



MicroNews

Spring-Summer 1998 Newsletter of the Microbeam Analysis Society

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

PRESIDENT'S MESSAGE

Colleagues,

I write this message with a heavy heart and great sadness. The microanalysis community has lost a most revered and respected contributor as well as an honorary member. On April 10, 1998 Raimond Castaing passed away in France after a long illness of lung cancer. An obituary can be found in this issue of MicroNews. I want you to know that shortly before his death I was in touch with him on behalf of the society. I wrote him a letter explaining that in 1999 at the Portland M&M meeting MAS will be having a special symposium commemorating 50 years since his 1949 publication in which he described his design of the electron microprobe. I invited him to be the keynote speaker. Castaing quickly replied with a very moving letter saying that he was extremely honored by our plans for the special symposium but was unable to make immediate commitments due to his health. I followed up with another letter and sent a bouquet of flowers to his home on behalf of MAS. His wife wrote a very kind thank you note to MAS the day before he died thanking us for the flowers and asking for our prayers. I since wrote a letter of sympathy to her on behalf of the society to which she has already replied with a short note. If any members are interested in reading the correspondence, I will be glad to share it as I found the letters from Castaing and his wife very touching.

MAS had a very successful election this year with a return of more ballots than usual. We attribute this to the new procedure which allowed voters to include ballots in the same envelope as the '98 membership renewal form. Our accountant, Bill Thompson and his staff counted the ballots. Although this costs the society a small fee, I expect the new procedure will be continued as the counting is independent of the membership and returning ballots is easier for the members. I thank you all for your participation and for your membership renewals as well. Remember that your timely membership renewal helps the society to reduce mailing costs. Also, the grace period for renewal has changed. The change in the bylaws was

approved. Members will be dropped from the membership list after six months (instead of one year) if his or her dues have not been paid within that time period. Remember that dues can be charged to a VISA or Mastercard .

Regarding other election results, John Friel is President-Elect and Edgar Etz is the new Secretary. I want to thank the outgoing Secretary, Inga Musselman for her outstanding effort in that job for the past two years. Inga is now an MAS Director along with Paul Carpenter. Congratulations to you all.

The MAS Presidential Awards will be presented at the M&M'98 meeting. The Presidential Science Award will be presented to Fred Schamber, Vice President of R. J. Lee Instruments, Ltd., for his numerous contributions to the development of automated EPMA and SEM and to energy dispersive acquisition and spectral processing. It is an especially appropriate award at this meeting where the *30 Years of Energy Dispersive Analysis* symposium will be held. The KFJ Heinrich award will be presented to Vinayak David, Associate Professor in the Dept. of Materials Science and Engineering of Northwestern U., for his numerous contributions to the microanalysis of interfaces in ceramics and nanostructured materials with electron microscopy. And the Presidential Service Award recipient will be Jon MacCarthy, Vice-President of Technology and Engineering at NORAN Instruments. Jon has served on council as a director, president, and corporate liaison. He was program co-chairman for the '97 and '98 M&M meetings including the chairmanship of the *30 Years of EDS* symposium. Jon has yet to walk away from MAS saying his job is done; he continues to come back giving more and more of his time and talent to MAS. Thank you Jon, and Fred, and Vinayak for the fine work and selfless contributions you have made to microanalysis.

I hope to see you in Atlanta at M&M '98. Microanalysis has a rich, exciting program this year. More than 600 papers have been submitted and I understand that we have at least the same number of

vendors scheduled for the exhibit hall as last year. You will find detailed descriptions of the program and special symposia as well as a one-page schedule in this MicroNews issue. I'd like to thank Jon McCarthy and Meredith Bond for their hard work as co-chairs to the M&M program and again Jon for all his effort in putting together an excellent special symposium. Atlanta is a great city with lots of things to do, great food, and excellent transportation. I'm sure we'll all enjoy this meeting. Don't forget to visit the MAS booth which will be located at the entrance to the exhibit hall, and on Wednesday evening at 5 PM, MAS will hold the annual business meeting followed by the MAS Members Reception in the Terraces Restaurant at the World Congress Center. Get your tickets at the MAS booth. See you there.

Ryna Marinenko

EDITOR'S NOTE

My apologies for being so late to publish this issue of MicroNews. For several reasons, I delayed the Spring issue and then found the summer and the early M&M meeting slowly creeping up upon me. Since I am serving double duty this year I took the liberty to publish a combined Spring-Summer MicroNews - a bit late for the Spring issue but timely for the M&M meeting. In this way I was able to include the short schedule for the meeting as well as an obituary for Prof. Castaing, two important items.

Another apology from the printer. In the last issue the photographs of the nominees did not reproduce well because I had submitted them in digital form. As you may have noticed, they reproduced reasonably well as ballot enclosure which was my purpose of preparing them in digital form. In the future some processing will be done to the digital images to improve the resolution for the printing process.

I want to thank the local affiliates for responding so well to my request for meeting news. Unfortunately, most of the meetings will have already been held before this issue goes to press. Please continue to keep me informed as early as possible when you know the date and contact person for a meeting. You probably will get considerable distribution if you place the announcements in the MSA and MAS listservers.

RBM

MEMBERSHIP SERVICES

If you lost your membership renewal before you had a chance to mail it in, don't worry - the second notices will be sent out to those that did not respond to the first mailing very shortly. Be sure you fill them out and return them promptly.

The ballot referendum to change the bylaws to dropping names from the rolls after six months of nonpayment was passed. This means that if you do not pay your dues by June 30, you will be dropped from the membership and will not receive any MicroNews, renewal notices, or meeting information. Another good reason to renew is that MAS gets a portion of the meeting profits from M&M for every paid MAS member that attends the meeting. You may have noticed the line for contributions to Fiori and Potter funds were not on the renewal notice as I had indicated they would be in a previous micronews. Anyone can contribute to these funds by sending a check indicating the fund to either the treasurer or the accountant. Please send us your address changes, phone number changes (new area codes), and new email addresses so that we can keep our database up to date. The membership directory will be out soon and please check it for errors and let us know if you find any. Email changes to scott.wight@nist.gov or call the 800 number.

Scott Wight, 800-4MASMEM

Membership forms at

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

TOUR SPEAKER PROGRAM for 1998

The MAS has sponsored and/or scheduled ten tour speakers to nine regional societies as part of the Tour Speaker Program for 1998. Brian Andrews is scheduled to talk to the CoMAS on April 17th and the MAMAS on May 14th. Greg Meeker met with MIKMAS on October 17, 1997 and is scheduled to give talks to OKSEM April 2, NMMBUG April 23rd, and MMS-MI May 8th. Joe Michael talked to the SCSM&M on January 24th and is scheduled to visit NESEM May 7-8 and the MAMAS on May 14th. (MAMAS get two speakers because Andrews is local and will incur no costs to MAS.) We also had one society (NCSMMA) who requested Kersker (from last year's slate of speakers) to talk October 17-19, 1997. When Mike was suddenly called away on business, he got Gracie Birke to fill in with a related talk (Thanks again, Gracie!).

The Tour Speaker season is now well advanced and I do not expect any more requests for speakers. It is too late to make reasonable travel arrangements. So start planning ahead for next season. Think of people who you would like to have talk to your group, then let your society's representative know your wishes so we can discuss and choose them at the summer meeting.

See You in Atlanta,
Paul Hlava

Microbeam Analysis Society

Statement of Revenues and Expenditures- Modified Cash

12 Months Ended
Dec. 31, 1997

Revenues

Program Revenue - Gross Amt	\$ 4280.96
MM Journal Fee	2187.00
MM Journal Fee - Foreign	1194.00
Regular Member Dues	12780.00
Student Member Dues	60.00
Emeritus Member Dues	55.00
Sustaining Member Dues	7700.00
Member Dues - Air Mail	205.00
Interest - Schwab Treas. Note	7750.00
Dividend - Schwab Money Market	2670.00
Dividend - Vanguard Bal Fund	195.63
Capital Gains - Vanguard Fund	44.22
Amortized Int. & Pd on purch.	159.44
Interest/Dividends from Ckg.	115.45
Miscellaneous Income	1500.00
Royalty Income	883.57
Total Revenues	41780.27

Expenditures

Paper Awards	1500.00
Accounting Fees & Expenses	5,131.94
Legal Fees	75.00
Telephone	487.68
Postage and Shipping	1719.10
Printing and Publications	1805.00
Travel & Meals	12450.85
Conferences, Conventions, Mtg	4985.49
Bank Service Charge	230.48
Insurance	582.00
WWW Computer Home Page - News	3468.23
Dues and Subscriptions	415.00
Miscellaneous	849.28
Supplies	236.80
Total Expenditures	33936.85

Net Revenues and Exp.	\$ 7843.42
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Submitted by Harvey Freeman, Treasurer

HISTORY OF MAS PAPER AWARDS

The current MAS paper awards include the Castaing, Macres, Birks, and Coslett 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 has been supported by Hitachi Scientific 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

MEETINGS AND SHORT COURSES

Meetings

EDXRS-98 Euro Conf on ED Xray Spectroscopy, June 7-12, Bologna, Italy
Contact: Barbara Cavallari, via S. Stefano 32, 40125 Bologna, Italy Tel: 3951 261 440, Fax 3951 265 742

Surface Analysis '98, June 16-19, Richland, WA
Contact: Bonnie Williams, Pacific NW Natl Lab, PO Box 999, Richland, WA 99352, (509) 376 1518 FAX: (509) 376 5106 email bj_williams@pnl.gov, Internet: <http://www.vacuum.org/surfanal98.html>

MICRO'98 (Royal Microsc. Soc.) July 7-9, 1998, London, UK
Contact: +44 (0) 1865 248768, FAX: +44 (0) 1865 791237, email: info@rms.org.uk

1st Int Workshop Noncontact AFM, July 21-23, Osaka, Japan,
Contact: Prof. Seizo Morita, Dept Elec. Eng, Osaka University,
2-1 Yamada-oka, Suita, Osaka 565, Japan
e-mail: smorita@ele.eng.osaka-u.ac.jp Fax: +81-6-879-7764

5th Int Conf Rare Earth Magnets, July 30- Aug. 3, Dresden, Germany
Contact: DGM, Frankfurt Germany, +49(0)69-7917-751, FAX: +49(0)69-7917-733

47th Ann Denver X-ray Conference, Aug. 3-7, Colorado Springs, CO,
Contact: Theresa Maguire, 12 Campus Blvd, Newton Sq, PA 19073-3273, FAX: (610)325-9823

11th Ann Workshop on Secondary Ion Mass Spectrometry, Aug. 10-13, Austin TX, USA
Contact: FAX: (505)989-4735 email sims@simsworkshop.org Internet: <http://www.simsworkshop.org>

15TH Int. Conf. on X-ray Optics & Microanalysis, Aug. 24-7, 1998, Antwerp, Belgium
Contact: ICXOM-XV Secretariat, Univ. of Antwerp, Dept. of Chem., Univeriteitsplein 1, B-2610, Antwerp-Wilrijk, Belgium, FAX: +32-3-820-23-76, email: vantdack@uia.ua.ac.be

ICEM Internat. Congr. on Elect. Microsc., Aug 31 - Sept. 4, 1998, Cancun Mexico.
Contact: (525)553-4507, FAX (525)553-4500, email: icem@icem.inin.mx

Intl Congress on Imaging Science, Sept. 7-11, Belgium,
Contact: Agfa-Gevaert Fax +32 (0) 3 444 74 85
info@ICPS.be Internet: <http://www.icps.be>

45th AVS National Symposium, Nov. 2-6, Baltimore, MD,
Contact: Ms Marion Churchill AVS, 120 Wall St, 32nd Floor, New York, NY 10005, USA

Eastern Analytical Symposium, Nov. 15-20, Somerset, NJ,
Contact: EAS Hotline FAX: (302) 738-5275, email: easinfo@aol.com

PITTCON 99, 50th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, March 7-12, Orlando, FL,
Contact: (800)825-3221, Internet: <http://www.pittcon.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

ECASIA '99, 8th Conf on App of Surf Int Analysis, Oct. 4-10, Seville, Spain,
Contact: Dept Fisica Aplicada, C?XII, Facultad de Ciencias, Univ Autnoma de Madrid, Cantoblanco E28049, Spain. Fax: +34 1 397 3969,
email: ECASIA99@uam.es, Internet: <http://www.uam.es/fa/ecasia99.html>

MICROSCOPY & MICROANALYSIS '98, July 12-16, 1998, Atlanta, GA

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

MICROSCOPY & MICROANALYSIS '2000, July 30-Aug. 3, 2000, Philadelphia, PA

MICROSCOPY & MICROANALYSIS 2001, Long Beach, CA

MICROSCOPY & MICROANALYSIS 2002 Quebec City, Quebec, Canada

IUMAS 2000, July 8-15, 2000, Kona, Hawaii.
Contact: David B. Williams, (610)758-4224 FAX: (610)758-4244; Email: DBW1@lehigh.edu

Short Courses

Lehigh U. Microscopy Short Courses, June 7-19, 1998, Lehigh U., Bethlehem, PA
Contact: Prof. David B. Williams, C; 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 7

Scanning Electron Microscopy and X-ray Microanalysis, June 8-12

Advanced Scanning Electron Microscopy with Digital Image Processing, June 15-18

Quantitative X-ray Microanalysis of Bulk Specimens and Particles, June 15-18

Analytical Electron Microscopy: Analysis of TEM Specimens, June 15-18

Atomic force Microscopy and Other Scanned Probe Microscopies, June 16-19

3D Microsc. of Living Cells - June 17-28, 1998 and **3D Image Processing** - June 30-July 2, 1998, U. of British Columbia, Vancouver, B.C.

Contact: James Pauley Rm 1235, 1500 Johnson Dr., Madison, WI, USA 53706, (608)263-3147, FAX (608)265-5315; email: jbpawley@facstaff.wisc.edu; web site: <http://www.cs.ubc.ca/spider/ladic/course/forms/register.txt>

Fundamentals of Transmission electron Microscopy in Materials Science, June 22-4, 1998, U. of Florida
Contract: (352)392-6985 FAX: (352)392-0390

COM/IMA/MAC, Modern Approaches to Ore and Environmental Mineralogy, Aug. 4-7, 1998, Ottawa, Canada

Contact: Louis Cabri, CANMET, 555 Booth St., Ottawa, Canada K1A 0G1, (613)995-4073, FAX: (613)996-9673, email: lcabri@nrcan.gc.ca

Image Analysis Workshop, Sept. 21-22, Leiden, The Netherlands

Contact: Dr. John Russ FAX: (301)495-5964, Internet: <http://www.mediacy.com>

Optical Microscopy and Imaging in Biomed. Sci., Oct. 7-15, MBL, MA,

Contact: Marine Biological Lab, (508)298 7401, Internet: <http://www.mbl.edu>

Image Analysis Workshop, Nov. 2-3, College Park, Maryland,

Contact: Dr. John Russ FAX: (301)495-5964, Internet: <http://www.mediacy.com>

Scanning Electron Microscopy and X-ray Microanalysis, Nov. 16-20, 1998, New Paltz, NY

Contact: Dr. A. V. Patsis, The Inst. of Mats. Sci., SUNY, New Paltz, NY 12561, (914)255-0757 FAX: (914)255-0978, email: inquiries@ims-np.org

Microscopy and Microanalysis 1998

Jon J McCarthy and Meredith Bond, MAS Co-chairs

The program for this year's meeting is complete, and it looks like this meeting should have plenty to offer to all of our MAS membership. Scattered among the 28 symposia and 40 Sessions you will find many of interest to you. Included are traditional topics such as instrumentation, image processing, AFM, material and biological applications, and ESEM. You will also find Symposia organized by MAS members that will cover in more detail topics of interest to members of our society. Some of these symposia include Problem Elements and Spectrometry Problems in X-ray Microanalysis, Microanalysis in the Real World, Novel X-ray Techniques, and Quantitative Microanalysis. The centerpiece of this year's microanalysis program is the symposium celebrating the 30 year anniversary of the first reported use of EDS in microanalysis. The following is a brief overview of the final program for that symposium.

Thirty Years of EDS for Microanalysis

The symposium will span two days and consists of four platform sessions and a poster session.

The kick off session begins at 8 AM on Monday with the Symposium Keynote Address by Kurt Heinrich. Kurt will trace the beginnings of x-ray microanalysis and factors which lead to the use of EDS. This will be followed by a historical overview by John Friel and a review of the current state of the art in semiconductor EDS by Rob Sareen. A materials keynote by Dave Williams and a biological keynote by Andrew Somylo will round out the first session.

The Monday afternoon session looks at the future of EDS in microanalysis. Papers in this session will discuss the use of x-ray optics with EDS, and the emerging use of silicon drift chamber detectors and superconducting tunnel junction and microcalorimeter EDS. Researchers at the forefront of these developments will present their latest results.

On Tuesday, the morning session looks at the historical and current challenges faced by scientists using EDS to solve applications issues. Topics include geological science, ESEM, particle analysis, AEM, and low voltage x-ray microanalysis of materials and biological specimens. The session ends with a discussion by Dale Newbury of perhaps the biggest practical challenge of all: the proper role of "standardless" quantitative analysis.

Tuesday afternoon begins with the symposium poster session which features contributed papers on advances in EDS instrumentation and analysis techniques. The final platform session follows the posters. This session will investigate the quality of EDS data, from statistical considerations and accurate peak intensity extraction, to measurements of system performance, and quality assurance techniques.

All in all, this symposium, sponsored entirely by your Microbeam Analysis Society promises to be an event you should not miss!

The entire program for M&M 1998 promises to be an outstanding technical meeting, and I encourage you all to attend.

Please plan to join us in Atlanta!

Web site for M&M '98 program:

Go to the MSA web site at:

<http://www.MSA.microscopy.com/>

then select *M&M '98* followed by *Search Engine* or go directly to the search engine at:

<http://www.msa.microscopy.com/cgi-bin/M&M98Program.pl>

Use the search engine, specifying the days of the week to get the paper and session schedules.

OBITUARY

RAIMOND CASTAING

Raimond Castaing was born on December 28, 1921 in Monaco. In 1940 he entered the Ecole Normale Supérieure, (the highest academic institution for training in the physical sciences in Paris) and became the student of Frederic Joliot, at the College de France. He joined the French resistance during the war and graduated in 1946 with the highest grades for the teaching of physical sciences. He then began his career as a research engineer at the Office National d'Etudes et de Recherches Aeronautiques (Onera), where he prepared a thesis under the direction of A. Guinier, with whom he first described the development of the electron microprobe in 1949 at a meeting in Stockholm, Sweden. In 1951 he presented his thesis, *Application des Sondes Electroniques a une Methode d'Analyse Ponctuelle Chimique et Crystallographique*, for which he received his doctorate from the University of Paris. It described the first microprobe built by modifying a transmission electron microscope with electronic lenses. During the following years, l'ONERA built two prototypes, one for themselves and the other for Philibert at l'IRSID; at the same time, CAMECA built the first commercial instrument which was ready in 1958 and nearly identical to the prototypes.

Castaing held the post of lecturer at the University of Toulouse from 1952 to 1956 where Georges Slodzian worked in his laboratory, then he became lecturer at the University of Paris from 1956 to 1959. He took part in the creation of the University of Paris, Orsay (again with Guinier) where he became a professor and Director of the Laboratory of Physics of Solids up to his retirement. At Orsay, he and Slodzian developed the ion probe. Concurrently, he was scientific director and then General Director of Onera from 1968 to 1973. He was elected to the French Academy of Sciences in 1977, was elected to the Council of Nuclear Security in 1982 and was a member of the Atomic Energy Committee from 1982 to 1987. He was Administrator of the French civil research organization, the CNRS, from 1983 to 1989, member of Administration Committee of Usinor (Steel Company) from 1984 to 1987, and in 1996 became President of the Commission on the fast breeder reactor Superphenix. In addition to his own accomplishment, Prof. Castaing guided some of the most distinguished physical scientists in France, including Slodzian, Philibert, Henoc, and others. Raimond Castaing died on 10th April 1998 after a long illness at the age of seventy six.

R.B.M.

My thanks to Francois Grillon and Jean Henoc for providing the information above about the exceptional accomplishments of Prof. Castaing and to Kurt Heinrich for his assistance.

50 YEARS OF ELECTRON PROBE MICROANALYSIS

At the M&M '99 meeting in Portland, Oregon, August 1-5, MAS will hold a special symposium celebrating 50 years since Prof. Castaing reported on his development of the electron microprobe at a meeting in Stockholm, Sweden in 1949. This will probably be a two-day symposium with several invited talks and posters. In addition we would like to have a display of photographs of early instruments and people who have contributed to the field of electron probe microanalysis. If you have any significant photographs, please contact me. I will make copies and return originals as soon as possible.

In addition, since we no longer have our keynote speaker with us for this special event, I would like to honor Raimond Castaing with this symposium making it a celebration and remembrance of him and his accomplishments. Those of you who worked or interacted with Prof. Castaing over the years may have interesting anecdotes or short dissertations highlighting his character or accomplishments. Could you please write a few words in his behalf. These will be made part of our program.

Thank you for your help.

Ryna Marinenko

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Ryna B. Marinenko

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Peter Duncumb
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Theodore Hall
K. F. J. Heinrich

James Hillier
L. L. Marton (Deceased)
Robert E. Ogilvie
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Conference Proceedings Inventory

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