

MicroNews

SUMMER 2010

WWW.MICROBEAMANALYSIS.ORG

MAS @ M&M

- Council Meeting
Sun 8/1 7:30A C124
- Opening Reception
Sun 8/1 6:30P
Oregon Zoo
- Student Awards
Mon 8/2 9:35A
Ballroom 203
- Awards Presented
Mon 8/2 10:05A Ball-
room 203/204
- ARoS Meeting
Wed 8/4 12:15P
A108/109
- Business Meeting
Wed 8/4 5:15P B113
- MAS Social
Wed 8/4 6:30P
Lotus Cardroom
SW 3rd & Salmon

INSIDE THIS ISSUE:

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President's Corner by Ed Vicenzi

I would like to begin by thanking all MAS members for their continued support of our society. In mid 2010 we find MAS is in a strong position for a modestly-sized scientific organization both in terms of membership and financial stability. Apart from these objective metrics, I am most proud of the continued growth of our Topical Conference (TC) series. The most recent TC entitled *Electron Backscattered Diffraction (EBSD) 2010* was held at the University of Wisconsin during the last week of May this year and drew a maximum for the venue of 145 attendees. Luke Brewer, John Fournelle, Jon McCarthy, and Joe Michael organized an outstanding conference that featured a high quality program comprised of lectures and laboratory demonstrations. The support from the vendor community was also strong, and we thank those sustaining members for helping us build the TC program. Another major sponsor of EBSD 2010 was the National Science Foundation Directorate for Geosciences whose funding helped to support many of the students who attended.

The growth of the Topical Conference

program has demanded that we take a more rigorous approach to the processes involved in planning and executing such events. As a result, much effort has been invested this past year by MAS Council led by Ian Anderson and Paul Carpenter in defining the TC Guidelines. Web-based proposal forms, preparation timelines, and running commentary on all aspects of organizing these conferences are now available on the MAS website (<http://www.microbeamanalysis.org/topical-conferences/planning>) and will streamline and regularize future submissions of proposals to conduct microanalysis-related events of interest to the membership. I would like to announce that the next Topical Conference entitled *Cathodoluminescence 2011* is scheduled to be held October 24-28, 2011 at the NIST campus in Gaithersburg, MD. The organization of CL 2011 by Colin MacRae, Marion Stevens-Kalceff, and Scott Wight is a beautiful example of increased cooperative efforts between MAS and our sister microanalysis societies around the globe. In this case, Colin and Marion represent the Australian Microbeam Analysis Society, a co-organizing society of the conference. While capacity constraints at NIST require that attendance will be limited, we look forward to seeing you in Gaithersburg; whether you are a regular user of the method and seeking to determine what is new in the field, or alternatively, if you who are simply interested in learning more about the technique and what it can contribute to your scientific efforts.

Our annual meeting is of course Microscopy

and Microanalysis, held in conjunction with MSA, and we are looking forward to gathering in Portland, OR next week for a program that features microanalysis content in a number of symposia. I would like to thank MAS co-chair Brendan Foran who assisted program chair John Mansfield in this endeavor. Please join us on Monday morning when the MAS awards will be presented to some talented students scholars, the best paper award winners for the 2009 M&M held in Richmond, and of course the major Presidential award winners as well as the Peter Duncumb Award for Excellence in Microanalysis (see side bar for details). Each winner is listed in the meeting Expo and Proceedings where you will also find bios for the major awardees. This is a particularly deserving group of award winners and I hope you will applaud their significant achievements during the plenary session. In Portland the council will be discussing many issues of importance, including some

MAS
President
Ed
Vicenzi



proposed changes to the governance of MAS, I therefore urge you to attend the MAS business meeting on Wed. evening just prior to the Members' Social where you can learn more and provide your input. The Social this year will be held at an historic locality in downtown Portland that was once used to harbor illegal activities such as drinking! during the prohibition era. Do not miss this annual opportunity to relax with your friends and get to know some new ones while you imbibe fine Pacific Northwest microbrews.

I will close by stating that I have enjoyed my term as president and want to thank the various committee chairs and others who endured a seemingly endless string of correspondence with me throughout the year. Finally, I look forward to continuing to work with our next president John Henry Scott as he leads MAS into the future.

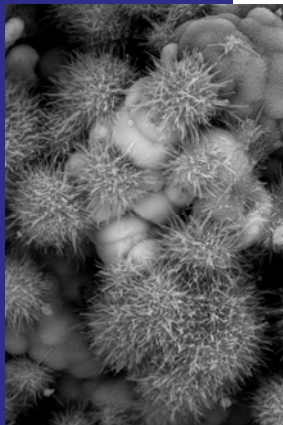
MAS @ M&M by Heather Lowers

Microscopy and Microanalysis is right around the corner, well at least in Portland, OR. The annual meeting allows us to reacquaint with colleagues, learn of the latest breakthroughs in the microscopy and microanalysis and see the newest toys and gadgets on the exhibit floor.

The Society's events have been highlighted on the left for easy reference. I strongly encourage you to attend the MAS Business Meeting on Wednesday (8/4). Suggested revisions to the Bylaws may be presented including a potential name

change of the Society and restructuring of MAS Council.

Stop by the MAS booth to introduce yourself, update your member information, renew your membership, and receive details on the MAS Social immediately following the Business Meeting. The Social will be at Lotus Cardroom and Café, SW 3rd & Salmon, Downtown Portland (lotuscardroomandcafe.com).



Kaolinite and iron oxide spheres from Lassen Peak. Image width is 20 μ m.

Letter from the Editor by Heather Lowers

I have taken over the newsletter editor position from Ryna Marinenko who dedicated many years to the position. Ryna was able to capture the timely events of MAS and affiliated societies.

I apologize for the brevity of this issue but I wanted to release an issue in advance of the annual M&M meeting. You'll see some new content in MicroNews including the President's corner, member profiles, and Council minutes, I have volunteered my-

self for the first member profile below. If you would like to volunteer a short biography and photo of yourself please email me at hlowers@usgs.gov.

Also in the future, I hope to release quarterly newsletters. This will depend on the contributions received and time to pull an issue together. As with many members, careers and family commitments require a lot of our time. However, MAS is an organization that runs on the

contributions and time volunteered from the membership. If you've thought of volunteering for the society but didn't know how to get involved please feel free to email a member of MAS Council (under the "Leadership" tab on the web site) for ideas on how you can help.

As always, if you wish to contribute material (article, photo, image, quote, etc) to MicroNews please email me.

Meet Heather Lowers

It's been a quick nine years since I began my career with the U.S. Geological Survey in Denver, CO. I started on a student appointment in the Microbeam Laboratory and now manage the facility. In the lab, I received on the job training on the use of SEM/EDS and EPMA. The lab is fortunate in that we were recently able to purchase a FEG-SEM with an integrated EDS/EBSD system. I'm looking forward to learning this new technique that is quickly finding uses in many fields.

I began MAS as a student member in 2003 and have been a member ever since. In 2009, I was elected a Director, became the MicroNews Editor, and I'm a member of the Strategic Planning Committee. As a Director, I've tried to expand MAS's reach into the geosciences and expand our membership with experts from the laser ablation and secondary ion mass spectrometry communities.

I live in Golden, CO with my husband, Steve, and two children Jackson (4) and Kinsey (1). When we're not building with Legos or visiting a nearby park, we enjoy going on bike rides. In my free time, I enjoy rock climbing and relaxing on the hammock.



MAS member Heather Lowers

Today's MAS Web Site by Nicolas Ritchie

If you've been to the MAS web site (www.microbeamanalysis.org) recently, you've probably noticed the sophisticated new look and the fresh content. Late last summer we moved the MAS web site from a static HTML format to a "content management system." Content management systems are software tools for developing and serving dynamic web site content. They provide methods to allow content to be created and edited online by people without extensive web development skills. They provide tools to implement content that changes with time and/or user input. They enforce a consistent look-and-feel. But as a visitor to the site you probably don't really care how the site is developed and hosted. You just want current information presented in a pleasant fashion. We think that our new web site will help us to provide better, more useful content to the MAS community.

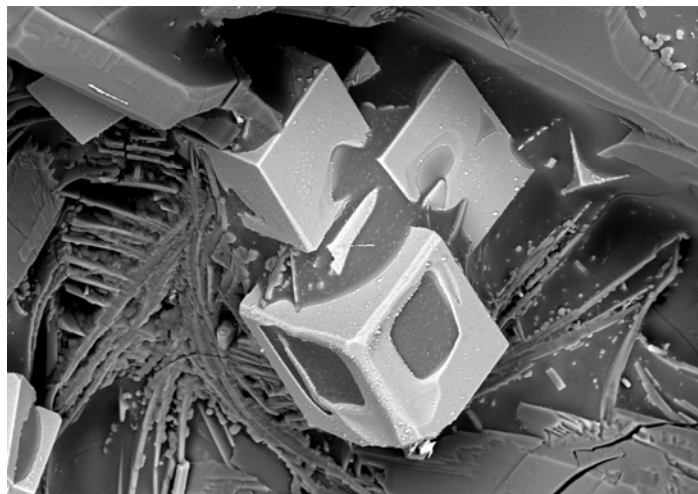
When you visit the MAS web site you'll notice that we've added many valuable dynamic features. On the left side of the home page you'll see a dynamic calendar of upcoming events. The calendar provides a current representation of upcoming events hosted by the MAS and affiliated organizations. Behind the lightweight calendar entries is detailed information about contacts, location, dates and times.

On the right side of the page is the Sustaining Member spotlight, renewal links, news items and a link to a PDF copy of the latest MicroNews. The Sustaining Member spotlight rotates through the corporate sponsors displaying a logo to thank each of them for their support of the MAS organization. The membership link connects to a web form to renew MAS membership. The form is now integrated with PayPal to facilitate paying for MAS membership with a PayPal account or credit card. The news links represent the five recent occurrences in the MAS community. Here you can learn about our new Directors or the latest MAS Tour Speakers.

We've worked extensively on integrating the MAS Topical Conference program into the web site. Our test case was EBSD-2010. Starting with EBSD-2010, you can register and pay the registration fee on line

through a web form and PayPal. Furthermore, you can submit an abstract online or get travel, accommodation and program information. We anticipate reusing much of this infrastructure for future MAS Topical Conferences.

Getting the site to this level has taken a great deal of effort on the part of the all volunteer computer activities committee but were not finished yet. We'd like to add more content that we believe will provide additional value to MAS members. A few of the ideas we're considering include a "positions available" listing and a "recent publications of interest" listing. Both of these ideas will take a significant effort to launch and to administer. We are looking for volunteers. If you are interested in helping please contact the Computer Activities Committee (computeractivities@microprobe.org).



Backscattered electron image of magnetite cubes and glass in Kilauea lava straw.

Membership Services

by Dan Kremser

Thank you for participating in the MAS election. Web-based electronic voting is now well established for our society elections as evidenced by the participation rate of 48% of membership. Elected into the 2010 Council:

President-Elect: John Henry Scott
(National Institute of Standards and Technology)

Secretary: Scott Davilla (4pi Analysis)

Directors: Tom Kelly (Cameca Instruments — formerly Imago Scientific Instruments) & Andrew Deal (GE Global Research)

Many thanks to each candidate who ran and to the entire Council for their efforts.

2010 Membership renewals are brisk thus far! Certainly, Membership has responded favorably in adapting to web renewals, multi-year renewal capability and the benefit of speed and convenience of secure, online payments through PayPal. Those who have not yet renewed, please take the opportunity using the following link:

<http://www.microprobe.org/forms/2010-dues/member-application-renewal>

Please remember to keep your membership info current. If you have a change in your contact information, take a moment to update Membership Services

(dkremser@columbus.rr.com) or call the MAS toll free number 800-462-7636).

The Microscopy and Microanalysis 2010 meeting will be in the scenic, City of Roses, Portland, Oregon, beginning August 1st through the 5th. We encourage you to attend and hope many of our members will be present at the various MAS sponsored sessions and events. Please be sure to drop by the MAS booth to check and update your membership information and pick up details on the various meeting events. The MAS social will follow our business meeting on Wednesday evening. This is a great time to reacquaint with both old and new friends and colleagues.

See you in Portland!

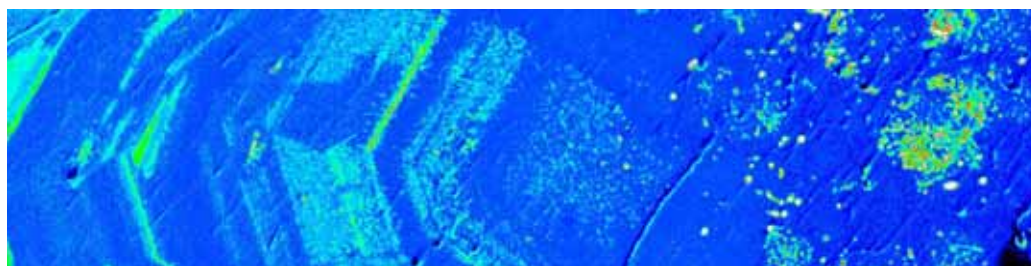
Dan Kremser
Membership Chair

If you have a change in your contact information, please update Membership Services (dkremser@columbus.rr.com or call the MAS toll free number 800-462-7636) to keep your membership info current.

*“If your experiment
needs statistics,
you ought to have
done a better
experiment.”*

— Ernest Rutherford

X-ray intensity
map of Al in
quartz. Image
height is
250 μm .



Affiliated Regional Societies (AReS) Update by Paul Hlava

Tour Speaker Program

This program is the main benefit that most MAS members can get from the national MAS. There are a few folks from each regional society that can travel to the national meetings every summer but many cannot. The Tour Speaker Program can send experts in the field to your society meeting to give talks of interest to all of your members. I urge each and every society to take advantage of this benefit every year. So take a look at our web pages and set up a visit.

The three speakers, their affiliations, and titles for the 2009 - 2010 MAS Tour Speaker Program are –

Paul Hlava (Access to Gems & Minerals/ Sandia National Laboratories - retired) “The Materials Known as Gemstones”

Paul Kotula or Joe Michael (Sandia National Laboratories) “Microanalysis and the FBI’s Amerithrax Investigation of the 2001 Anthrax Attacks”

Nestor Zaluzec (Argonne National Laboratory.) “Have your Pi and EDS too: A Transmission X-ray Detector for Nano-Particle Analysis”

Schedule

The program was able to supply tour speakers to five societies since M&M2009 and two are scheduled or in progress. Those completed and pending tours are listed below. Remember that our current speakers are on tap until Christmas time.

Society	Speaker	Date
CDMMS	Simmons*	September 24, 2009 (2009 speaker)
CDMMS	Hlava	January 28, 2010 (2010 speaker)
CSM&MS	Michael	November 10, 2009
MMS	Hlava	September 24, 2009 (2009 speaker)
MSORV	Hlava	October 14, 2009 (2009 speaker)
MMS	Kotula	May 6-7, 2010 (2010 speaker)
MSORV	Michael	April 21, 2010 (2010 speaker)

* Yes, we can send and sponsor past speakers if they and their schedules agree.

“Everyone is a genius at least once a year. The real geniuses simply have their bright ideas closer together.” — Georg C. Lichtenberg

Affiliated Society Items

In the near future, I plan to check with all of my contacts to see if/which adjustments are needed. These will be duly sent to computeractivities@microprobe.org. 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. 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, feel free to contact me at paulhlava@q.com or 505/265-4178 at your convenience.

M&M2010 – Portland, Oregon and our Annual AReS Luncheon

This is just a reminder that YOUR representatives choose the speakers for our program. This AReS committee meets to nominate and vote upon the scientists that they feel would be great for the program. This meeting is held at lunch time on Wednesday of the meeting (August 4, 2010 this year and yes, lunch is provided). It is not too early to suggest candidates for the meeting, tour speakers, or just topics of interest.

Respectfully submitted,
 Paul Hlava
 Director of the Affiliated Regional Societies
paulhlava@q.com
 505/265-4178
 February 19, 2010

MAS Topical Conference Program

FUTURE TC'S

- **Cathodoluminescence**
October 24-28, 2011
NIST, Gaithersburg, MD
- **Standards 2012 or 2013**
TBD

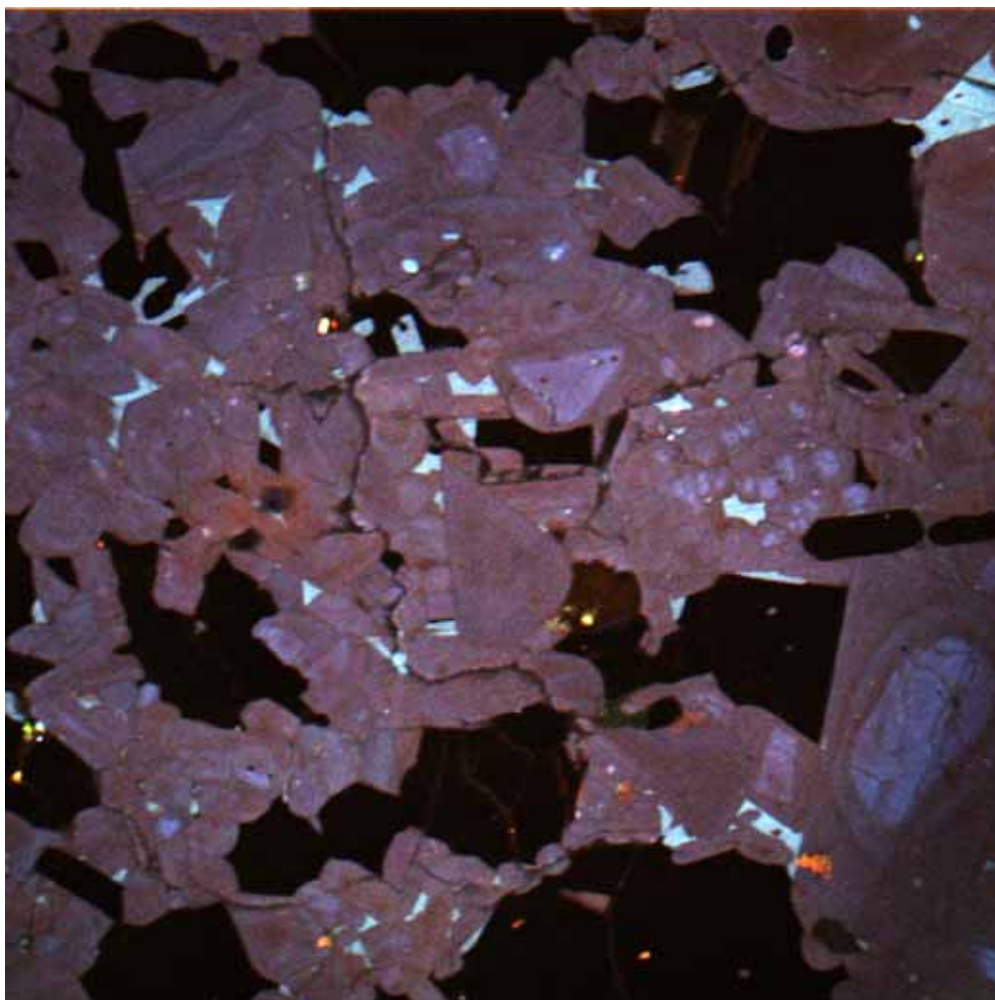
Our Topical Conference program provides MAS members with technical programming that focuses on a particular topic in detail. Topical conferences typically run from one to three days and involve twenty to one hundred fifty registrants, thus providing a more intimate gathering of the society membership, characteristic of MAS Annual Meetings in days past such as Breckenridge (1995) and Kona (1987). Our topical conferences are often generously sponsored by our Sustaining Members and other companies and agencies that share an interest in the topical area.

The Microbeam Analysis Society is pleased to announce a MAS Topical Conference on cathodoluminescence, CL-2011. This MAS Topical Conference will be co-organized by the Australian Microbeam Analysis Society (AMAS) and will bring together international expertise in the application of CL techniques to a wide variety of materials.

Check back often at <http://www.microbeamanalysis.org/events/cathodoluminescence-tc-2011> for more details as the event unfolds.

PAST TC'S

- **EBSD 2010**
- **Microanalysis of Particles 2009**
- **EBSD 2008**
- **Hyperspectral Imaging 2007**
- **Particle Workshop 2006**
- **VP & ESEM 2005**
- **Modeling Electron Transport 2004**
- **Spectrum Imaging and Multispectral Data Analysis 2003**
- **Understanding the Accuracy Barrier of Quantitative Electron Beam X-ray Microanalysis and the Role of Standards 2002**



CL RGB color composite of Apollo 16 64 core.
Thanks to NCMIR at UCSD. Image width is 250 μm .

EBSD 2010 Summary by John Fournelle



MAS's Electron Backscatter Diffraction (EBSD 2010) Topical Conference was a great success. Once again it was held at the University of Wisconsin-Madison, May 24-26, 2010. There was a great turnout with 145 participants, 50 of which were students.

The first day of the TC started off with a tutorial session and live demonstrations on 4 SEMS (3 in Material

Student participants at EBSD 2010

Science, 1 in Geosciences). Two days of invited and contributed talks and a poster session followed. The support of 12 corporate sponsors (EDAX, Bruker, Oxford, Thermo, Zeiss, South Bay Technology, Struers, FEI, Hitachi, NanoMEGAS, Gatan, and Buehler) helped to keep the registration costs down. An NSF grant (with UW Prof. Laurel Goodwin as PI) provided most of the financial aid that supported 36 of the students.

MAS and EBSD participants would like to thank the TC organizers (Luke Brewer, John Fournelle, Jon McCarthy, and Joe Michael) for their

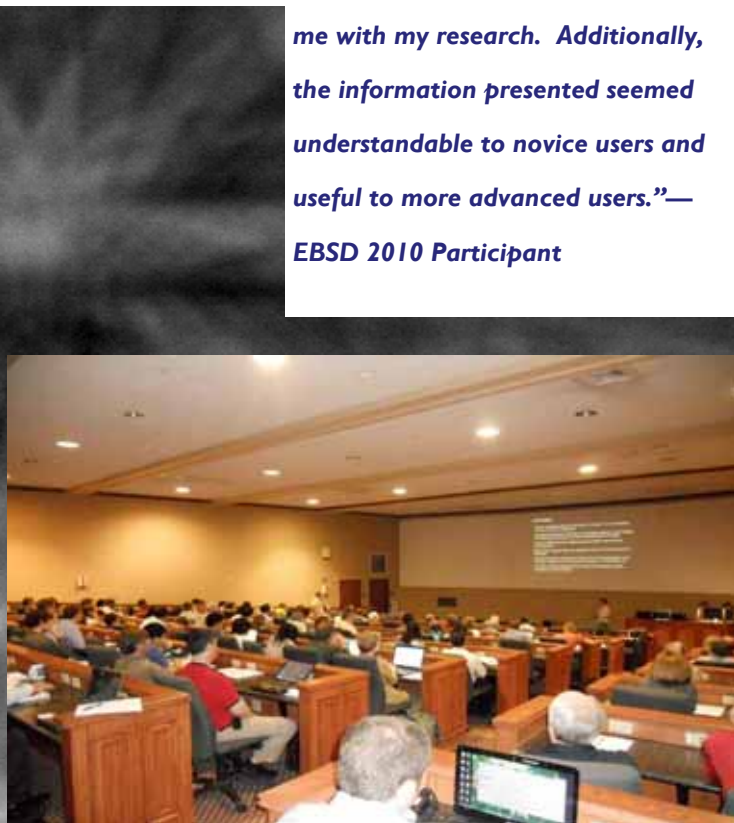
long hours and commitment to making this TC possible.

The response from participants was positive and urged MAS to make this a regularly occurring TC. There is tentative discussion about hosting EBSD 2012 in Pittsburg, PA. The hope is a new venue and new TC organizers will allow more regional folks to attend and to keep the meeting fresh. If you are interested in helping the organizing committee for EBSD 2012 please contact Andrew Deal at deal@research.ge.com.

“The tutorial on Monday was perfectly suited to my needs. I gained valuable insight that will help me with my research. Additionally, the information presented seemed understandable to novice users and useful to more advanced users.”—
EBSD 2010 Participant



EBSD 2010 organizers (from left to right) Jon McCarthy, John Fournelle, Luke Brewer, and Joe Michael.



The roomy accommodations at EBSD 2010 allowed for a comfortable learning environment.

Thanks to Our Sustaining Members



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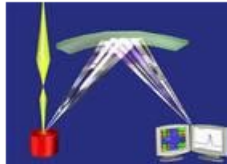
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Microanalysis, EBSD & EDXRF systems, & WDS spectrometers



The purpose of this Society shall be to advance and diffuse knowledge concerning the principles and applications of microbeam instruments or related instrumentation, and to provide continuity, advance planning, and a financing mechanism for annual meetings.

MICROBEAM ANALYSIS SOCIETY

Phone: 800-462-7636

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Mark Your Calendars

- ⇒ [Microscopy & Microanalysis 2010](#) (Portland, OR, from Aug 01, 2010 to Aug 05, 2010)
The annual meeting of the Microbeam Analysis Society in conjunction with the Microscopy Society of America.
- ⇒ [International Microscopy Congress 17](#) (Rio de Janeiro, Brazil, from Sep 19, 2010 to Sep 24, 2010)
Revealing the Nanoworld in Life and Material Sciences
- ⇒ [IUMAS-V](#) (Olympic Parktel, Seoul, South Korea, from May 22, 2011 to May 27, 2011)
5th Meeting of the International Union of Microbeam Analysis Societies, held in conjunction with the 8th International Symposium on Atomic Level Characterization for New Materials and Devices (ALC '11)
- ⇒ [Microscopy & Microanalysis 2011](#) (Nashville, TN, from Aug 07, 2011 to Aug 11, 2011)
The annual meeting of the Microbeam Analysis Society in conjunction with the Microscopy Society of America
- ⇒ [Cathodoluminescence 2011](#) (NIST, Gaithersburg, MD, USA, from Oct 24, 2011 to Oct 28, 2011)
An MAS Topical Conference, co-organized by AMAS
- ⇒ [Microscopy & Microanalysis 2012](#) (Phoenix, AZ, from Jul 29, 2012 to Aug 02, 2012)
The annual meeting of the Microbeam Analysis Society in conjunction with the Microscopy Society of America.
- ⇒ [Microscopy & Microanalysis 2013](#) (Indianapolis, IN, from Aug 04, 2013 to Aug 08, 2013)
The annual meeting of the Microbeam Analysis Society in conjunction with the Microscopy Society of America