MicroNews

Summer 2007 Newsletter
of the Microbeam Analysis Society

http://www.microbeamanalysis.org/

PRESIDENTIAL MESSAGE

Dear MAS Members,

It is my great pleasure to address the membership of MAS as President of the Society. I would like to thank Raynald Gauvin for his service as President from 2005-2006 and special thanks to Harvey Freeman who has competently served MAS as Treasurer for so long and has served out his last term. I would also like to thank our outgoing Directors, John Henry Scott and Ed Vicenzi. The results of the election are in and I am happy to announce the new officers of the society. Ian Anderson is the new President Elect, Jim McGee is the new Treasurer, and Luke Brewer and Kristin Bunker are the new directors. Please welcome our newest officers and feel free to contact any Society officer if you have concerns, questions, or suggestions.

On a sad note we mark the passing of three individuals who had great impact on the microanalysis community: James Hillier (MAS Honorary Member); Eugene Jarosewich; and Dave Wittry (MAS Honorary Member and former MAS President and Director). Please read the special section of this newsletter for a description of their contributions.

2006 was a transition year for MAS as we shifted our energy away from merger discussions with MSA and towards our future. In this effort I solicit input from the entire membership. Our challenge is to re-energize MAS by attracting new members and in particular students. MAS's greatest asset is its membership, and we are fortunate to have many members willing to give their time volunteering to the society. To see this continue in the future our job is to get tomorrow's volunteers in place. Before that, we must get our financial house in order and align our expenses with the size of our society. To this end, starting with Raynald's help in 2006, we held the Winter Council meeting as a teleconference. This saved the society probably in excess of $10,000. I will continued this new 'tradition'. We will also be closely looking at the use of our business office to see which expenses we can eliminate and which tasks we can have volunteers do.

We can look forward to future joint-meetings of MSA and MAS at the successful Microscopy and Microanalysis annual summer meetings. M&M 2006 was, by all accounts that I've heard, a successful meeting for MAS and thanks are due to Mike Marko (MSA Co-chair) and Raynald Gauvin (MAS Co-chair). As Program Chair for that meeting, I'm probably a bit biased but the numbers tell of success: over 1800 scientific attendees of which more than 200 were students; over 900 technical presentations; and an extremely successful exhibition. The microanalysis content in these meetings has never been greater. MAS awarded 9 Distinguished Scholar Awards and I can tell you as program chair that there were far more applicants than awards. For 2007, we have already increased this number to12. We look forward to seeing you at M&M 2007 in Ft. Lauderdale, Florida!

2007 will mark the beginning of MAS's new direction hosting Topical Conferences. The NIST/MAS Topical Conferences have been a great success in the past and we are using this format to move forward. In October of 2007 we will have the first MAS/NIST Topical Conference on Hyperspectral Imaging. This meeting will be held at NIST, but unlike past TCs this will be organized largely (but not entirely) by non NIST personnel with NIST doing the local arrangements. Beyond this meeting we hope to move future spring and fall topical conferences around the country as the local attendees make up a significant portion of the total attendance at these meetings. Perhaps the Affiliated Regions Societies would be interested in hosting a Topical Conference of a topic of their choice? Let MAS Council know your ideas for future MAS-sponsored meetings.

Sincerely,
Paul Kotula, MAS President 2006-2007
pgkotul@sandia.gov

EDITOR'S NOTE

Hoping this issue of MicroNews reaches all members before the Ft. Lauderdale meeting. I apologize for preparing only one issue again this year. In addition, since MicroNews is now available on the web, the format is changing. Many items that previously appeared in MNs, such as council members, honorary members, sustaining members, affiliatied societies, and additional representatives are not included because they are also available in updated form on the MAS web site. I will include items of interest that may not appear on the web site and that may be of timely interest.

In addition to wanting to offer you an issue just before our upcoming M&M meeting, I want to pay our respects to the three prominent MAS members who we lost recently - James Hillier, Eugene Jarosewich, and David Wittry. Obituaries have been included in this issue. Numerous references on their lives, contributions, and publications can also be found on the web.

Ryna Marinenko
MicroNews Editor

MEMBERSHIP SERVICES

The forecast for Ft. Lauderdale during Microscopy and Microanalysis 2007 looks to be hot. I'm not talking about the weather (although it probably will be) but about the scientific sessions, especially those focused on microbeam techniques. MAS program representatives and session chairs for our annual M&M meeting continue to provide an array of excellent topics and speakers for those attending. And to cool things off during the meeting, we invite you to stop by the MAS booth to relax and socialize with fellow microanalysists and officers. I also want to point out our MAS membership social on Wednesday evening following our business meeting to cap our activities. Outside of M&M, MAS continually strives to meet the needs of our members by maintaining popular activities such as the Tour Speaker program or workshops associated with M&M meetings, while evolving NIST/MAS to MAS Topical Conferences and other ideas. In the near future you can look forward to a more substantial presence of MAS on the web that will include electronic membership operations. Well, I hope to see you in Ft. Lauderdale and as always, please don't hesitate to contact me.

Lou Ross
Membership Chair

MAS TOUR SPEAKER PROGRAM

The MAS Affiliated Regional Societies contact list is on webpage - http://www.microbeamanalysis.org/masjh/as.php. If you note any mistakes, please contact me. I expect a few societies have changed officers recently and may want a new MAS contact listed.

Last year was interesting. I decided to retain Rhonda Stroud as she was "unutilized" last year. Then she got 3 calls for October! She was able to do 2. Brendan Griffin was in the states for part of the fall and offered to speak. But timing was dicey and with national security folderol he got to do only one.

The four speakers, their affiliations, and titles for this year's MAS Tour Speaker Program are -

Brendan Griffin (U of W Australia) – 3 possibilities, probably did "VPSEM", (no longer available this year)
John Notte (ALIS/Zeiss) Speaking on – "An Introduction to the Helium Ion Microscope",
Robert Simmons (Georgia State U) Discussing – "The Role of Microscopy in the Search for Fungi in the Human Environment" or "Microbial Ecology of Extreme Environments: Automobile Air Conditioning Systems"
Rhonda Stroud (Naval Research Laboratory) - her talk is titled "Practical limits of the analysis of phase separation in nanoscale materials".

The program was able to supply tour speakers to six societies and four more are scheduled. The completed and pending tours since M&M 2006 are listed below. AReMS was allowed 2 speakers at the same meeting because one will be charged to 2006 and the other to 2007. (I DO keep track.) Note that Joe Michael gave a talk as a past speaker and Paul Kotula gave a special talk to the MNSO group on the occasion of their 40th anniversary. Yes, we do accommodate special requests if we can.

We will be choosing speaker candidates for next year at M&M2007 so please be sure that you send a representative to the AReS meeting, Wednesday, August 8, 2007 in the Floridian Ballroom B (next to the atrium. See you there!

Society	**Speaker Date**	
Finished		
AReMs	Stroud	October 12-13, 2006 (2007 speaker)
AReMs	Michael	October 12-13, 2006 (2006 speaker)
CSM&MS	Stroud	October 27, 2006
MMS - Minn	Griffin	November 9, 2006
MSNO	Kotula	May 30, 2007
SCSM&M	Simmons	February 21, 2007
Pending		
AReMs	Simmons	October 11-12, 200 (2008 speaker)
MidWest	Stroud	October 18-19, 2007
NMMBUG	Simmons	October 4, 2007
OMS	Simmons	November 2, 2007

Affiliated Society Items

I will be checking with some of my contacts to see if/which adjustments are needed. These will be 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. 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.

I've had no news of great import from our affiliates nor any indication of new societies wishing to affiliate even though there was a rumor of one such.

Respectfully submitted,
Paul Hlava
Director of the Affiliated Regional Societies

MAS TOPICAL WORKSHOP

Hyperspectral Imaging II (HI-II)
An MAS Topical Workshop
October 23-26, 2007
NIST Advanced Measurement Laboratory
Gaithersburg MD USA
http://www.microprobe.org/workshops/HI-II/

With the development of ever faster detectors, more powerful computers, and sophisticated data analysis and rendering software, spectral imaging methods have become ubiquitous and assumed an increasingly important role in the field of microanalysis. For example, the new generation of silicon-drift X-ray energy-dispersive detectors today allows acquisition in the scanning electron microscope *per minute* a GByte-sized 256×256-pixel spectral image with sufficient statistics for robust phase identification. The importance of these developments extends beyond the obvious practical advantage of being able to acquire a spectroscopic map of a specimen in the time allocated to acquire a single point spectrum just a decade ago. These developments enable the efficient exploration of spectral response across a multi-dimensional coordinate space, allowing the robust separation of statistically significant variations from mere fluctuations, the correlation of spectral variations with microstructure or other physical variations within the coordinate space, and the evaluation of instrumental contributions to the acquired data. These benefits clearly extend beyond traditional spectroscopic imaging.

Hyperspectral imaging may be broadly defined as a class of techniques where data are acquired to fill a multi-dimensional space with a high degree of redundancy on at least one coordinate axis. Such techniques share similar challenges, irrespective of the nature of the coordinate axes defining the hyperspectral image space. Common coordinate axes are the dimensions of space-time and their conjugates – spatial (**r**), temporal (t), reciprocal (**q**), and spectral (E) – as for traditional spectral imaging featuring two spatial and one spectral coordinate. However, increasingly one or more of the coordinate axes are defined by instrumental parameters, e.g., specimen tilt for tomography, or defocus for high-resolution electron microscopy through-focal series reconstruction.

This topical workshop will explore the state-of-the-art of hyperspectral imaging, with sessions devoted to key issues that cross-cut traditional disciplines and techniques.

Ian Anderson
NIST

TREASURER'S REPORT

I assumed the duties of Treasurer in January, 2007, replacing Harvey Freeman who served admirably in this position for some 17 years. As your Treasurer, I intend to focus efforts on utilizing our operating income efficiently so that the Society may fund scientific and technical activities in support of our mission to promote microanalysis education and information dissemination. The Council approved a balanced budget for 2007 that reduces the expenses associated with the business/accounting office and increases student support for participation in our technical meetings. In fact, this may be the first year in awhile in which student support exceeds business office expenses. I intend to continue efforts to reduce costs associated with routine business/banking activities and membership processing by relying less on the Accounting office for such activities. I acknowledge the continued support of our Sustaining Members, and especially would like to thank JEOL USA, Inc. and Cameca Instruments, Inc. for their additional support for student memberships this year. Please feel free to contact me should you have any questions/ comments about the Society's activities or your status with respect to dues and subscriptions. I will insure they get addressed by myself, the membership, or accounting departments.

Respectfully Submitted.

James J. McGee
MAS Treasurer

MAS 2007 Budget

INCOME

Member Dues (Budget amount - 305 Regular, 30 Student, 15 Emeritus)	$7,850
Sustaining Member Dues (Budget amount - 22)	$8,250
National Meeting (M&M 2005)	$3,400
(M&M 2006)	$3,500
M & M Journal Subscriptions (Budget amount - 80 USA, 15 Foreign)	$1,770
Schwab Dividends & Interest	$7,400
Interest on Rochester Checking Account	$15
Wiley Royalty to Fiori Fund	$75
Contributions to Fiori & Potter Funds	$1,750
Corporate Paper Award Reimbursements	$1,500
Student Support From Potter Fund	$3,000
Total Income	**$38,510**

EXPENSE

Society Management (Accounting, Insurance, Fees, Misc)	$5,500
Membership Office	$400
Executive Council (Travel, Meetings, Accomodations)	$4,000
Foreign Society (EMAS & AMAS) Reciprocity	$1,000
IUMAS Student Support (2 x $1500)	$3,000
WWW Maintenance	$240
M&M Journalubscriptions (Budget - 80 US ,15 Foreign)	$3,270
Tour Speaker - Fiori Fund	$900
Potter Fund Support	$600
General Tour Speaker Program	$3,500
Topical Conference, NIST 2007	$2,000
MAS Conference Sponsorship (Dec '07 AGU)	$1,400
MAS Functions @M&M 2007	$4,000
Student Support @ M&M 2007	$7,200
Paper Awards (Corp Sponsored)	$1,500
Total Expense	**$38,510**
Net Income & Expense	**$0**

Submitted and revised by J. McGee, Treasurer
Approved by MAS Council, February 6, 2007

MEETINGS &COURSES

Meetings

MICROSCOPY & MICROANALYSIS 2007, Aug. 6-9, 2007, Ft. Lauderdale, FL
Contact: Phillip Ridley at meeting@microscopy.org or web: msa.microscopy.com

Amercan Chemical Society National Meeting, Aug. 19-23, 2007. Boston, MA
Contact: www.chemistry.org

FACSS:2007, Oct. 14-18, 2007, Memphis, TN
Contact: www.facss.org

AVS 54rd Symposium and Exhibition , Oct.14-19, 2007, Seattle, WA.
Contact: www.avs.org

Eastern Analytical Symposium, Nov. 12-15, 2007, Garden State Convention Center, Somerset NJ.
Contact: www.eas.org

2007 MRS Fall Meeting, Nov. 26-30, 2007, Boston, MA
Contact: info@mrs.org www.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: Mar. 24-28, 2008 San Francisco, CA
Contact: info@mrs.org www.mrs.org, or www.mrs.org

SCANNING 2008, Apr. 14-16, 2007, Wahington, DC
Contact: scanning@fams.org, or www.scanning.org

MICROSCOPY & MICROANALYSIS 2008, Aug.4-7, 2008, Albuquerque, NM
Contact: Phillip Ridley at meeting@microscopy.org or web: msa.microscopy.com

MICROSCOPY & MICROANALYSIS 2009, Aug. 3-6, 2009, Baltimore, MD
Contact: Phillip Ridley at meeting@microscopy.org or web: msa.microscopy.com

MICROSCOPY & MICROANALYSIS 2010, Aug. 2010, Portland, OR
Contact: Phillip Ridley at meeting@microscopy.org or web: msa.microscopy.com

Courses

Lehigh Univ Microscopy Schools, June 3-15, 2008
Bethlehem, PA
Contact: Sharon Coe at sharon.coe@lehigh.edu or www.lehigh.edu/microscopy

Affiliated Societies' Meetings

Visit web sites for the following societies -
AREMS, visit web site for information
http://www.ncsu.edu/aif/arems/arems.htm

AIMS, visit web site for information
http://www.azmicroscopy.org/

CDMMS, visit web site for information
http://www.azmicroscopy.org/

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

CSMMS,
http://www.emc.missouri.edu/csmms/index.htm

MSNO
http://www.msneo.org/

M3S
http://www.msa.microscopy.com/MSALAS/MMMS/MMMSHomePage.html

MMS
http://www.mnmicroscopy.com/

NESM
http://prism.mit.edu:8083

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

SSTP
http://bilbo.chm.uri.edu/SST/

SEMS
http://www.semicroscopy.org

SCSM&M
http://www.scsmm.org/

James Hillier

taken from Wikipedia

James Hillier OC, Ph.D, D.Sc (August 22, 1915 – January 15, 2007) was a Canadian-born scientist and inventor who designed and built, with Albert Prebus, the first successful high-resolution electron microscope in North America in 1938.

Born in Brantford, Ontario, the son of James and Ethel (Cooke) Hillier, he received a Bachelor of Arts in Mathematics and Physics (1937), Master of Arts (1938), and a Ph.D (1941) from the University of Toronto, where as a graduate student he completed a prototype of the electron microscope that had been invented by Ernst Ruska.

In 1941, he went to the United States of America and joined the Radio Corporation of America in Camden, New Jersey. He became General Manager, RCA Laboratories (1957); Vice President, RCA Laboratories (1958); Vice President, Research and Engineering (1968); Executive Vice President, Research and Engineering (1969); and Executive Vice President and Chief Scientist (1976). New technologies developed during his tenure include the system that became RCA SelectaVision. (N.B.: RCA Laboratories, located in Princeton, NJ, became independent of RCA as a result of the corporate take-over by General Electric in 1986 and became Sarnoff Corporation, a subsidiary of SRI International.) Hillier spent many years refining the electron microscope and marketing it to research laboratories and universities, receiving a total of 41 patents for devices and processes.

After retiring from RCA in 1977, Dr. Hillier advised on the role of technology in the Third World and promoted science education. Although he became a U.S. citizen in 1945, Hillier remained involved with the Brantford community throughout his lifetime. The James Hillier Foundation, established in 1993, awards annual scholarships to Brant County students pursuing education in science.

In 1936, he married Florence Marjory Bell, a union that lasted until Florence's death in 1992. They had two sons: James Robert Hillier and William Wynship Hillier.

On January 15, 2007, Hillier died in Princeton, New Jersey [1]

Honors

- In 1950, the *James Hillier Public School* in Brantford, Ontario was opened.
- In 1960, he was awarded the Albert Lasker Award for Basic Medical Research.
- In 1980, he was inducted into the National Inventors Hall of Fame.
- In 1981, he received the Founders Medal from the Institute of Electrical and Electronic Engineers.
- In 1997, he was made an Officer of the Order of Canada.

Reference

Ball, Vicent and Bauslaugh, Cheryl (January 18, 2007). "James Hillier". *Brantford Expositor*, pp.A1-A2, A8, A10-A11.

External links

- Dr. James Hillier biography at Hillier Foundation website.
- Order of Canada Citation

Eugene Jarosewich

1926-2007

It is with great sadness that we report the death of Eugene Jarosewich at his home on April 30, 2007. Gene joined the Smithsonian's Department of Mineral Sciences in 1964, where he soon became Head Chemist. He retired in 1998, but remained active as Chemist Emeritus. He was an expert in the instrumental analysis of rocks and minerals, and in pursuing these interests he developed the Department's analytical laboratories into a world-class facility for the analysis of geological materials. Gene is known in the meteoritics community for having accomplished superb wet chemical analyses of meteorites, and for developing the only meteorite whole-rock standard through his work on specimens of Pueblo de Allende(1969). Working with specimens from the National Mineral Collection, in the 1970s Gene and his co-workers developed a set of microbeam standards for electron microprobe analysis, based upon wet chemically derived values for elements that displayed microscale homogeneity. Gene's Smithsonian Microbeam Standards (SMS) continue to be distributed to this day and are used worldwide by more than 900 laboratories. These accomplishments are lasting legacies of a distinguished career. Gene was particularly well known to members of the the Microbeam Analysis Society and the Meteoritical Society, but he cooperated broadly both within the Smithsonian Institution and the international scientific community on a number of topics in a variety of disciplines. [http://www.minerals.si.edu/]

Edward P. Vicenzi, past MAS director and Program Co-Chair M&M 2007
Department of Mineral Sciences
National Museum of Natural History
Smithsonian Institution

Honors

The mineral Jarosewichite and the asteroid 4320 Jarosewich are named for him (see Wikipedia).

David B. Wittry

1929-2007

David B. Wittry, 78, passed away May 5, 2007 due to complications from pneumonia. Born in Iowa, and raised in Wisconsin, he received a Bachelor of Science Degree in Mathematics from the University of Wisconsin, and a PhD in Physics from Caltech in 1957. From 1959 to his retirement in 1999, he was a professor in the Electrical Engineering and Material Science Departments at the University of Southern California.

He authored 23 patents and was a member of the Patents Committee at USC for 25 years. His many awards included a Guggenheim Fellowship; the Presidential Award from the National Microbeam Analysis Society; the Distinguished Scientist Award in Physical Sciences from the Microscopy Society of America; the Distinguished Service Citation from the University of Wisconsin; and a Distinguished Professor Emeritus Award from the University of Southern California.

David Wittry lived in Pasadena for 56 years and enjoyed attending Pasadena Symphony concerts. He is survived by his wife, Elizabeth, and by five children: Jim (Nadine), Robert, Kris (Sonya), Diane (Rick Peckham), Linda, and three grandchildren, Kyle, Amanda, and Elaine.

A Memorial Service was held on Saturday, May 12, 2007 at 10:30 a.m. at the First United Methodist Church Chapel, located at 500 E. Colorado Blvd, Pasadena. The Wittry Family house is still located at: 1036 S. Madison Ave., Pasadena, CA 91106. (626) 795-8957. More information on David Wittry can be found at his website: www.DavidBWittry.com

As his first graduate student, I was privileged to work with Prof. David Wittry from 1963-1967. Upon graduation, he asked me to care for his laboratory at USC and continue as a post-doc until his return from sabbatical in 1968. His sabbatical year at Cambridge University (UK) was very productive, as described in the website indicated above. His pioneering work there led to practical utilization of Electron Energy Loss Spectrometry (EELS) for local microanalysis. However, he had already established a reputation for pioneering work in microanalysis when he constructed one of the world's first electron probe microanalyzers while a graduate student at CalTech.....which later became commercialized by Applied Research Labs (ARL). An early ARL electron microprobe was obtained by Wittry at USC, and a large number of students utilized this instrument for their research projects including myself, John McCoy, Hans Marciniak, Kaung Chiu, Tiru Rao-Sahib, and John Potosky among others. Professor Wittry was an avid pioneer in the design, construction, and application of electron and x-ray beam instruments to a wide variety of materials science research.....and we were fortunate to have studied under his guidance. A more complete description of his many patents, publications, and honors can be found on the website indicated.

As a personal note, I will always remember the night when he asked me to consider becoming a full-time graduate student and accept a position as a Research Assistant in his laboratory. At the time, I was taking night classes towards an MSEE degree, and had not considered this possibility as I had to support a family. His class on Solid-State Electronics was fascinating to me, and after some careful consideration I accepted his offer which completely changed my career and life forever. This is just one example of the care and guidance that Prof. Wittry demonstrated for students.....he was both an outstanding researcher and teacher, as well as a counselor and sensitive to the needs of his students. I think this must have been partly due to his experience at CalTech and the care he had received himself as a student. He was very professional in all of his dealings with students as well as colleagues in the field of microanalysis.....and was truly one of the great pioneers in this field. He will be missed by many.....and leaves behind a wonderful family and cadre of students to carry on in his memory.

At the memorial serivce several of his former students attended and shared in the program. It was held in the same chapel of the Pasadena Methodist Church where he and his wife Elizabeth had been married over 50 years earlier. All of his children and grandchildren participated in some way, and at the end a very moving tape was played of Elizabeth singing the Lord's Prayer recorded at her wedding long ago. The Wittry family continues to have a lot of musical talent in their midst.....including a daughter Diane who is an orchestra conductor (www.dianewittry@dianewittry.com). The memorial program included a small portion of scripture which describes the life of Prof. David Wittry in words much better than I can....."The steps of a good man are ordered by the Lord, and He delights in his way" (Psalm 37:23).

David Kyser, Past-President and Past-Director of MAS
July 3. 2007