Schwab and Rochester bank)		11200
M & M Journal (w/member dues)		4370
Royalty (Fiori Fund)		450
Total	\$	38070

Expense

(10) Society Management	\$	8200
(11) Membership Office		1300
(15) Executive Council		12120
(20) MicroNews and WWW		2300
(30) M & M Journal		1590
(40) Fiori Speaker		1300
(45) Tour Speakers		2200
(50) Topical Conferences		6000
(55) Computer Workshop at M & M '99		2000
(60) MAS Social at M & M '99		9400
(80) Student Support		4800
Total	\$	51210

SOCIETY ASSETS: 1994 THROUGH 1998

	1994	1995	1996	1997	1998
Total Assets	\$ 171,670	190,287	189,528	192,832	194,749

Harvey A. Freeman, Treasurer
958 Long Pond Road, Brewster, MA 02631
e-mail: hfreeman@capecod.net

February 6, 1999

Microscopy and Microanalysis 99

This year there are almost uncountable excellent reasons for attending the annual Microscopy and Microanalysis meeting that will be held in the beautiful city of Portland, Oregon. We probably have one of the strongest microanalysis programs ever. The centerpiece of this meeting is the special Microbeam Analysis Society sponsored "Fifty Years of Electron Probe Microanalysis". This symposium is dedicated to the "father" of electron probe microanalysis, Professor Raimond Castaing. Invited speakers from across the globe will review the history of electron probe analysis and discuss its future in the analysis of modern materials. A second special symposium that will be of special interest to many of our members is the "A. Howie Symposium, A Celebration of Pioneering Microscopy". This symposium honors Professor Archie Howie and celebrates his many outstanding contributions to electron microscopy and microanalysis.

Other symposia with definite interest for the microanalyst include: *Quantitative X-ray Microanalysis, Optical Microanalysis via Molecular Spectroscopy, Atomic Structure and Microchemistry of Interfaces*. There will be two diffraction symposia, *Electron Diffraction in the SEM* and *Electron Diffraction in the TEM* as well as two symposia focused on scanned probe microscopies, *Developments in SPM of Polymers* and *SPM: Much More than Just Beautiful Images*.

If the scientific program were not enough to attract you, there are numerous fun social events. On the Saturday evening prior to the meeting, a "Brew Bus" will tour a number of Portland's exemplary microbreweries. An extra night in Portland? Well, your managers will like the fact that the Saturday night stay will reduce your overall airfare! The Sunday evening reception this year will be held at the Oregon Zoo and promises to be a fun time. This meeting is has been designed with MAS members in mind. Don't disappoint us - be sure to attend - bring the family. Portland is a really nice city to visit! Remember, Portland in August definitely does not have the humidity of Atlanta!

John Mansfield, MAS Program Co-Chair

MAS Celebrates Fifty Years of Electron Probe Microanalysis

A Symposium Dedicated to Prof. R. Castaing
Organizers: R. Marinenko, Jim McGee, Paul Carpenter,
Greg Meeker, and John Armstrong

As described in the last issue of MicroNews, MAS is presenting a very special symposium at the M&M'99 meeting in Portland, OR, Aug.2-5, 1999 to celebrate the 50 years since Prof. Raimond Castaing's publication describ-

ing his development of the electron microprobe. This promises to be an enlightening as well as entertaining symposium. Invited speakers who knew or worked with Castaing have been asked to share their memories of this exceptional scientist. The final program for the symposium is complete. Titles of the oral presentations of the invited speakers (though not necessarily in order of presentation) are on the opposite page. We hope you all will be there to share in this rare opportunity to experience the early development of EPMA and some personal accounts of professional associates of Prof. Castaing as well as other early participants in field. As you can see from the program, subsequent developments in instrumentation and matrix correction procedures, and the impact of EPMA on applications will be presented. The program will end with a discussion of what to expect in the future.

If you have historical photos (or copies) of Castaing and other scientists who worked in the field during the early years, as well as photos of early instruments, or meetings, please send them to Ryna Marinenko (address in the "Executive Council" list). All photographs will be returned. Written stories or anecdotes are also most welcome; these will be enlarged for easy reading. A "50 Years Remembered" bulletin board will be prepared for the occasion.

COPIES OF CASTAING'S THESIS

Have you ever read Prof. Castaing's Ph.D. thesis? You may say "no" using the excuse that you don't read French. But there is an English translation which was prepared by Pol Duwez and David B. Wittry in 1955. The *50 Years of EPMA* Symposium committee is planning to have copies made of this English translation on a per order basis. We expect that the cost will be \$20-25. The thesis is 132 pages excluding figures.

Jean Philibert, the keynote speaker for the symposium, strongly recommends reading it. In his symposium abstract he states, "The publication remains a cornerstone and a must in the scientific literature; it has not aged and reading Castaing's thesis should be recommended to everybody entering the field of microanalysis. All aspects were covered in depth - instrumentation, modeling the x-ray emission, the basis for correction calculations, and applications to metallurgy, crystallography (Kossel diagrams), etc."

If you would like to be the proud owner of a copy, please contact Jim McGee, co-chairman of the symposium at (803)777-6300, FAX (803)777-6610, or mcgee@epoch.geol.sc.edu.

MAS Celebrates

Fifty Years of Electron Probe Microanalysis A Symposium Dedicated to Prof. Raimond Castaing

Keynote Address <i>The Time of the Pioneers</i>	Jean Philibert
<i>Microprobe Design in the 1950's - Some Examples in Europe</i>	Peter Duncumb
<i>The Golden Age of Microanalysis</i>	Kurt Heinrich
<i>Development of Electron Probe Instrumentation During those Early Days when Professor Castaing Visited Japan</i>	Ryuichi Shimizu
<i>Crystal Spectrometers and Monochromators in Microanalysis</i>	David Wittry
<i>Advances in WDS Crystal Performance</i>	Charles Nielsen
<i>EDS and WDS Automation: Past Development and Future Technology</i>	Jon McCarthy
<i>Today's and Tomorrow's Instruments</i>	Claude Conty
<i>Quantitative Electron Probe Microanalysis: Fifty Years of Developments in the Application of Castaing's "Z" and "A" Corrections</i>	John Armstrong
<i>Characterization and Continuum Fluorescence in Electron Beam X-ray Microanalysis</i>	Clive Nockolds
<i>Fundamental Constants for Quantitative X-ray Microanalysis</i>	David Joy
<i>Minimizing Errors in Electron Microprobe Analysis</i>	Eric Lifshin
<i>Selecting Standards to Optimize Electron Microprobe Analysis</i>	Eric Essene
<i>Application of the Electron Probe Microanalyzer to the Analysis of Planetary and Geological Materials: A Historical Perspective</i>	Klaus Keil
<i>A Few Examples of Electron Microanalysis of Art Objects at the Boston Museum of Fine Arts</i>	Robert Ogilvie
<i>Minimally Invasive (Energy) Dispersive Analytical Spectroscopy (MIDAS). The Golden Touch for In-Situ X-ray Microanalysis of Bulk Bio-Organic Samples</i>	Patrick Echlin
<i>Castaing's Electron Microprobe and its Impact on Materials Science</i>	Dale Newbury

MEMBERSHIP SERVICES

Hi –

I am Lou Ross and I have assumed the MAS Membership Services role from Scott Wight. Although we are still in transition, Scott has been most helpful in making this as seamless as possible. I want to thank Scott for his help and continued effort until I get the services transferred to Missouri. Until then, continue to use 800-4MASMEM (800-462-7636) and we will assist you.

The second mailing for membership renewal should have been sent. Please remember if you do not pay your dues by June 30, 1999, you will be dropped from the mailing list. Currently there are approximately 360 members of MAS. This number is down from previous years due to this new policy.

In an effort to increase the number of MAS members I urge you to solicit new members in your work environment. If you are in academia, make sure that your students are aware of the reduced fees (\$5 membership and \$15 for the journal) for student associate members. Also, if you are an officer in a local affiliated society, please have applications forms available and a short announcement about joining MAS at your meetings. If you need additional membership forms, contact me and I will send them to you.

As a member of the Microbeam Analysis Society you are entitled to receive the Microscopy and Microanalysis Journal at a reduced rate along with a registration discount at the Microscopy and Microanalysis meetings. The popular MAS Tour Speaker program is funded from your dues. As Scott pointed out in the last newsletter, MAS receives a portion of the M&M meeting profits based on the number of MAS paid attendees.

If you will be attending M&M 99 in Portland, stop by the MAS booth for information about the society. Membership applications will be on hand. Also, if you have any suggestions or questions regarding membership services don't hesitate to contact me. See Additional MAS Representatives section of MicroNews for my address, etc.

PLAN ON IUMAS II FOR YEAR 2000

MAS members who attended the 22nd MAS meeting, "ANALYSIS '87", at Kona, Hawaii, will remember that it was one of the most memorable meetings in MAS experience. For those of you who were unable to attend the '87 meeting this is your opportunity to catch up on what you missed in 1987.

The International Union of Microbeam Analysis Societies, IUMAS, has decided to revisit Kona July 9-14, 2000 with their second international meeting, IUMAS II. The program committee under the organization of Dave Williams has laid out an ambitious

technical program that includes sessions in the topics of interest to our membership. We have reserved rooms at the remodeled King Kamehameha Hotel at \$95 plus the usual taxes. Even socials will include the very popular and improved beach Luau as well as Capt. Bean's Catamaran Dinner Cruise. More details on the meeting will be presented in succeeding issues of Micronews.

Gordon Cleaver

HISTORY of MAS PAPER AWARDS

The current MAS paper awards include the Castaing, Macres, Birks, and Cosslett Awards.

The Castaing Award (\$500) which is given for an outstanding student paper presented at the annual meeting was established in 1972 as the JEOL Award. It was renamed the Castaing Award in 1982, and in 1989, support for the award was changed from JEOL, USA to Cameca Instruments.

The Macres Award (\$500) was established in 1973 to honor the memory of Dr. Victor Macres, one of the pioneers of electron probe analysis, a dedicated teacher, and a competitive instrument manufacturer. This award is given for the best instrumentation paper presented at the annual meeting, and through 1997, it was sponsored by Hitachi Scientific Instruments. Sponsorship changed this year, 1999, to Oxford Instruments.

In 1984, the Birks Award (\$500) was established for the best contributed paper at the annual meeting. It was originally supported by Cameca Instruments, but since 1989 it has been supported by JEOL, USA.

In 1989, the Cosslett Award was established by MAS as a nonmonetary award for the best invited paper at the annual meeting.

Past MAS paper awards included the Corning and Proctor and Gamble Awards. From 1974/75 until 1982, Corning Glass supported the Corning Award (\$300) established for the most outstanding contributed paper presented at the annual MAS meeting. From 1986 to 1988, Proctor and Gamble supported a second student award for an outstanding student paper presented at the annual meeting.

Inga Holl Musselman and Ryna Marinenko

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I. B. Borovskii (Deceased)
Raimond Castaing (Deceased)
Arthur A. Chodos
V. E. Cosslett (Deceased)
Peter Duncumb
Charles E. Fiori (Deceased)
Raymond Fitzgerald
Theodore Hall

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L. L. Marton (Deceased)
Robert E. Ogilvie
Jean Philibert
Stephen J. B. Reed
Gunji Shinoda (Deceased)
Georges Slodzian
David B. Wittry

ADDITIONAL REPRESENTATIVES

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Cathy Johnson (see directors)

Computer Activities Committee

John F. Mansfield

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Conference Proceedings Inventory

C. Susskind

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