



MicroNews

Summer 2008 Newsletter
of the Microbeam Analysis Society

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

PRESIDENTIAL MESSAGE

Dear MAS Members,

This past year has been an exciting and eventful one in the life of the Microbeam Analysis Society. Highlights include: a revision of the Society ByLaws that will allow us to use on-line methods for annual elections and dues renewal; the roll out of a new MAS web site and letterhead that prominently features the society logo; the holding of two Topical Conferences – Hyperspectral Imaging II (HI-II) in October and EBSD 2008 in May; and the establishment of the Arthur A. Chodos Memorial Fund for support of our student activities. To help fund the transition to streamlined electronic methods, the Society increased its member dues for the first time in many years.

One of the major goals for my presidential year was to increase the amount and quality of student involvement within MAS. At last year's Summer Council Meeting, the Council voted unanimously to name the MAS Fund for student support activities in honor of the late Art Chodos. Our initial efforts have been highly successful; please see my letter to Norma Chodos in this issue of MicroNews, which details our fundraising efforts as well as the ten MAS Distinguished Scholar Award winners for M&M 2008. MAS also provided a Student Scholar Award to Judy Kim of the University of California – Davis to attend IUMAS-4 this past February in Perth, Australia. Congratulations!

This year's MAS topical conferences were successful both as technical programming events themselves and as a means of forwarding the Society's strategic goals. HI-II attracted more than fifty registrants, including ten students. EBSD 2008 doubled these numbers, and the registration fees were used as an incentive to attract forty new MAS members – half of them students. I offer thanks and congratulations to the organizers of these topical conferences, particularly to John Fournelle, whose exceptional efforts set the standard for what an MAS Topical Workshop can and should be.

This past winter, I worked with Computer Activities Chair Scott Wight to put together a new MAS web site, including a topical conference section to provide information to prospective registrants and to allow on-line registration – with link to PayPal – and on-line student scholarship application. This web infrastructure was put to use for EBSD 2008, and provided a trial run for our planned on-line dues renewal process in the fall.

Our annual meeting takes place next month; see the write up for M&M 2008 in this issue of MicroNews. As a member of the Executive Program Group this past year, I worked closely with Nicole Guy, our new Meeting Manager. She will be a tremendous asset for the annual Microscopy and Microanalysis meeting in years to come.

One of the great privileges of serving as MAS President is the choosing of the annual Presidential Award winners. This year, I have selected Lou Ross for the Presidential Service Award, Tom Kelly for the Presidential Science Award, and Paul Kotula for the Heinrich Award. The Peter Duncumb Award for Excellence in Microanalysis Award is “the members’ award”: nominations are solicited from the entire membership and the winner is chosen by vote of MAS Council. The Duncumb has been awarded this year to Joe Goldstein.

With the fall elections, we welcome new officers: President-Elect Cathy Johnson, Secretary Scott Davilla, and Directors Stuart McKernan and Nicholas Ritchie. Many thanks to those who have retired from service on Council this year: Raynald Gauvin (Past President) Valerie Woodward (Secretary), and Lou Germinario and Dan Kremser (Directors).

Thank you to everyone who has made my presidential year a productive and enjoyable one!

Sincerely,

Ian M. Anderson
MAS President 2007-2008

MEMBERSHIP SERVICES

The underlying emphasis of MAS is to build a strong and vibrant society for its membership. Council continues to revitalize our society by implementing new directions such as the widely popular Topical Conferences, revamping the Bylaws, and rejuvenating our web site; membership operations will also see some changes in the near future. Soon our election and membership process will go electronic to make it easier for members to vote and renew their membership along with expediting the application process for new members. These initiatives address the two concerns facing MAS and all societies today - membership retention and attracting new members, especially younger members to carry on the legacy of

MAS. And it’s working! So far in 2008 we have gained 66 new members, and stand at 51 student members, both high marks within recent years. Unfortunately, the number of members who have not yet renewed offsets the gains and the membership office is addressing this issue.

The state of MAS is healthy - not only from the new initiatives but also in the rich tradition of providing resources and opportunities to promote knowledge of microanalytical techniques and methods. MAS is still a prominent fixture in the M&M meetings and the M&M Journal. Our successful outreach efforts via the Tour Speaker Program within the AReS now includes educational resources on our web site. You can count on MAS to grow as our science of characterization expands and evolves.

We hope that many of you will be attending the M&M2008 meeting in Albuquerque and will be participating in the MAS sponsored events and sessions along with the business meeting and social. Stop by the MAS booth for details and to meet old and new friends.

After ten years as Membership Chair, I will be stepping down this summer. It has been a pleasure working with the MAS Leadership and with you, our members. I have made many new friends during this past decade, both personal and professional, reinforcing why I joined MAS! Dan Kremser will be your new Membership Chair and is enthusiastic about his new role. With Cathy Johnson becoming our new President, I have accepted the appointment as Sustaining Members Chair for the next 3 years.

As always, don’t hesitate to contact your Membership Chair regarding your membership.

See you in Albuquerque!
Lou Ross, Membership Chair



Microbeam Analysis Society

Incorporated in New York, 1968 ? FEIN 23-7044608

Principal Society Office:
Post Office Box 502, Fairport NY 14550-0502

April 11, 2008

Norma Chodos
302 Acorn Circle
Monrovia CA 91016
USA

Dear Mrs. Chodos:

It gives me great pleasure to inform you that at its annual meeting this past summer, the Executive Council of the Microbeam Analysis Society (MAS) voted unanimously to name its fund to support student activities in memory of your late husband. Henceforth, the Arthur A. Chodos Memorial Fund will receive tax deductible contributions through MAS to provide financial support for students to attend its annual meeting, Microscopy & Microanalysis, and a variety of topical conferences and international meetings sponsored by the society, as well as other activities of benefit to students and their professional development.

Donations to the Fund are off to a promising start. Following the announcement of the fund's creation at Microscopy & Microanalysis 2007, the winners of two society awards donated the monetary proceeds of their awards, and an instructor of a MAS-sponsored workshop likewise donated his instructor's fee. As President, I pledged to match the contributions of renewing members, up to the amount of our annual dues, and this challenge was accepted by thirty of our members. Through these combined efforts, we managed to raise \$6000 for the Chodus Fund in 2007. These funds will be disbursed to ten MAS Distinguished Scholar Award winners at Microscopy & Microanalysis 2008 this summer. I attach a list of this year's award winners, and the titles of their papers, to give you a sense of the breadth of research that the Fund will support.

I am pleased that MAS has found a meaningful and lasting way to commemorate Art for his technical accomplishments and service to the society over a long and distinguished career.

Yours truly,

A handwritten signature in blue ink, appearing to read 'Ian M. Anderson', with a long, sweeping underline.

Ian M. Anderson
President, 2007-2008

**2008 Awards – Microbeam Analysis Society
Distinguished Scholar Awards**

Pooja Bajaj
University of Texas at Dallas
Correlative Microscopic and Spectroscopic Characterization of Carboxylated Single-Walled Carbon Nanotubes

Judy J. Cha
Cornell University
Tunneling Magnetoresistance and B Diffusion in CoFeB/MgO/CoFeB Magnetic Tunnel Junctions Characterized by STEM-EELS

Michaela Eddy
University of Michigan
Microbeam Analysis of Plasma Effects in Synthetic Mica-Like Compound

H. Carlo Floresca
University of Texas at Dallas
New FIB Fold-Out Method for TEM Cross-Section Sample Preparation

Bryant Gipson
University of California at Davis
2dx – Automated 3D Structure Reconstruction from 2D Crystal Data

James M. LeBeau
University of California at Santa Barbara
Quantitative HAADF-STEM and EELS

Ben McMorran
University of Arizona
Very Low Energy TEM Diffraction of Nanostructures

William D. Pyrz
University of Delaware
Using Aberration-Corrected STEM Imaging to Explore Chemical and Structural Variations in the M1 Phase of the MoVNbTeO Oxidation Catalyst

Weronika Walkosz
University of Illinois at Chicago
Investigation of the Atomic Structures of Si₃N₄/CeO_{2,3} Interfaces using Atomic Resolution Z-Contrast Imaging and EELS Combined with First-Principles Methods

Huolin L Xin
Cornell University
Controlling Channeling Effects in Aberration-Corrected STEM Tomography

MAS TOUR SPEAKER PROGRAM

Important stuff first. IAS (Instrumental Analysis Society) in Pittsburg, which has been inactive for a long time, has been re-activated by a group that renamed the society the Three Rivers Microscopy Society (3RMS). Much of the leg work on this change and re-activation was done by MAS Director Kirsten Bunker whom we wish to thank. I am working on two other moribund societies to see if they can be re-activated.

Tour Speakers

The three new speakers, their affiliations, and titles for this year's MAS Tour Speaker Program are –

Lou Germinario (Eastman Chemical Company) “Nanoscale Thermal Property Characterization of Polymers, Thin Films and Coatings”,

Milos Toth (FEI) “Gaseous environments in scanning electron microscopy: From nanofabrication to imaging of non-conductors, liquids and hydrated material systems”

Nicholas Ritchie (NIST) Tutorial on EDS interpretation: “What spectrum simulation can teach you about x-ray microanalysis”

The program was able to supply tour speakers to nine societies since M&M2007 but none are scheduled or in progress. The completed and pending tours since M&M 2007 are listed below. Remember that our current speakers are on tap until Christmas time.

Society	Speaker	Date
AReMs	Simmons	October 11-12, 2007
CDMMS	Notte	September 25-27, 2007
Midwest	Stroud	October 18-19, 2007 (2007 Speaker)
Midwest	Simmons	November 16, 2007 (2008 Speaker)
Minn	Simmons	May 2, 2008
MSORV	Germinario	April 9, 2008
NMMBUG	Simmons	October 5, 2007
OMS	Simmons	November 2, 2007
SCSM&M	Simmons	March 26, 2008

Affiliated Society Items

I checked with all of my contacts to see if/which adjustments were needed soon after I returned from M&M2007. These were duly sent to Scott Wight. I believe our contact list is in pretty good shape. In some cases it is more up-to-date than our affiliated societies' own web pages! But, of course, a

few societies have had a change of officers and others are about to occur (and I hope 2 more will do so soon!). More and more, the officer changes don't affect our list much because many of our contacts are people who act as MAS liaison people year after year. If your society information needs updating, contact me at hpf5@qwest.net or 505/265-4178.

Respectfully submitted,
Paul Hlava
AReS Director

MAS WEB SITE

The MAS website < <http://www.microbeamanalysis.org> > has been reorganized and streamlined. Please explore and try out all the navigation buttons at the top and bottom of the screen. The new and improved website has a MAS members only area where you will be able to find exclusive content such as the tutorials from the EBSD workshop. Watch your email for login information to be sent out to all members. The recent EBSD topical conference used PayPal < <http://www.paypal.com> > for registration successfully and very soon MAS will offer on-line membership renewal by PayPal. Payments can be made by either using your PayPal account or by simply entering your credit card information in their secure pages.

Thanks
Scott Wight

EDITOR'S NOTE

At last, another issue of MicroNews has arrived! And it has changed a lot. Because space is no longer a major problem with the electronic version, there is a lot of “extra” information in this issue. I want to thank everyone who contributed articles, reports, and photos. Be sure to read MNs all the way through so you don't miss the photos of the two MAS Topical Conferences that were held during the past year. Hopefully, we can continue expanding MNs with more contributions from our readers.

Thank you all,

Ryna Marinenko
MicroNews Editor

TREASURER'S REPORT

Well, it has been a busy year in the Treasurer's office where we took over most of the financial transaction activities from the Accountant's Office. Most of the day-to-day financial activities are now handled by yours truly in an effort to reduce the cost of running our Society. In 2007, as this transition was initiated, the Society Business/Accounting Office expenses were still not reduced, due primarily to costs incurred in moving records and setting up accounting/business software for the treasurer, and receipt of 'training' and guidance on the methods. This was necessary both because I was new to the Treasurer duties and also had assumed a large amount of the duties previously performed by the Accounting Office. Whether or not it was a cause and effect event isn't clear, but the assumption of these responsibilities has turned out to be fortuitous for the Society because the Accounting Office response has been reduced significantly by their physical relocation and personnel downsizing. We still retain Thompson's Accounting services for tax document preparation and filings and investment fund accounting, but all other banking and member receipt activities are now processed by the Treasurer. I anticipate that the Society will realize a substantial reduction in accounting office costs in 2008 as a result of these efforts.

In addition to this focus, I also have established online banking for the Society and, with Luke Brewer's and Scott Wight's assistance, have established a PayPal account linked to our online bank accounts. This allows the Society to now receive payments through PayPal rather than submitting credit card transactions or checks to the Society for processing. This will be a GREAT improvement and timesaver for our dues processing and banking, as has already been demonstrated by the successful use of the PayPal account for the EBSD Topical Conference. I encourage all of the membership to take advantage of this new payment method for dues payment- it will be online for use to pay your membership dues this summer (thanks to Scott Wight's continued effort). This will enable us to abandon the archaic, time-consuming, and costly merchant service credit card processing we utilize now.

The Treasurer also acted as the adhoc business/accounting office for the two Topical Conferences held the past year (HI-II and EBSD). Kudos to the EBSD TC organizers (Fournelle, Brewer, Michael) for carrying out a technically and financially successful workshop, with no cost to the Society other than the dedicated efforts of the organizers (and a little by the Treasurer).

Budgets for 2007 (actual) and 2008 (estimate) are summarized below. The Society realized a small net positive proceeds (~\$1500) from the 2006 annual meeting (Chicago), a relief

since there had been concern of a possible loss. The annual Budget for 2007 also showed a small net positive cash flow, mainly due to investment returns (see below). We are anticipating a somewhat larger proceed amount from the 2007 meeting in Ft. Lauderdale, but still await the final accounting from MSA and meeting management. For 2008 I anticipate a substantial savings on Society business and Council expenses and a resulting increase in funding for student support to foster our young member's participation and growth in the Society's scientific, technical, and professional activities.

Respectfully submitted,

James J. McGee
MAS Treasurer

	2007	2008
	Actual	Budget
<u>INCOME</u>		
Member Dues	\$7,493	\$11,700
Sustaining Member Dues (Budget amount - 22)	\$8,250	\$8,250
National Meeting (M&M 2005)	\$3,407	
(M&M 2006)	\$1,526	
(M&M 2007)		\$16,000
M & M Journal Subscriptions	\$1,410	\$1,500
Schwab Dividends & Interest	\$10,910	\$1,550
Interest on Rochester Checking Account	\$6	\$0
Wiley Royalty to Fiori Fund	\$55	\$55
Contributions to Fiori & Potter Funds	\$515	\$500
Contributions to Chodos Fund	\$3,225	\$2,400
Corporate Paper Award Reimbursements	\$500	\$3,500
MASTopical Conference (2007 = HI II; 2008 = EBSD)	<u>\$5,500</u>	<u>\$11,500</u>
Total Income	\$42,797	\$56,955
<u>EXPENSE</u>		
Society Management	\$7,523	\$5,000
Membership Office	\$2,223	\$2,000
Executive Council	\$2,313	\$3,000
Foreign Society Reciprocity	\$500	\$1,200
Student Support at IUMAS / EMAS	\$0	\$3,000
WWW Maintenance	\$240	\$255
M&M Journal Subscriptions	\$1,370	\$1,500
Tour Speaker - Fiori Fund	\$1,029	\$1,000
Potter Fund Support	\$937	\$3,000
General Tour Speaker Program	\$4,167	\$4,500
Student Support at Topical Conference	\$999	\$2,500
Topical Conference 2007 - HI II, 2008 - EBSD	\$4,655	\$11,500
MAS Conference Sponsorship (AGU)	\$1,416	\$2,000
MAS Functions @ M&M	\$1,929	\$4,000
Student Support @ M&M	\$6,376	\$9,000
Paper Awards (Corp Sponsored)	\$500	\$3,500
Total Expense	\$36,176	\$56,955
Net Income / (Expense)	\$6,621	\$0

MICROSCOPY & MICROANALYSIS 2008

Microscopy and Microanalysis 2008 will be held August 3-7 in Albuquerque, NM. An excellent program has been assembled by the Program Committee, with representation of diverse topics that are of interest to all scientists in addition to those that are dear to the MAS core membership. For MAS members this meeting represents a major change as we have replaced and expanded the traditional "Quantitative X-ray Microanalysis" symposium with several topical symposia focused on microanalysis. These symposia include: Hyperspectral Imaging, Cathodoluminescence, and Soft X-ray Analysis; Problem Solving Using Microanalytical Techniques; and New Analytical Techniques in Microbeam Analysis. Of special interest to MAS members is the session "Microbeam Analysis of Terrestrial and Planetary Materials - A Symposium in Memory of Gene Jarosewich." This symposium will honor the contributions of one of our Honorary Members in an area of science of significant importance to the development of our field and society with presentations that represent the current state-of-the-art. Many of these symposia will be held in two rooms - Aztec and Cimmaron - located on the first floor of the convention center, immediately across from the Exhibition Hall.

Other important sessions include: 40 Years of Energy Dispersive X-ray Spectrometry; Simulation of Microscopy, Microanalysis, and Microscopic Phenomena; Surface Microscopy and Microanalysis in Materials and Biological Systems; and 21st Century Scanning Microscopy - Electrons and He Ions.

The annual meeting also provides social opportunities to catch up with colleagues, so don't forget the opening night reception at the Rio Grande Zoo, the MAS Presidential Happenings (featuring our awards presentations and an overview of DTSA-2 by Nicholas Ritchie), and of course the MAS Social, which will take place immediately following the MAS Business Meeting on Wednesday evening. Drop by the MAS Booth to validate your membership and get details.

See you in Albuquerque!

Paul Carpenter
MAS Co-Chair, Microscopy and Microanalysis 2008

MAMAS MEETING

DTSA-II: THE REINVENTION OF A CLASSIC

Nicholas W. M. Ritchie

The original Desktop Spectrum Analyzer (DTSA) program was broadly appreciated in the microanalysis community and it is widely missed. It broke ground in many ways not the least of which were the spectrum simulation tools, the spectrum manipulation tools and the availability of the source code. Some researchers still retain a 10-year old Power PC Mac just to use DTSA. Our new product DTSA-II is an attempt to bring DTSA forward twenty years to make full use of new platforms, more memory and faster processors. We remain inspired by many of the goals of the original DTSA. We believe in the utility of spectrum simulation as a practical and pedagogical tool. We believe in making standard-based analysis more accessible. We believe in providing spectrum analysis tools that facilitate microanalytical research. We believe that the source code should be available so you never have to "just trust" your data to a black box. While DTSA remains more feature rich than DTSA-II, DTSA-II is ready for useful work and is an ongoing project. We will continue to enhance the product as inspired by the needs of the community.

Fiori/MAMAS Meeting Tuesday, Sept. 9, 2008.

NIST, Gaithersburg, Lecture Room A, 10:00 AM.

Attendees should contact by e-mail - dale.newbury@nist.gov - so that a security gate pass can be requested no later than Friday, Sept. 5, COB.

The following information is required:

NAME first middle last

CITIZENSHIP

TITLE

EMPLOYER/SPONSOR

ADDRESS

MAS TOPICAL CONFERENCES EBSD 2008

EBSD 2008 was held on May 20-22, 2008 at the Department of Geology & Geophysics at the University of Wisconsin in Madison. The meeting was attended by 102 people and featured 24 platform presentations and 14 posters. Attendees came from all over the US including Hawaii, and from Canada, the UK, Germany, South Africa and Taiwan. Over 60% of the participants previously were not members of MAS, but many of them are now.

Among the attendees were 36 students. Thanks to the generous support of the National Science Foundation and corporate sponsors, MAS was able to award over \$9000 in scholarship aid to 23 students.

The meeting started off with a full day tutorial on EBSD that introduced the technique and its applications to the attendees. The tutorial was followed by two full days of

invited and contributed presentations and posters. The program seemed to be equally split between technique development, materials applications and geological applications.

This meeting was made possible by the generous support of Edax Inc, Oxford Instruments, The National Science Foundation, Hitachi HTA Inc, JEOL USA Inc, FEI Company, Carl Zeiss SMT Inc, Thermo Fisher Scientific, Bruker AXS and the Midwest Microscopy and Microanalysis Society. The meeting was organized by John Fournelle (University of Wisconsin-Geology), Luke Brewer (Sandia National Laboratories) and Joe Michael (Sandia National Laboratories). Attendees recommended that a follow up meeting in 2010.

John Fournelle

HYPERSPECTRAL IMAGING II

Hyperspectral Imaging II (HI-II) was held October 23-26, 2007 in the Advanced Measurement Laboratory, NIST, Gaithersburg, MD. HI-II was highly successful, attracting 56 registrants from six countries, including 10 students and 5 postdocs, meeting the organizers' goal that these early career professionals comprise at least 25% of registrants. Many thanks to Ed Vicenzi and Paul Carpenter, who along with myself organized this conference, and well as conference sponsors Bruker AXS and Thermo Fisher Scientific, whose generosity allowed student registration to be waived and supported a lively conference banquet.

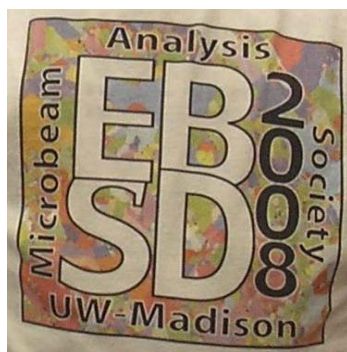
HI-II featured two-and-one-half days of technical programming, preceded by a day of demonstrations on

instruments in the labs of the NIST Microanalysis Research Group. Many thanks to my NIST colleagues for their time in preparing and giving the demos, as well as guest demo leaders Ilke Arslan (STEM tomography), Colin Macrae and Nick Wilson (CL spectral imaging), and Jonathan Winterstein, a student participant (EFTEM spectral imaging). The technical programming was comprised of platform and poster sessions, and featured a diverse number of hyperspectral imaging techniques, concluding a summary session on Friday morning. As a follow-on item from HI-II, Nestor Zaluzec will be holding a Standards Subcommittee meeting on the Wednesday afternoon of M&M 2008 to discuss a standard file format for hyperspectral images, in the spirit of the MSA/MAS standard spectral file format.

Ian Anderson, Co-Organizer

ON SALE !!!!

Get Your MAS T-shirts, Tote Bags and Mugs

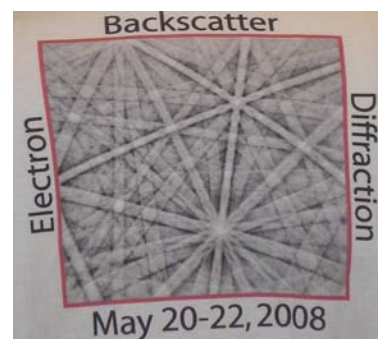


A limited number of quality colorful souvenirs from MAS's Topical Conference "EBSD 2008" are available at cost: all have two emblems, one on the front (left), the other on the back (right).

Ceramic (tall) mugs \$10
Tote Bags \$10
T shirts \$13 (mainly XL and L, limited

number M and S). Silkscreened.
(Postage included in above costs)

If interested, email johnf@geology.wisc.edu. First come, first served.



EBSD 2008

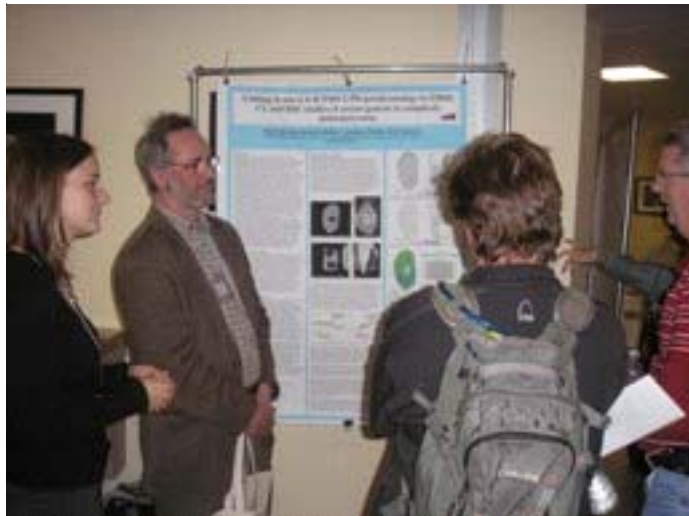


David Prior Lecture



Andy Deal Tutorial

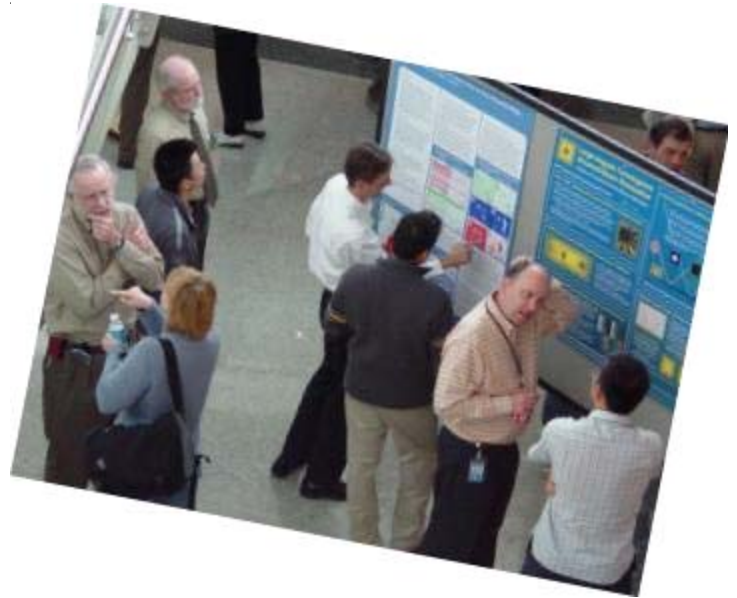
Poster Session



EBSD Group

HI-II

Poster Session



FIB Demo with Keana Scott



Colin Macrae on CL spectral imaging



HI-II Group

MEETINGS

Meetings

MICROSCOPY & MICROANALYSIS 2008, Aug. 3-7, 2008, Albuquerque, NM

Contact: Nicole Guy, nicoleguy@conferencemanagers.com
or web: msa.microscopy.com

American Chemical Society National Meeting, Aug. 17-24, 2008, Philadelphia, PA

Contact: www.chemistry.org

FACSS:2008, Sept.28-Oct. 2, 2008, Reno, NV

Contact: www.facss.org

AVS 55rd Symposium and Exhibition, Oct. 19-24, 2008, Boston, MA.

Contact: www.avs.org

Eastern Analytical Symposium, Nov. 17-20, 2008, Garden State Convention Center, Somerset, NJ.

Contact: www.eas.org

2008 MRS Fall Meeting, Dec. 1-5, 2008, Boston, MA

Contact: info@mrs.org, www.mrs.org

PITTCON 2008, Mar. 3-6, 2008, New Orleans, LA

Contact: info@pittcon.org, or www.pittcon.org

2008 MRS Spring Meeting, Apr. 13-17, 2009, San Francisco, CA

Contact: info@mrs.org, www.mrs.org, or www.mrs.org

SCANNING 2009, May 4 -7, 2008, Monterey, CA

Contact: www.spie.org

Future M & M Meetings

MICROSCOPY & MICROANALYSIS 2009, July 26-30, 2009, Richmond, VA

Contact: Nicole Guy, nicoleguy@conferencemanagers.com
or web: msa.microscopy.com

MICROSCOPY & MICROANALYSIS 2010, Aug. 1-5, 2010, Portland, OR

Contact: Nicole Guy, nicoleguy@conferencemanagers.com
or web: msa.microscopy.com

MICROSCOPY & MICROANALYSIS 2011, Aug. 7-11 2011, Nashville, TN

Contact: Nicole Guy, nicoleguy@conferencemanagers.com
or web: msa.microscopy.com

Affiliated Societies' Meetings

Visit web sites for the following societies:

AREMS

<http://www.ncsu.edu/aif/arems/arems.htm>

AIMS

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

AMAS

microscopy.org.au/amass/

CDMMS

<http://home.nycap.rr.com/cdmms/>

CoMAS

http://www.msa.colostate.edu/mssem_cmas/

CSMMS

<http://www.emc.missouri.edu/csmms/index.htm>

MMMS

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

MSNO

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

MMS

<http://www.mnmicroscopy.com/>

NESM

<http://nesm.cims.harvard.edu/>

NCSMMA

<http://www.msa.microscopy.com/MSALAS/NCSMMA/NCSMMAHomePage.html>

OMS

<http://www.ou.edu/research/electron/oms/>

PMS

<http://www.msa.microscopy.com/~psmlas/PSMHomePage.html>

SST

<http://bilbo.chm.uri.edu/SST/>

SEMS

www.southeasternmicroscopy.org/

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Fax: +1 724 733 1799
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Stuart McKernan (2008-2010)

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Fax: +1 651 736 0129
Email: smckernan@mmm.com

Nicholas Ritchie (2008-2010)

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Gaithersburg, MD 20899-8371
Tel: +1 301 975 3929
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