

Established 1968

## MAS 2017 COUNCIL – OFFICERS

### EXECUTIVE COUNCIL

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<b>President-Elect</b>	Rhonda Stroud
<b>Secretary</b>	Heather A. Lowers
<b>Treasurer</b>	Elaine Schumacher

### DIRECTORS

Katherine (Kat) Crispin  
 Yoosuf Picard  
 Julie Chouinard  
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### COMMITTEE CHAIRS

<b>Archivist</b>	John H. Fournelle
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<b>Strategic Planning</b>	Keana Scott
<b>Sustaining Membership</b>	Lucille Giannuzzi
<b>Topical Conferences</b>	Paul K. Carpenter

## PAST PRESIDENTS

1968	L.S. Birks
1969	K.F.J. Heinrich
1970	R.E. Ogilvie
1971	A.A. Chodos
1972	K. Keil
1973	D.R. Beaman
1974	P. Lublin
1975	J.E. Colby
1976	E. Lifshin
1977	J.I. Goldstein
1978	J.D. Brown
1979	D.F. Kyser
1980	O.C. Wells
1981	J.R. Coleman
1982	R.L. Myklebust
1983	R. Bolon
1984	D.C. Joy
1985	D.E. Newbury
1986	C.G. Cleaver
1987	C.E. Fiori
1988	W.F. Chambers
1989	D.B. Wittry
1990	A.D. Romig, Jr
1991	J.T. Armstrong
1992	D.B. Williams
1993	T.G. Huber
1994	J.A. Small
1995	J.J. McCarthy
1996	D.E. Johnson
1997	J.R. Michael
1998	R.B. Marinenko
1999	J.J. Friel
2000	C.E. Lyman
2001	R.W. Linton
2002	G.P. Meeker
2003	E.S. Etz
2004	P.K. Carpenter
2005	I.H. Musselman
2006	R. Gauvin
2007	P.G. Kotula
2008	I.M. Anderson
2009	C. Johnson
2010	E.P. Vicenzi
2011	J.H.J. Scott
2012	J.F. Mansfield
2013-14	K.L. Bunker
2015-16	T.F. Kelly

## DUNCUMB AWARD FOR EXCELLENCE IN MICROANALYSIS

### Thomas F. Kelly

Thomas F. Kelly received his B.S. with highest honors in Mechanical Engineering from Northeastern University in June 1977 and a Ph.D. in Materials Science in December 1981 from the Massachusetts Institute of Technology. He was on the faculty at the University of Wisconsin-Madison from January 1983 until September 2001. Tom was also Director of the Materials Science Center from 1992 to 1999.



While serving as a professor of Materials Science and Engineering in the University of Wisconsin-Madison College of Engineering until September 2001, Tom founded Imago Scientific Instruments to commercialize the Local Electrode Atom Probe, or LEAP. The LEAP is a major advance for atom probe tomography by capturing a three-dimensional atom-by-atom "images" of materials at high speeds and high resolution.

Tom Kelly has been active in the fields of analytical electron microscopy, atom probe microscopy, rapidly solidified materials, and electronic and superconducting materials for over 40 years. He has published over 250 papers and 17 patents in these fields in that time. Tom has driven innovation in instrumentation for atom probe tomography over the past two decades. He continues to pursue microscopy innovations such as atomic-scale tomography by developing new detector technologies and combining atom probe tomography with electron microscopy in a single instrument.

Tom was a member of the executive council of the Microscopy Society of America from 2000 to 2002, the International Steering Committee of the International Field Emission Society from 2002 to 2008 and President of the International Field Emission Society from 2006 to 2008. He has served as the inaugural chair of the Microscopy Today Innovation Awards Committee for the Microscopy Society of America since 2010. Tom was an Editor of Microscopy and Microanalysis from 2010 to 2015 and is on the Editorial Board of Microscopy Today. From 2010 to 2012, Tom served on the Council of the Microanalysis Society. In 2012, he was elected President of the Microanalysis Society and served as President from August 2014 to August 2016. He is a fellow of the Microscopy Society of America and the International Field Emission Society.

### Previous Awardees

<b>2007</b>	D.B. Williams
<b>2008</b>	J. I. Goldstein
<b>2009</b>	D.E. Newbury
<b>2010</b>	D.C. Joy
<b>2011</b>	J.R. Michael
<b>2012</b>	J. Bentley
<b>2013</b>	E. Lifshin
<b>2014</b>	O. L. Krivanek
<b>2015</b>	P. J. Statham
<b>2016</b>	David Muller

## KURT F.J. HEINRICH AWARD

### Andrew Herzing

Andrew Herzing received his M.Sc. and Ph.D. in materials science and engineering from Lehigh University under the supervision of Professor Christopher Kiely. During this period he was awarded the George P. Conard award for outstanding graduate student. He then spent two years as a National Research Council postdoctoral fellow at the National Institute of Standards and Technology in Gaithersburg, MD, where he is now a staff scientist in the Material Measurement Laboratory. Andrew's research is centered on the quantitative structural and chemical characterization of small volumes of material using electron microscopy techniques. In particular, he is currently focused on the characterization of organic composites, developing quantitative methods for three-dimensional characterization of materials using tomographic techniques, and the measurement of surface plasmon resonance behavior in individual nanostructures. He has contributed to over 70 peer-reviewed publications and three book chapters in a wide variety of fields involving electron microscopy.



### Previous Awardees

<b>1986</b>	P.J. Statham	<b>2001</b>	C. Jacobsen
<b>1987</b>	J.T. Armstrong	<b>2002</b>	D.A. Wollman
<b>1988</b>	D.B. Williams	<b>2005</b>	M. Watanabe
<b>1989</b>	R.D. Leapman	<b>2006</b>	M. Toth
<b>1990</b>	R.W. Linton	<b>2007</b>	G. Kothleitner
<b>1991</b>	A.D. Romig, Jr.	<b>2008</b>	P.G. Kotula
<b>1992</b>	S.J. Pennycook	<b>2009</b>	D. Drouin
<b>1993</b>	P.E. Russell	<b>2010</b>	H. Demers
<b>1994</b>	J.R. Michael	<b>2011</b>	L.N. Brewer
<b>1995</b>	E.N. Lewis	<b>2012</b>	E.A. Marquis
<b>1997</b>	R. Gauvin	<b>2013</b>	J.M. LeBeau
<b>1998</b>	V.P. Dravid	<b>2014</b>	B.P. Gorman
<b>1999</b>	J. Bruley	<b>2015</b>	P. Pinard
<b>2000</b>	H. Ade	<b>2016</b>	Julien Allaz

## PRESIDENTIAL SCIENCE AWARD

### Michael K. Miller

Michael K. Miller, of ORNL's Materials Science and Technology Division, began his career at ORNL in the Metals and Ceramics Division in 1983. He received his D. Phil. from the Department of Metallurgy and Science of Materials, Oxford University, in 1977 and continued there as a Science Research Council Fellow until 1979. He spent 4 years as a visiting scientist at the U.S. Steel Research Laboratory in Monroeville, Pennsylvania, before joining ORNL.



Dr. Miller is recognized as one of the premier scientific leaders in the field of atom probe field-ion microscopy and atom probe tomography. He has pioneered the application of these techniques to a broad range of materials, statistical data, analysis methods, and new instrument design.

During his tenure at ORNL, Miller has established himself as the preeminent researcher in atom probe field-ion microscopy and atom probe tomography. He is currently leading ORNL's fundamental experimental efforts to understand and exploit the unprecedented properties and behaviors of nanostructured ferritic steels.

His scientific impact is demonstrated not only by his ongoing research and development accomplishments, but also by his contributions to the continued success of the Shared Research Equipment (SHaRE) User program at ORNL. His work attracts atom probe users from domestic and international universities, industry, and other national laboratories, helping to make the SHaRE atom probe facility into the leading laboratory of its kind.

Miller has authored or co-authored more than 460 publications in peer-reviewed journals, written three books, co-edited a book and 13 special volumes, and has made more than 730 presentations, of which 125 were invited. He has been honored with several major awards, including the Coslett Award in 2004 from the Microbeam Analysis Society and the Prince Hassan Medal for Scientific Contributions at the International Level in 1998. Most recently, Miller, a resident of Oak Ridge, was recognized as a 2009 Fellow of The Minerals, Metals and Materials Society (TMS) and as a 2010 Fellow of the Microscopy Society of America.

Miller became a Corporate Fellow in 2010.

## PRESIDENTIAL SERVICE AWARD

### Daniel Kremser

Dr. Dan Kremser joined Battelle in January 2005 and is a Principal Research Scientist in their Advanced Materials Resource Group. He has over 35 years experience in analytical instrumentation applications and in laboratory management. Dr. Kremser's technical expertise is in the characterization of materials and solving complex analytical problems associated with advanced analytical instrumentation. He has worked with a wide variety of physical systems and applications domains, ranging from earth-forming materials and geological samples to organic compounds and soft materials. In the instrumentation realm he is widely known for his skill and precision as an operator and for his numerous contributions to the field of quantitative elemental and compositional measurement and characterization, most notably X-ray diffraction (XRD), electron beam instruments such as electron microprobes (EPMA) and scanning electron microscopes (SEM) equipped with wavelength-dispersive and energy-dispersive X-ray spectrometers, and inductively coupled plasma-mass spectrometers (ICP-MS). Dr. Kremser obtained a Bachelor's degree in Geology from the University of Connecticut, and earned a PhD in Earth and Planetary Sciences from Washington University in St. Louis.



Dan has a strong record of involvement with the Microanalysis Society (MAS) and its local affiliated regional societies (AReS) throughout his career. Dr. Kremser joined MAS in 1982 and has served our society with distinction and tireless energy in several roles, starting as MAS Director from 2005-2007, Membership Services Chair from 2008-2012 and finally as Treasurer from 2013-2016. At the local level, Dan has contributed significantly to three regional societies: the Microscopy Society of the Ohio River Valley (MSORV), the Microscopy Society of Northeast Ohio (MSNO), and the Central States Microscopy and Microanalysis Society (CSM&MS), serving as President of each of the above as well as other council positions.

### Previous Awardees

1977	R. Castaing	2000	R.F. Egerton
1978	K.F.J. Heinrich	2001	P.E. Batson
1979	P. Duncumb	2002	K. Keil
1980	D.B. Wittry	2003	P.E. Russell
1981	S.J.B. Reed	2004	J.T. Armstrong
1982	R. Shimizu	2005	G. Slodzian
1983	J. Philibert	2006	B.J. Griffin
1984	L.S. Birks	2007	R.D. Leapman
1985	E. Lifshin	2008	T. F. Kelly
1986	R.L. Myklebust	2009	J.R. Michael
1987	O.C. Wells	2010	J.J. Donovan
1988	J.D. Brown	2011	P.J. Statham
1989	J. Hillier	2012	N.J. Zaluzec
1990	T.E. Everhart	2013	P. Echlin
1997	D.B. Williams	2014	H.L. Fraser
1998	F.H. Schamber	2015	M.R. Keenan
1999	R.A. Sareen	2016	M. Jercinovic

### Previous Awardees

1977	P. Lublin	1997	J.A. Small
1978	D.R. Beaman	1998	J.J. McCarthy
1979	M.A. Giles	1999	T.G. Huber
1980	A.A. Chodos	2000	R.B. Marinenko
1981	R.L. Myklebust	2001	C.E. Lyman
1982	J. Doyle	2002	J.F. Mansfield
1983	D.E. Newbury	2003	I.H. Musselman
1984	J.I. Goldstein	2004	J.R. Michael
1985	M.C. Finn	2005	G.P. Meeker
1986	V. Shull	2006	H.A. Freeman
1987	D.C. Joy	2007	P.K. Carpenter
1988	C.G. Cleaver	2008	L.M. Ross
1989	W.F. Chambers	2009	V. Woodward
1990	C.E. Fiori	2010	S.A. Wight
1991	T.G. Huber	2011	D.T. Kremser
1992	E.S. Etz	2012	C. Johnson
1993	H.A. Freeman	2013	J.J. McGee
1994	J.L. Worrall	2014	I.M. Anderson
1995	R.W. Linton	2015	S. McKernan
1996	P. F. Hlava	2016	H. Lowers

**MAS OUTSTANDING PAPER AWARDS (2017)**

These awards are presented annually to the authors of outstanding papers from the previous annual meeting in each of four categories.

**RAYMOND CASTAING – BEST STUDENT PAPER AWARD:*****Volatile Addition to the Inner Solar System Between 4.566 and 4.564 Ga: Evidence from Angrite Meteorites***

A. R. Sarafian<sup>1</sup>, S. G. Nielsen<sup>1</sup>, H. R. Marschall<sup>1</sup>, G. A. Gaetani<sup>1</sup>, E. H. Hauri<sup>2</sup>, K. Righter<sup>3</sup>, E. Sarafian<sup>1</sup>

<sup>1</sup>Woods Hole Oceanographic Institution, 266 Woods Hole Rd. Woods Hole MA

<sup>2</sup>Department of Terrestrial Magnetism, Carnegie Institution of Washington, Washington, DC

<sup>3</sup>NASA-JSC, Mailcode XI2, 2101 NASA Pkwy, Houston, TX

**V.G. MACRES – BEST INSTRUMENTATION/SOFTWARE PAPER AWARD:*****Multi-Beam Scanning Electron Microscope Design***

Pieter Kruit<sup>1</sup> and Yan Ren<sup>1</sup>

<sup>1</sup>Delft University of Technology, Department of Imaging Physics; Delft, The Netherlands

**V.E. COSSLETT – BEST INVITED PAPER AWARD:*****Microanalysis of Fossil Micrometeorites and Meteorites to Study A Major Asteroid Collision ~470 Million Years Ago***

Philipp R. Heck<sup>1,2</sup> and Birger Schmitz<sup>1,3</sup>

<sup>1</sup>Robert A. Pritzker Center for Meteoritics and Polar Studies, The Field Museum of Natural History; Chicago, IL, USA.

<sup>2</sup>Chicago Center for Cosmochemistry and Department of the Geophysical Sciences, The University of Chicago; Chicago, IL, USA.

<sup>3</sup>Astrogeobiology Laboratory, Department of Physics; Lund University, Sweden.

**L.S. BIRKS – BEST CONTRIBUTED PAPER AWARD:*****Dissociation of Molecular Ions During the DC Field Evaporation of ZnO in Atom Probe Tomography***

Ivan Blum<sup>1\*</sup>, David Zanuttini<sup>1</sup>, Lorenzo Rigutti<sup>1</sup>, François Vurpillot<sup>1</sup>, Julie Douady<sup>2</sup>, Emmanuelle Jacquet<sup>2</sup>, Pierre-Matthieu Anglade<sup>2</sup>, Benoit Gervais<sup>2</sup>, Angela Vella<sup>1</sup>, Aurore Gaillard<sup>1</sup>

<sup>1</sup>Groupe de Physique des Matériaux (GPM), UMR CNRS 6634, Université et INSA de Rouen, Avenue de l'Université, BP 12, 76801 Saint Étienne du Rouvray, France

<sup>2</sup>Centre de Recherche sur les Ions, les Matériaux et la Photonique (CIMAP), UMR CNRS 6252, ENSICAEN, CNRS, CEA/IRAMIS, Université de Caen, Boulevard Henri Becquerel, BP5133, 14070 CAEN Cedex 05, France