2017 Annual Business Meeting

Wednesday, Aug./9, 2016
5:15-6:15 pm ♦ Room 127
St. Louis Convention Center
2016-2017 Highlights

- MAS 50th Anniversary talk: Dale Newbury
- Joint membership renewal: new members
- Finances are Strong(er)
- 7th Annual Meal with a Mentor – 75 Students
- Creating Commercial Director position -> election method
MSA Student Activities
Secretary’s Report

Heather Lowers
• see document
Treasurer Report
Elaine Schumacher
Treasurer Activities

• Huntington money market account opened
  • Repository for Charitable funds and excess funds
  • Linked to checking account; excess funds can be moved to checking account as needed or transferred to Morgan Stanley for long term investment

• Finalized MAS/MSA account reconciliation and fund transfers for 2016-Q4 and 2017-Q1 in July 2017. 2017-Q2 reconciliation has not been finalized.

• Will identify bank with wider branch network, to better accommodate changes in Executive Council membership

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<td>$11,000.00</td>
<td>-</td>
<td>$11,000.00</td>
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<td>$17,000.00</td>
<td>$14,455.50</td>
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<td>-</td>
<td>$30,000.00</td>
<td>$38,616.08</td>
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<td>$ -</td>
<td>$ -</td>
<td>$4,000.00</td>
<td>$31,170.35</td>
<td>$ -</td>
<td>$7,981.40</td>
<td>$4,000.00</td>
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<tr>
<td>I05</td>
<td>Dividends &amp; Interest</td>
<td>$ -</td>
<td>-</td>
<td>$ -</td>
<td>$10.54</td>
<td>$ -</td>
<td>$ -</td>
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<td>I06</td>
<td>Fioni Fund</td>
<td>$400.00</td>
<td>-</td>
<td>$300.00</td>
<td>$510.00</td>
<td>$400.00</td>
<td>$466.00</td>
<td>$400.00</td>
<td>$415.00</td>
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<td>Chodos Fund</td>
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<td>M&amp;M Journal Subscriptions</td>
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<td>-</td>
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<td>Miscellaneous Income- Investment Amt</td>
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<td>-</td>
<td>$ -</td>
<td>$ -</td>
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<td>-</td>
<td>$5,000.00</td>
<td>$550.00</td>
<td>$5,000.00</td>
<td>$2,830.00</td>
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<td>$ -</td>
<td>$70.00</td>
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**Total Income**

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<td>$74,200.00</td>
<td>$68,800.00</td>
<td>$77,700.00</td>
<td>$107,790.07</td>
<td>$64,700.00</td>
<td>$65,301.39</td>
<td>$71,000.00</td>
<td>$58,176.30</td>
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**MAS Liquid Assets**

- Huntington Checking: $57,546.81
- Huntington Money Market: $50,010.54
- PayPal: $5,577.88
- **Total: $113,135.23**

**Charitable Funds**

- Chodos: $2,705.78
- Fiori: $13,660.28
- Goldstein: $3,886.38
- **Total: $20,252.44**

Respectfully submitted,
Elaine Schumacher
Treasurer 2017-2018

August 09, 2017

MAS Business Meeting 2017
Items for Council Consideration

• Need for audit, as stated in the Bylaws, Article V (Executive Council) Section 2: It shall plan scientific meetings; it shall authorize the expenditure of the Society funds; and it shall obtain an annual audit of the Society finances.
  • Consider cost and logistics of internal or professional external audit

• Transfer of Society funds to Charitable funds to compensate for 3% Drohan transaction fee subtracted from contributions made through MSA portal

• Improvement in timeliness of MSA quarterly account reconciliations and fund transfers
Finance Committee Report

Jim McGee
2017 Finance Committee Report

• see document
Membership Services

M. Nagorka
New activities

• Transmitted membership database (May 2017 pull) to Rhonda and Nicholas

• Sent renewal requests out to MAS members not paid up for 2017. Used May 2017 pull.

• Sent old, but good, email addresses to Drohan to update database (no email address for some people, but present in old MAS database).
Membership Statistics

• New MAS members (by database pull):
  • Jan. 2017: 73
  • Mar. 2017: 38
  • May 2017: 28
  • Aug 2017: 65
  TOTAL: 204

• MAS members paid through 2017 or beyond per 05 August 2017 pull:
Membership Statistics

• New MAS members (by database pull):
  • Jan. 2017: 73
  • Mar. 2017: 38
  • May 2017: 28
  • Aug 2017: 65
  TOTAL: 204

• MAS members paid through 2017 or beyond per 05 August 2017 pull: 504
Items for Council to consider

• No-Cost MAS membership for Emeritus members!
• Refinements to Drohan DB pulls:
  • Amount Paid
  • Journal subscriptions
  • FIGMAS membership/which one(s), how long
  • Option for multi-year payments?
Sustaining Members Committee Report

Lucille Giannuzzi (Chair)
Kat Crispin, Cathy Johnson
32 Sustaining Members 2017

- All paid!
- same net SMs compared to 2017
  - 28 joint SMs
  - 4 MAS only SMs
- 22 SMs exhibiting at M&M2017
Recognition of Sustaining Members

- Prominent display on MAS website
- Displays/signage/floor emblem at M&M
- Plaques at M&M (mailed to those not at M&M)
- M&M Booth Visits
- M&M Proceedings (hand delivered at M&M or mailed)
- MAS Social Invitation
- MAS/MSA SM Breakfast Invitation
- 3 members per SM are MAS individual members
- 1 ticket to Sunday night M&M reception (2 per joint SM)
- 2 points for each year of SM towards M&M booth priority (started in 2016).
Commercial Director Position on MAS Council: Next Steps

Tom Kelly
Background

• A Council seat for “Commercial Director” was approved at Summer Council 2016
• Changes to Bylaws were proposed and ratified by membership in Fall 2016
• There are three Regular Commercial Memberships associated with each Sustaining Membership
• A person can be both a Regular Member (pay dues) and a Commercial Member
  • We require that all Commercial Members be employees of the corresponding Sustaining Member
• It is hoped that if Commercial Members know they have a voting representative, they may be more likely to bring issues up and seek their representative
• One existing concern that would be addressed: commercial organizations have not been asked their opinion on where to hold meetings or arrange space at meetings
Responsibilities

• Commercial Director has the same responsibilities as standard Council members

• Communicate (email blast) with all Commercial Members at least once per year in Winter

• Attend M&M Sustaining Members’ meeting at M&M (for 2017, Thursday morning 8:30 AM in room 280)

• Solicit feedback on commercial concerns

• Represent all commercial stakeholders fairly and equally at Council

• Liaise with Sustaining Members Director for MSA
Commercial Director on Council

- Nominations are sought for the new “Commercial Director” position on MAS Council
- Nominees must be employees of a Sustaining Member of MAS and be one of the three designated Regular Commercial Members
- Nominations are due no later than September 15, 2017
- Send name and email address to MAS Membership masmembership@gmail.com or Nominate a person at the MAS Business Meeting, Wednesday, August 9, which begins at 5:15 PM in room 127.
- Nominee must be aware of the nomination
- Self nominations are accepted
- Voting will be conducted in the fall for a January 1 appointment
Nominations Committee

• Need two or more nominees for Commercial Director for fall ballot
• We should seek nominations from all sustaining members
• Suggestion: Hand out a flyer explaining the position and the need for nominees from commercial sector
  • This can be done when walking the floor to thank vendors for supporting the Society
Logistics

- Commercial Director position is to be filled by a person employed by a commercial organization
- This position is a three-year position with full director rights and responsibilities
- This Director will be elected by Commercial Members from Sustaining Members’ ranks
  - Each Sustaining Member company gets three Regular Commercial Memberships. Each of these members has one vote for this Director position
  - MAS will keep records of each sustaining member and record their votes accordingly
- The pool of candidates for nomination to this Director position shall come from the list of Regular Members who are employees of a commercial organization
- There shall be at least two candidates nominated each time this position is open
- Any one person may be elected to no more than two consecutive terms
- Each Regular Commercial Member of a Sustaining Membership will retain their voting rights of a regular member as well
Proposal to Create an MAS Fellows Program

Tom Kelly
Summer Council 2017
Purpose of Fellows

• Ambassador of the Society
• Visible, attracts attention to Society, a beacon
• Should serve as an expert resource for opinion, commentary for the public
• Voice of what the Society stands for
Why Should MAS Create a Fellows Program?

• Such recognition is important for some careers
  • Academic positions
  • Some government positions
  • Some industrial positions

• Such recognition has become standard currency for professional scientists

• Lack of a Fellows designation may be a disincentive for some people to work for the Society
  • Most (all?) professional societies have Fellows

• Raises profile of the person and the Society (dual benefit)
• Fosters good will for the Society
• Enhances visibility of the Society
• Recognize service to the Society (might lead to greater participation)
• Cost to Society is small
• Creates a collective resource for expert opinions, referrals
• Is there any reason not to do this?
Rules

• Limit new electees to 1% of membership/year (about 4) except for Inaugural Class
  • There will be an inaugural class of 20 fellows
  • There is no minimum number of electees each year

• Age is neither necessary nor sufficient criterion for election

• Any individual may nominate only one person for Fellow per each submission deadline
Beads of Office Security Program

Tom Kelly
With Essential Help from Katie Rice
History of the Beads of Office

• In 1988 at the Kona meeting, in a fit of Societal furvor, Chuck Fiori determined that the MAS President should have a symbol of his or her immense import.

• Chuck bestowed upon then President, Dale Newbury, a precious necklace which represents.

• Each President proudly wears these beads as a symbol.

• The Beads are irreplaceable and a great weight of responsibility bears on the shoulders of the wearer.

• While President, I slept uneasy at night thinking about this responsibility and wondering how we could prevent disaster.

• What if someone misplaced the beads? Or they were mixed up with another set? Or, they were stolen????
The Beads of Office

• The Beads of Office are a priceless symbol of MAS
• We dare not ever lose them
• What if they were mixed up with another set? Which one is official?
• We must ensure that the Beads of Office are authentic and readily identified
• We needed something that was worthy of the Microanalysis Society
  • A hologram?
  • RFID?
• We need something that would demand all the skills and equipment of a microanalyst
The MAS Logos Through the Years

1967

1987

2016
The MAS Logos Prepared for FIB Engraving

1967

1987

2016

• FIB-ready one-bit graphics
The Scene of the Master Engraving

Copper Tape

Shell
Site Location

Knot

Aluminum coating
• The logos are approximately 50 x 60 microns and lightly milled into the surface
• Sherlock Holmes would be proud
The logos are approximately 50 x 60 microns in width and lightly milled into the surface. The EPASA logo has been truncated from its original form for ease of milling.
Education Committee Report

Inga Musselman, Chair
Abigail Lindstrom
Keana Scott
Goals and Objectives

• Provide opportunities to assist students and welcome them to the Microanalysis Society
  
  • MAS Meal with a Mentor

  • Goldstein Scholar Award
2017 MAS Meal with a Mentor

• Purpose: Meet students and introduce them to MAS
  Discuss opportunities for microanalysis in the workplace
• When: Monday, August 7\textsuperscript{th}, 12:15 – 1:15 pm
• Where: Room 241, Convention Center
• Who: 75 students; 12 mentors
• Cost: Estimate for 90 participants (tax & service included)
  $3,217.52
Goldstein Scholar Award

• Purpose:
  • Promote advancement for early career members of the Microanalysis Society
  • Increase interactions of junior and established microanalysts
  • Advance state-of-the-art in microanalysis measurements

• Co-sponsors: Meteoritical Society and Springer

• Winter 2016: Matthew Crane, University of Washington
  Brendan Haas, Washington University
  John Mangum, Colorado School of Mines
  Austin Wade, University of Manchester

• Spring 2017: William Nachlas, Syracuse University
Affiliated Regional Societies (AReS) and Tour Speakers (TS)

Kerry Siebein (Chair)
Katherine Crispin
AReS and Tour Speaker Committee Update

**AReS**
- The M&M2017 MAS AReS / MSA LSA joint breakfast is on Tuesday Aug 8 at 7:15 am in room 280. The breakfast conflicts with Dale Newberry’s talk. 😊
- The MAS AReS web page was updated in Spring 2017. Updates will be done again later this summer to include new society officers.
- There are 19 MAS AReS, 17 are MSA LAS and MAS AReS
- 5 AReS have scheduled fall meetings, 7 AReS had spring meetings
- Inactive AReS- do we want to do anything about inactive societies?
- A list of upcoming AReS Meetings was added to the webpage

**Tour Speakers**
- There are 6 MAS Tour Speakers
- Current Tour Speakers: Thomas Kelly, Massashi Watanabe, Lucille Giannuzzi, Vincent Smentkowski
- New Tour Speakers and presentations:
  - Rhonda Stroud - The Universe is my Nano-Fab
  - Ed Vincenzi - Mn oxide Formation on the Smithsonian Castle and Correlative Microscopies and Analysis of Jade
- There were 3 Tour Speaker Engagements in the spring of 2017
  - Vincent Smentowski presented at MSNO on March 1st, SEMS on May 25th
  - Lucille Giannuzzi presented at MMS on May 5th
- Year to date expenditures for Tour Speakers $1,709.96
Castaing Award
Best Paper Presented by a Student

Adam R. Sarafian
Woods Hole Oceanographic Institution,
Woods Hole MA

Volatile Addition to the Inner Solar System Between 4.566 and 4.564 Ga: Evidence from Angrite Meteorites

Sponsored by CAMECA
Macres Award
Best Instrumentation / Software Paper

Pieter Kruit and Yan Ren
Department of Imaging Physics, Delft University of Technology, Delft, The Netherlands

Multi-Beam Scanning Electron Microscope Design
Cosslett Award
Best Invited Paper

Philipp R. Heck
Robert A. Pritzker Center for Meteoritics and Polar Studies,
The Field Museum of Natural History; Chicago, IL

Microanalysis of Fossil Micrometeorites and Meteorites
to Study A Major Asteroid Collision ~470 Million Years Ago
Birks Award
Best Contributed Paper

Ivan Blum
Groupe de Physique des Matériaux (GPM),
Université et INSA de Rouen, France

Dissociation of Molecular Ions During the DC Field Evaporation of ZnO in Atom Probe Tomography

Sponsored by
K. F. J. Heinrich Award

This award honors a scientist under the age of forty for distinguished technical contributions to the field of microanalysis. The award winner is chosen annually by the MAS President.

Andrew Herzing
National Institute of Standards and Technology
Presidential Service Award

This award honors a member of MAS for outstanding volunteer service to the society over a sustained period of time.

Daniel Kremser
Battelle Memorial Institute
Advanced Materials Resource Group

August 09, 2017
MAS Business Meeting 2017
Presidential Science Award

This award honors a senior scientist for outstanding technical contributions to the field of microanalysis over a sustained period of time.

Mike Miller
Oak Ridge National Laboratory

August 09, 2017
I am delighted to support the Award to Tom Kelly – now the 11th in the series that bears my name. It was unthinkable when I started in the microprobe field in the 1950’s to be able to achieve elemental analysis at the atomic scale, let alone to explore a sample in 3 dimensions. We were delighted in those days to be able to analyse the surface of solid samples on a scale of micrometres, though later improving this to the sub-micron region in transmission. Now the ability to analyse a sample atom by atom has opened new doors for exploration in all forms of materials science.

I offer Tom my sincere congratulations, and look forward to further developments with interest.

Peter Duncumb

August 09, 2017
M&M 2017

Kat Crispin
Highlights of M&M 2017

• 75\textsuperscript{th} anniversary of MSA
• 50\textsuperscript{th} anniversary of MAS
• 50\textsuperscript{th} anniversary of invention of atom probe (IFES)

• New feature this year – Anniversary Talks
  • MAS – Dale Newbury – Tuesday @ 7:30am
  • IFES - John Panitz – Weds @ 7:30am
  • MSA Physical Sciences – Ondrej Krivanek – Thurs @ 12:15pm
  • MSA Biological Sciences – Robert Glaeser – Thurs @ 7:30am

• Over 1100 papers submitted (441 submitted on deadline day!)
M&M2017 as of July 29 (one week out)

- 1377 professional attendees
- 1112 exhibitors
- Total 2489

Comparison to past five years at same point in time
- 2016 – Columbus – 2348
- 2015 – Portland – 2811
- 2014 – Hartford – 2299
- 2013 – Indianapolis – 2180
- 2012 – Phoenix - 2038
M&M2017 as of July 29 (one week out)

• Total 2489
• Projected final attendance ~2900
• Should be 2\textsuperscript{nd} largest ever (Portland #1)

• Comparison to past five years at same point in time
  • 2016 – Columbus – 2348 – Final number 2680
  • 2015 – Portland – 2811 – Final number 3220
  • 2014 – Hartford – 2299 – Final number 2781
  • 2013 – Indianapolis – 2180 – Final number 2723
  • 2012 – Phoenix – 2038 – Final number 2648
Key MAS relevant sessions

• A18 Celebrating 50 Years of Microanalysis
• A09 Standards, Reference Materials and Their Applications in Quantitative Microanalysis
• A10 Advances in Scanning Electron Microscopy: Transmission Modes and Channeling Effects
• A11, 12, 13 Atom Probe sessions
• P08 Geological Sample Characterization Using Various Imaging Modalities
• A04 Advances in Programming of Quantitative Microscopy
• P03 Advanced Microscopy and Microanalysis of Complex Oxides
• A05 Advances in FIB Instrumentation and Applications in Materials and Biological Sciences
• A07 Materials Characterization Using Atomic-Scale EDX/EELS Spectroscopy
• P10 Diamonds: From the Origins of the Universe to Quantum Sensing
• And more!
MAS Summer Council Report

Microscopy and Microanalysis 2018
MAS Program Co-Chair: James LeBeau
Mark Your Calendar!

M&M 2018
MICROSCOPY & MICROANALYSIS
August 5-9, 2018 • Baltimore, MD

M&M 2018 will be at the Baltimore Convention Center within the famed Inner Harbor of Baltimore, Maryland. Plan now to attend the world’s largest scientific meeting dedicated to microscopy and microanalysis.

Meeting travel awards are available for students, post-docs and technologists. Award applications are submitted in conjunction with submitted papers.

Society members benefit from reduced registration rates. Visit the supporting societies’ websites for information on becoming a member.
Executive Program Committee (EPC)

Yoosuf Picard – Program Chair (ypicard@cmu.edu), 412-268-3044
Alice Dohnalkova – Program Vice-Chair (Alice.Dohnalkova@pnnl.gov)
James LeBeau – MAS Co-chair (jmlebeau@ncsu.edu)
Nabil Bassim – MSC Co-chair (bassimn@mcmaster.ca)
Meeting Location – Baltimore, MD

Baltimore Convention Center – Located adjacent to Harborplace

15 minute drive from Baltimore/Washington International Airport
Major Meeting Objectives

• Attract Government Program Directors – Leverage M&M 2017 experience and DC proximity to have heavy NIH/DOD/DOE/NSF presence [Coordinating with FOM-FIG for special symposium]
• Use Program Director presence to encourage facility director presence (staff, trainees, etc.)
• Highlight sample preparation and analysis tutorials to major biology and materials science PI’s
• Perhaps highly publicized engagement with local Baltimore public [Foldscopes of micrometeorites? → 50 cent microscope to image dust from your roof]
Manu Prakash
Stanford professor, TED talk speaker, MacArthur Fellow, HHMI-Gates Faculty Scholar

August 09, 2017
Plenary Speaker – Micrometeorite hunter

Jon Larsen

Wikipedia: “is an autodidact guitarist, composer, surrealistic painter, author, scientific researcher, and record producer with heavy influence on the revival of Gypsy jazz worldwide”

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<td>Atomic-scale functional imaging in aberration-corrected electron microscopy</td>
<td>Miaofang Chi</td>
<td>Marta Rossell</td>
<td>Jing Tao</td>
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<td>Electron Microscopy in Liquids for Materials, Life and Earth Sciences</td>
<td>Layla Mehdi</td>
<td>Damien Alloyeau</td>
<td>Niels de Jonge</td>
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<td>Scanning electron and charged particle microscopies in liquid, gas and ambient</td>
<td>Andrei Kolmakov</td>
<td>Olga Ovchinnikova</td>
<td>Alex Belianinov</td>
<td>Xiao-Ying Yu</td>
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<td>Compressive sensing and machine learning in microscopy</td>
<td>Andrew Stevens</td>
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<td>Mesoscale Correlative Microscopy and Imaging of Physical, Environmental, and</td>
<td>Jeff Simmons</td>
<td>Lawrence Drummy</td>
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<td>Biological Sciences</td>
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<td>Progress in magnetic imaging and mapping magnetism at the nanoscale</td>
<td>Darius Pohl</td>
<td>Sebastian</td>
<td>Ben McMorrnan</td>
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<td>Strain analysis at sub-nanometer scale</td>
<td>Brendon Foran</td>
<td>Ling Pan</td>
<td>Guoda Lin</td>
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<td>The FIB-SEM Lab: Sample Preparation and Beyond</td>
<td>Joshua F. Einsle</td>
<td>Timothy Burnett</td>
<td>Marco Cantoni</td>
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<tr>
<td>The Joy of Scanning Electron Microscopy</td>
<td>Raynald Gauvin</td>
<td>Dale Newbury</td>
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<tr>
<td>STEM-EELS</td>
<td>Juan Carlos</td>
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<tr>
<td>Pushing the limits of cryo-EM: development and applications</td>
<td>Mike Marko</td>
<td>Radostin Dane</td>
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<tr>
<td>Vendor Symposium</td>
<td>MSA Dir. 1</td>
<td>MSA Dir. 2</td>
<td></td>
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<tr>
<td>50th anniversary of solid-state x-ray spectrometry</td>
<td>Kate Burgess</td>
<td>Paul Carpenter</td>
<td>Ed Vicenzi</td>
<td></td>
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<tr>
<td>4D STEM</td>
<td>Colin Ophus</td>
<td>David Muller</td>
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<tr>
<td>Memorial symposium: Sterling Newberry – X-ray imaging</td>
<td>Jeff Davis</td>
<td>Eric Telfeyan</td>
<td>Ric Wurher</td>
<td></td>
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<tr>
<td>Memorial Symposium: Hatsujiro Hashimoto - TEM imaging of atoms/defects and</td>
<td>Masashi Watanabe</td>
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<tr>
<td>diffraction theory</td>
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</table>
Memorial Symposium: Hatsujiro Hashimoto

The first single atoms photographed with a transmission microscope

Great excitement was aroused last year when Albert Crewe, Chicago University, was the first man to photograph an atom, using a high resolution scanning electron microscope (see “A microscope that sees atoms” by Professor Albert Crewe, New Scientist, vol 47, p 66). Although the transmission microscope should, in theory, be able to emulate its more fashionable cousin, people have always assumed that photographing single atoms with this instrument was just not on. But, against enormous technical odds, Hatsujiro Hashimoto of Kyoto University, Japan, has achieved what seemed the impossible. At the recent international conference on high voltage electronmicroscopy, held in Stockholm, he showed pictures of uranium and thorium atoms taken with a conventional microscope.

Hashimoto technique is ex higher contrast, with beam supported, uranium and thorium atoms with angstroms. Many of the images obtained showed bright spots corresponding in position, size and intensity to the atoms in the specimen molecules. An example is shown in the illustrations—the spots have an average diameter of three angstroms and are spaced at 10-angstrom intervals along the chains. The image intensity from a single atom is proportional to the square of its atomic number, so that it has only proved possible to image heavy metal atoms so far. But making pictures on this scale is only the start...

- Atomic-scale TEM imaging
- Dynamical diffraction theory
- Lattice/defect imaging
- High temperature TEM
- Electron beam spectroscopy
Memorial Symposium: Sterling Newberry

- invented the shadow X-ray microscope
- inventing the first commercial x-ray microscope (General Electric)
- founder of the Microscopy Society of America

Symposium topics could include:
- Micro-CT
- Soft X-ray imaging
- Synchrotron imaging methods
- X-ray tomography

August 09, 2017
Leader: Julien M. Allaz (U Colorado)
Leader-elect: Anette von der Handt (U Minnesota)
Treasurer: Owen K. Neill (U Michigan)

66 FIG members to date
FIGMAS database

Search a Standard or Reference Material (S-RM)

Use the search fields below to look for a specific standard, or look at the standard listing. Use the percent symbol (%) to replace any unknown character (similar to the star (*) in Windows). For instance, typing "ter" might return "te" or "forsterite".

Enter criteria for S-RM search

(*) You must fill at least one of the following fields (name, element included or not included, and/or element max/min wt-%).

(*) Material name...

(*) Element(s) included...
FIGMAS forum

**DATABASE DISCUSSIONS**

<table>
<thead>
<tr>
<th>Database Improvements</th>
<th>TOPICS</th>
<th>POSTS</th>
<th>LAST POST</th>
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</thead>
<tbody>
<tr>
<td>Post here your suggestions on how to improve our database. We will do our best to implement it as much as we can.</td>
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<tr>
<th>How to…</th>
<th>TOPICS</th>
<th>POSTS</th>
<th>LAST POST</th>
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<tbody>
<tr>
<td>Basic information about the website and how to use it. Feel free to post your questions here!</td>
<td>2</td>
<td>2</td>
<td>How to login to your account … by Julien © Sat Jul 22, 2017 4:37 am</td>
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**STANDARDS DISCUSSIONS**

<table>
<thead>
<tr>
<th>General discussion</th>
<th>TOPICS</th>
<th>POSTS</th>
<th>LAST POST</th>
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<tbody>
<tr>
<td>General discussion on standards and reference materials.</td>
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<td>No posts</td>
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<table>
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<tr>
<th>Standards maintenance</th>
<th>TOPICS</th>
<th>POSTS</th>
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<tr>
<td>Share here your experience and issues related to mounting and maintaining your standards, such as questions related to material polishing, coating, storage…</td>
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<td>No posts</td>
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<table>
<thead>
<tr>
<th>Standard swap</th>
<th>TOPICS</th>
<th>POSTS</th>
<th>LAST POST</th>
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<tbody>
<tr>
<td>Standards and reference materials that you are looking for and those that you are willing to share with other researchers in need.</td>
<td>0</td>
<td>0</td>
<td>No posts</td>
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<table>
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<tr>
<th>Standards in development</th>
<th>TOPICS</th>
<th>POSTS</th>
<th>LAST POST</th>
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</thead>
<tbody>
<tr>
<td>Discuss here the standards of tomorrow: new materials to be developed, natural materials that needs new sampling, etc.</td>
<td>0</td>
<td>0</td>
<td>No posts</td>
</tr>
</tbody>
</table>

https://figmas.org/
Pre-Meeting Congress on Standards and Reference Materials at M&M 2018!

https://figmas.org/
Topical Conference Committee
Paul Carpenter, Chair
Committee Members
Andrew Deal
John Fournelle
Heather Lowers
Chad Parish
Scott Wight
Luke Brewer
MAS Topical Conference Status 2017

• Status report regarding Early Career Scholars

• MAS – IUMAS-7 Early Career Scholar awards: ECS candidates selected from EBSD 2016 and EPMA 2016
  ECS support to IUMAS-7 in order to comply with request for two ECS candidates from IUMAS societies
  MAS candidates chosen to reflect participation in international community with emphasis on Europe

• MAS candidates/awardees selected and presented at IUMAS-7
  EPMA 2016: Aurelien Moy, Univ. Wisconsin-Madison (early career professional), poster presentation
  EBSD 2016: Olivia Underwood, Sandia National Laboratories (early career professional), platform presentation

• Funding for these awardees accomplished by MAS and IUMAS-7 co-sponsorship, thanks very much to council!!

• Early Career Scholar program is very successful and embraced/duplicated by our IUMAS partner societies
  Need to have planning for ECS support (timeline, budgeting, mechanism to identify candidates, etc.)
  Selection from 2016 MAS TCs replaced previous method: students identified at M&M
    Thinking was that we are more familiar with candidates from TCs
  No TCs in 2017 so identification of candidates needs structured but flexible plan
  Despite early planning we still had to scramble to identify ECS candidates ... there must be a better way
MAS Topical Conference Status 2017

- EBSD 2016 and EPMA 2016 were reported on at MAS summer council 2016
  http://www.microprobe.org/topical-conferences/ebsd-2016/welcome
  EPMA 2016, May 16-19, 2016, Univ. Wisconsin-Madison, Paul Carpenter, EPMA2016 planning chair

- Both TCs applied for and received NSF grant funds to support MAS Early Career Scholars
  (EPMA 2016 22.5K, EBSD 2016 20K)

- NSF support was and is crucial to operational budget of MAS TCs; Support for ECS/students relieves financial burden on TC logistics
  Registration and sponsorship funds predominantly directed towards meeting costs

- NSF requires 12-month final report, due in April 2017
  EPMA 2016: John Fournelle, report complete
  EBSD 2016: Luke Brewer, report complete
MAY 23rd - 25th, 2018
University of Michigan
Ann Arbor, MI

Organized by:
Steve Niezgoda, Marc De Graef,
Elena Miranda, Andrew Cross,
Bobby Kerns, John Mansfield

www.microbeamanalysis.org/topical-conferences/EBSD-2018/

- Classroom and hands-on tutorials for new and advanced EBSD users.
- Laboratory demonstrations of the latest in EBSD hardware and software.
- Technical presentations on the latest development and applications of the EBSD technique.
- Poster session
- Prizes and banquet
56th International Field Emission Society Meeting
Atom Probe Tomography and Microscopy
at NIST-Gaithersburg, Maryland, USA

June 10 – June 15, 2018

http://tinyurl.com/aptm2018
What is APT&M 2018?

- Biennial International Field Emission Symposium (typically 6 days, 200+people)
- Gathering of World Experts: Atom Probe, FIM, & High Field Science Communities

Technical Program Includes:

- Correlative Methods
- Reconstruction & Computational Methods, Modeling
- Instrument and Technique Development
- Characterization of Nanoscale Materials & Structures
MAS International Liaison

Paul Carpenter (past)
Heather Lowers (current)
MAS International Liaison 2017

• International scientific conferences with MAS participation in 2017
  AMAS 2017 Brisbane Australia, Feb 6-10, 2017
  IUMAS-7 Konstanz, Germany, May 7-11, 2017

• MAS executive officers and members presenting at both conferences

• Coordination and meeting with EMAS council to assist in planning for IUMAS-7
  Meetings in Columbus, OH (MM2016) and fall skype telecom with Ric Wuhrer, Mike Matthews, Ed Vicenzi, Paul Carpenter

• MAS Early Career Scholars co-sponsored by MAS and IUMAS
  Aurelien Moy and Olivia Underwood, awardees representing MAS at IUMAS-7

• Update: Carpenter elected IUMAS Secretary (Konstanz, May 2017), resigned as MAS International Liaison
  Heather Lowers has been appointed MAS International Liaison

• IUMAS council news
  Incorporation of IUMAS and filing for IRS non-profit status in progress
  IUMAS-8 proposal approved: Canada, Gianluigi Boton, 2021 (back on 4 year cycle), Univ. British Columbia or Banff
Nominating Committee Report

Rhonda Stroud (Chair)
Kat Crispin, Yoosuf Picard
Masashi Wantanabe
Secretary: Chad M. Parish

MAS involvement:
• Member since 2004
• Member, MAS Topical Conference organizing committee (2010- )

• Chad Parish received a BS in 2000 (North Carolina State University), an MS in 2003 (University of Pittsburgh), and a PhD in 2006 (North Carolina State University), all in Materials Science and Engineering.
• He joined Sandia National Laboratory (Albuquerque, NM) as a post-doctoral scholar from 2007-2009. He moved to Oak Ridge National Laboratory as an Alvin M. Weinberg Distinguished Early Career Fellow in 2009, was promoted to Research and Development Associate in 2011, and to Research and Development Staff in 2012.
• He received the Department of Energy Office of Science Early Career Award (5 years, $2.5M) in 2015 from the Office of Fusion Energy Sciences, to apply electron microscopy methods to study defect evolution at the plasma-materials interface.
• Chad’s research focuses on using microstructural analysis methods (SEM, STEM, FIB, EBSD, etc.) to enable development and application of materials for extreme environments, such as corrosion or high temperatures, but especially high radiation fields. His present work emphasizes electron microscopy of highly radioactive materials for fission, fusion, accelerator, and waste applications. Previous work has involved most branches of materials science, such as solar photovoltaics, thermoelectrics, solid-state lighting, automotive steels and lightweight alloys, ferroelectric thin-film oxides, hydrogen storage, explosive welding, high-magnetic field processing, and lithium-ion batteries.
MAS Director Candidate: Andrew Herzing

MAS involvement:

• Member since 2007
• Poster judge at M&M 2008 and 2010
• Awards chair beginning in 2017
• K. F. J. Heinrich Award recipient for 2017

He was a National Research Council postdoctoral associate at the National Institute of Standards and Technology (NIST) from 2007-2009.
In October 2010, he joined the Material Measurement Laboratory at NIST as a Staff Scientist in the Materials Measurement Science Division.
Andy’s research expertise is in the use of electron microscopy and spectroscopy techniques for the characterization of nano- and atomic-scale features in a wide variety of materials. Most recently, his efforts have focused on three-dimensional metrology development and the application of electron energy-loss spectroscopy for the characterization of photovoltaic and plasmonic nanostructures.
MAS Director Candidate
Julien M. Allaz

MAS and community involvement:

• Member since 2012
• Leader of FIGMAS (2017-2018)
• EPMA Topical Conference (2016)
• Lehigh Microscopy School (2015)
• CU Boulder electron microprobe manager since 2012

• Julien received an MSc at the Universities of Lausanne, and a PhD in Geology at the University of Bern (Switzerland). During his early career, he focused on structural geology and metamorphic petrology in the Swiss Alps, with a large dose of electron microprobe analysis, a zest for isotopic work (Ar-dating and stable O-isotopes), and a generous bed of fieldwork.
• Julien’s attraction to the electron microprobe led him to the University of Massachusetts-Amherst in 2009, where he pursued a post-doc on trace element analysis and monazite dating by EPMA.
• From 2009 to 2017, he developed the “Database for electron Microprobe Analysis”, which compiles essential information for EPMA users.
• In April 2012, he joined the University of Colorado-Boulder as a Research Associate to manage the electron microprobe laboratory. Initially working on a vintage JEOL-8600, he recently received and tested a new JEOL JXA-8230.
• In 2015, with A. von der Handt and O.K. Neill, he initiated a Focused Interest Group on MicroAnalytical Standards (FIGMAS) in order to create an international database of standards and reference materials, and assess the need of tomorrow’s reference materials.
• His current research interests include magmatic and metamorphic petrology, geochronology, and ore deposits (REE).
MAS Director Candidate
Anette von der Handt

MAS and community involvement:

• MAS member since 2012
• Organizing committee of 'EPMA 2016' Topical Conference
• Co-convener of micro-analytically focused sessions at AGU 2014, M&M 2017
• Co-initiator and Leader-elect of FIGMAS (FIG MicroAnalytical Standards (figmas.org)
• Administrator of the JEOL probeusers listserv

Anette von der Handt received her PhD in Geochemistry from the Max-Planck Institute for Chemistry, Germany, in 2008 where she studied upper mantle rocks by EPMA and SIMS and went to the North Pole. This was followed by a Post-doc at the University of Hawaii, studying trace element zoning in olivine from the lower crust by EPMA in samples that she drilled in the Atlantic Ocean.

In 2009, Anette started a position as an assistant professor in the Mineralogy and Petrology Department of the University of Freiburg, allowing her to work with students on a diverse range of projects.

In 2012, Anette returned to the US and took over the Electron Microprobe Laboratory at the University of Minnesota in Minneapolis.

Throughout her career, Anette has worked on many aspects of micro-analytical methods with a recent focus on trace element and ultra-light elements (C, O, N) analysis as well as developing strategies for the analysis of beam-sensitive materials. She is also a moderator and contributor at various micro-analytically focused online forums and trains other EPMA users and lab managers in the use of Probe-for-EPMA and micro-analytical methods.