

MAS BEST PAPER AWARDS

1972 EPASA San Francisco, CA

JEOL Award - Outstanding Student Paper, Sponsored by JEOL USA.

K.Y. Chiu and D.B. Wittry, (USC). *An Electron Spectrometer for Quantitative Measurements of Surface Voltages with Electron Microprobe Instruments.*

1973 EPASA New Orleans, LA

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

Noel C. MacDonald, (physical Electronics Industries). *The 3rd Dimension in Scanning Electron Microscopy: Scanning Auger Microscopy*

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.

E.J. Barrett, (U. Rochester). *Sodium and Potassium Content of Single Cells: Effects of Metabolic and Structural Changes.*

1974 MAS Ottawa, Canada

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

E. Chatfield and V. Nielsen (Ontario Research Foundation, Canada). *A New System for Dynamic Stereo Observation in the SEM.*

Corning Award - Outstanding Contributed Paper, Sponsored by Corning Glass. (Shared).

J.D. Brown and L. Parobeck (U. Western Ontario). *The Measurement of Depth Distribution Curves at Electron Energies from a Few to 15 KeV.*

D.E. Newbury, H. Yakowitz and R.L. Myklebust (NBS). *Monte Carlo Calculations of Type II Magnetic Contrast in the SEM.*

A. Armigliato (CNR-Lamel, Bologna), P. Bergamini (CISE, Milano) and L. Morettini (U. Bologna). *Thin Films and Bulk Specimen X-ray Microanalysis in the Electron Microscope.*

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.

L. Parobeck and J.D. Brown (U. Western Ontario). *The Measurement of Depth Distribution Curves at Electron Energies from a Few to 15 KeV.*

1975 MAS/EMSA Las Vegas, NV

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

O.C. Wells (IBM). *Experimental Method for Measuring Source Size in the SEM.*

Corning Award - Outstanding Contributed Paper. Sponsored by Corning Glass.

J.T. Armstrong and P. Buseck (Arizona State U.). *The Minimization of Size and Geometric Effects in the Quantitative Analysis of Microparticles with Electron Beam Instruments.*

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.

J.C. Potosky and D.B. Wittry (USC). *A Quadropole Instrument for Investigations of Electron and Ion Beam Interactions with Solids.*

1976 MAS/EMSA Miami Beach, FL

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

R.F. Egerton (U. Alberta), C.J. Rossouw and M.J. Whelan (U. Oxford). *Quantitative Microanalysis by Electron Energy Loss Spectrometry.*

Corning Award - Outstanding Contributed Paper. Sponsored by Corning Glass.

P. Statham (U. C. Berkley). *Corrections for the Bremsstrahlung Background in EDS Microprobe Analysis of Thick Specimens.*

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.

G.R. Merriam, F. Naftolin and C. Lechene (Harvard Medical School). *An Electron Probe Study of Elemental Distribution in the Rat Pituitary.*

1977 MAS/EMSA/IXCOM Boston, MA

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

R. Castaing and G. Blaise (U. Paris). *Analysis of Solid Surfaces by Thermal Ionization of Sputtered Particles.*

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.

C. Wu and D.B. Wittry (USC). *Measurement of Diffusion Lengths of Excess Carriers in Semiconductors by the Voltage Dependence of Electron Induced Currents at Schottky Barriers.*

1978 MAS Ann Arbor, MI

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

D. Maher, P. Mochel and D. Joy (Bell Labs). *The Electron Energy Loss Spectrum and Requirements for Its Processing.*

Corning Award - Outstanding Contributed Paper. Sponsored by Corning Glass.

F. Schaumber (Tracor Northern). *An Overview of Curve Fitting Techniques.*

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA. (Shared)

M.A. Rudat and G.H. Morrison (Cornell U.). *Instrumental Discrimination Effects in SIMS*.

V. Deline and C.A. Evans, Jr. (U. Illinois). *Advances in Quantitative Studies Using Cs⁺ Secondary Ion Mass Spectrometry*.

1979 MAS/EMSA San Antonio, TX

Corning Award - Outstanding Contributed Paper. Sponsored by Corning Glass.

W.F. Chambers (Sandia) and J.H. Doyle (Rockwell Int.). *A User-Oriented Software System for Electron Microprobes*.

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

C.M. Ward, D.L. Willenburg and K.L. Montgomery (Lawrence Livermore). *Full Surface Examination of Small Spheres with a Computer-Controlled Scanning Electron Microscope*.

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.

A.D. Romig, Jr. and J.I. Goldstein (Lehigh U.). *Detectability Limit and Spatial Resolution in STEM X-ray Analysis Application to Fe-Ni Alloys*.

1980 MASE/EMSA Reno, NV

Corning Award - Outstanding Contributed Paper. Sponsored by Corning Glass.

R. Packwood (Dept. Energy, Mines & Resources) and J.D. Brown (U. Western Ontario). *Concerning X-ray Production and Quantitative Analysis*.

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

E.K. Brandis (IBM) and A. Rosencwaig (Lawrence Livermore). *Thermal Wave Microscopy in an SEM*.

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.

M.M. Disko (Arizona State U.). *Fibrous Particles from a Copper Smelter Aerosol*.

1981 MAS Vail, CO

Corning Award - Outstanding Contributed Paper. Sponsored by Corning Glass.

P. Rez and P. Konopka (Kevex). *Accuracy of Peak-to-Background Method for Quantitative Analysis*.

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

B. Furman and C. Evans, Jr. (U. Illinois). *Direct-Imaging Laser Mass Analyzer*.

JEOL Award - Outstanding Student Paper. Sponsored by JEOL USA.
M.M. Disko (Arizona State U.). *An EXEFLFS Analysis System and the Preliminary Orientation Dependence of EXELFS in Graphite.*

1982 MAS/EMSA, Washington, D.C.

Corning Award - Outstanding Contributed Paper. Sponsored by Corning Glass.
C. Fiori, C. Swyt and K. Gorlen, (NIH). *X-ray Imaging with Continuum Correction.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

F. Hillenkamp, P. Feigl and B. Schueler (U. Frankfurt). *Laser Micro Mass Analysis of Bulk Surface.*

Castaing Award - Best Student Paper. Sponsored by JEOL USA.

M.E. Twigg and H.L. Fraser (U. Illinois). *A Comparison of Two Models for the Characteristic X-ray Fluorescence Correction in Thin Foil Analysis.*

Honorable Mention (Awards Committee) - Student Paper.

T.M. Hare, John C. Russ, (Arizona State U.). *Image Measuring Algorithms for a small Computer.*

1983 MAS/EMSA, Phoenix, AZ

Castaing Award - Best Student Paper. Sponsored by JEOL USA.

T. McCormick and M.F. Sheridan (Arizona State U.). *Characterization of Vapor-Phase Mineralogy from the Green Inimbrite, Pantelleria.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

G.S. Fritz (Tracor Northern) and A.F. Laudate (JEOL). *Failure Analysis in Microelectronics.*

Special Award

J.M. Conley (JPL), J. Bradley, C. Griffin, A.D. Tomassain and A.L. Albee (CIT). *Development of a Miniature Scanning Electron Microscope for In-Flight Analysis of Comet Dust.*

1984 MAS, Lehigh University, Bethlehem, PA

Castaing Award - Best Student Paper, Sponsored by JEOL USA.

Thad Mauney and Fred Adams (U. Antwerp). *Interpretation of Ion Kinetic Energy Distributions In Laser Microprobe Mass Analysis.*

Birks Award - Best Contributed Paper. Sponsored by Cameca Instruments.

C.R. Swyt and R.D. Leapman (NIH). *Removal of Plural Scattering in EELS: Practical Considerations.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

D.S. Bright (NBS). *Computer Matching Two Different Images of the Same Particle Field.*

1985 MAS/EMSA, Louisville, KY

Birks Award - Best Contributed Paper. Sponsored by Cameca Instruments.

D.C. Joy (Bell Labs). *Si(Li) Detectors, Dead Layers, and Incomplete Charge.*

Castaing Award - Best Student Paper. Sponsored by JEOL USA (Shared).

G.J. Fine, E. Stopler, M. Mendenhall, R. Livi and T. Tombrello (Caltech). *Measurements of the Carbon Content of Silicate Glasses by use of the $^{12}\text{C}(d1p0)^{13}\text{C}$ Reaction.*

I.H. Musselman, R. Linton and D. Dimons (U.N. Carolina). *The Use of Laser Microprobe Mass Analysis for Nickel Speciation in Individual Particles of Micrometer Size.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

T.M. Benjamin, P. Rogers, C. Duffy, C. Maggiore, J. Tesmor and C. Conner (Los Alamos). *Development and Application of the Los Alamos Nuclear Microprobe: Hardware, Software and Calibration.*

1986 MAS/EMSA, Albuquerque, NM

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

A. Romig, Jr. (Sandia). *Potential Applications of Artificially Structured Materials for X-ray Microanalysis.*

Birks Award - Best Contributed Paper. Sponsored by Cameca Instruments.

W. Bastin and H. Heijligers (U. of Technology, Eindhoven). *Quantitative Electron-Probe Microanalysis of Boron in Some Binary Borides.*

Castaing Award - Best Student Paper. Sponsored by JEOL USA.

M.K. Kundmann (Lawrence Berkley). *Analysis of Semiconductor EELS in the Low-Loss Regime.*

Proctor and Gamble Award - Outstanding Student Paper. Sponsored by Proctor and Gamble.

K. Colonna and G. Oliphant (U. Virginia). *Characterization of Subcellular Elemental Distribution Changes Occurring Concomitant with Mammalian Sperm Development.*

1987 MAS, Kailua-Kona, HI

Castaing Award - Best Student Paper, Sponsored by JEOL USA.

M. Lakshminarasimha and P.F. Johnson (Alfred U.). *Computer-Generated Three-Dimensional Microstructures.*

Macres Award - Best Instrumental/Software Paper. Sponsored by Hitachi Scientific Instruments.

M.A. Harthcock and S.C. Atkin (Dow Chemical). *Compositional Mapping with the Use of Functional Group Images Obtained by Infrared Microprobe Spectroscopy.*

Birks Award - Best Contributed Paper. Sponsored by Cameca Instruments.

D.M. Golijanin and D.B. Wittry (USC). *Alignment and Characterization of Doubly Curved X-ray Diffractors.*

Proctor and Gamble Award - Outstanding Student Paper. Sponsored by Proctor and Gamble.

J. Chabala, M. Burns, R. Levi-Setti and Y.L. Wang (U. Chicago). *High Resolution Scanning Ion Microprobe Analysis of Renal Tissue.*

1988 MAS/EMSA, Milwaukee, WI

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.

J. Small (NBS), D. Newbury, R. Myklebust, C. Fiori (NIH), A. Bell, K. Heinrich (NBS). *An Electron X-ray Optical Bench for the Measurement of Fundamental Parameters for Electron Probe Microanalysis.*

Birks Award - Best Contributed Paper. Sponsored by Cameca Instruments.

W. Rehbach and P. Karduck (Geminschaftslabor für Elektronenmikroskopie der RWTH Aachen). *Verification of the Gaussian Phi (ρ, z) Approach and Determination of the Limits of Validity by Tracer Experiments and Monte Carlo Calculations.*

Castaing Award - Best Student Paper. Sponsored by JEOL USA.

J. Hepburn, H. Stenger and C.E. Lyman (Lehigh U.). *Rh and Pt Distribution in Rh/Al₂O₃ and Pt/Al₂O₃ Catalysts.*

Proctor and Gamble Award - Outstanding Student Paper. Sponsored by Proctor and Gamble.

K. Colonna and G. Oliphant (U. Virginia). *Capacitation and Decapacitation: Ionically Distinct Physiological States of the Mammalian Sperm.*

1989 MAS, Asheville, NC

Castaing Award - Best Student Paper. Sponsored by Cameca Instruments.
R. Gauvin and G. L'Esperence (Ecol Polytechnique de Montreal). *The Effects of Fast Secondary Electrons on K_{AB} Factors and Spatial Resolution.*

Birks Award - Best Contributed Paper. Sponsored by JEOL USA.
D.M. Golijanin (Xerox Corp.), D.B. Wittry and S. Sun (USC). *Further Developments in Instrumentation for Microprobe X-ray Fluorescence Analysis.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.
J.G. Pellerin, G.M. Shedd, D.P. Griffis and P.F. Russell (N. Carolina State U.). *Micro and Nanofabrication with a Combined Focussed Ion Beam/Scanning Tunneling Microscope.*

Cosslett Award - Best Invited Paper. Sponsored by MAS.
J.L. Batstone (IBM). *Determination of Electronic Properties of Defects in Semiconductors by Cathodoluminescence.*

1990 MAS/EMSA, Seattle, WA

Birks Award - Best Contributed Paper. Sponsored by JEOL USA.
A.D. Romig, Jr., S.J. Plimpton, J.R. Michael (Sandia), R.L. Myklebust, and D.E. Newbury (NIST). *Application of Parallel Computing to the Monte Carlo Scattering in Solids: A Rapid Method for Profile Deconvolution.*

Castaing Award - Best Student Paper. Sponsored by Cameca Instruments.
J.D. Pasteris, J.C. Seitz, B. Wopenka (Washington U.), and I-Ming Chou (USGS). *Recent Advances in the Analysis and Interpretation of C-O-H-N Fluids by Application of Laser Raman Microspectroscopy.*

Cosslett Award - Best Invited Paper. Sponsored by MAS.
K.K. Soni, D.B. Williams (Lehigh U.), J.M. Chabala, R. Levi-Setti (U. Chicago), and D.E. Newbury (NIST). *Imaging of Al-Li-Cu Alloys with a Scanning Ion Microprobe.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Hitachi Scientific Instruments.
J.J. Donovan and M.L. Rivers (U.C. Berkeley). *PRSUPR: A PC-based Automation and Analysis Software Package for Wavelength-Dispersive Electron-Beam Analysis.*

1991 MAS/EMSA San Jose, CA

Birks Award - Best Contributed Paper. Sponsored by JEOL USA.
K.D. McKeegan (UCLA). *Applications of SIMS in Cosmochemistry and Geochronology: Probing the Evolution from Stardust to the First Continents.*

Castaing Award - Best Student Paper. Sponsored by Cameca Instruments
P.J. Cunningham, J.A. Leake, E.R. Wallach (U. Cambridge). *Characterization of Thin Layer Polymer Films by LAMMS.*

1992 MAS/EMSA Boston, MA

Birks Award - Best Contributed Paper. Sponsored by JEOL USA.
P.E. Batson, J.F. Morar, J. Tersoff, and F.K. LeGous (IBM). *Heterojunction Band Offsets in Ge-Si Alloys from EELS.*

Castaing Award - Best Student Paper. Sponsored by Cameca Instruments, Inc.
X. Wang, D.C Joy, (U. Tennessee and ORNL). *Fast New Simulation of X-ray Signals for Arbitrary Geometries.*

Cosslett Award - Best Invited Paper. Awarded by MAS.
B.R. York (IBM). *Defect Analysis Using a Third-Generation X-ray Microdiffractometer with Total vReflection Capillary X-ray Optics.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.
B.A. Carpenter and M.A. Taylor (Martin Marietta). *An X-ray Microprobe Based Upon a Close-Coupled Focal-Spot/Glass Capillary Arrangement.*

1993 MAS, Los Angeles, CA

Castaing Award - Best Student Paper. Sponsored by Cameca Instruments, Inc
W. Chen, P. Chen, R. Viswanathan, J. So, A. MADhukar (USC). *Use of Focused Ion Beam (FIB) in Creating Arrays of Two- and Three-Dimensional Structures in Semiconductors: Ga⁺ FIB and SI.*

1994 MAS/MSA, New Orleans, LA

Birks Award - Best Contributed Paper. Sponsored by JEOL USA.
W.J. MoberlyChan, J. Cao, M.Y Niu, L.C. DeJonghe (Lawrence Berkeley Lab), A.F Schwartzman (Brown U.). *SiC Composites with Alumina-Coated alpha-SiC Platelets in beta-SiC Matrix: Controlling Toughness through Microstructure.*

Castaing Award - Best Student Paper. Sponsored by Cameca Instruments, Inc
M-W. Tseng, D.B. Williams, J. Bruley (Lehigh U.), K.K. Soni (U. Chicago). *Microcharacterization of Superalloy/Sapphire Composites.*

Cosslett Award - Best Invited Paper. Awarded by MAS.
P. Carpenter, J. Armstrong, G. Rossman (Cal. Tech.), E. Fritsch, R. Kane (Gemological Institute of America). *X-ray and Optical Methods Applied to the Study of Gem Materials.*

Macres Award - Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.
Greg Gillen (NIST). *Recent Developments in Secondary Ion Microscopy*.

1995 MAS, Breckenridge CO

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

J. M. Titchmarsh(Sheffield Hallam University, Sheffield, UK), S. Dumbill, and I. A. Vatter(Harwell Laboratory, Didcot Oxon, UK). *Investigation of Interfacial Segregation in Steels using Multivariate Analysis of EDX Spectra*.

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

R. Superfine, M. Falvo, S. Washburn, M. Finch, V. L. Chi, R. M. Taylor III(U. North Carolina, Chapel Hill, NC), and R. S. Williams(University of California, Los Angeles, CA). *Touching on the Nanometer Scale: a Virtual Reality Interface for Scanning Probe Microscopy*.

Cosslett Award-Best Invited Paper. Awarded by MAS.

O. L. Krivanek and M. K. Kundmann(Gatan Research & Development, Pleasanton, CA). *Spatial Resolution in EFTEM Elemental Maps*.

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

D. A. Muller, S. Subramanian, S. L. Sass, J. Silcox(Cornell University, Ithaca, New York), and P. E. Batson(IBM Thomas J. Watson Research Centre, Yorktown Heights, New York). *Measuring Bonding Changes at an Interface: a Case Study in Ni₃Al*.

1996 Microscopy and Microanalysis, Mineapolis MN

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

P.-F. Staub(Cameca Instruments, Inc., Courbevoie, France), C. Bonnelle, F. Vergand and P. Jonnard(Laboratoire de Chimie Physique-Matiere et Rayonnement, Universite Paris VI,Paris, France). *A New Numerical Model for Electron Probe Analysis at High Depth Resolution*.

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

D. A. Wollman, G. C. Hilton, K. D. Irwin and J. Martinis(National Institute of Standards and Technology, Boulder, CO). *EDS X-ray Microcalorimeters with 13 eV Energy Resolution*.

Cosslett Award-Best Invited Paper. Awarded by MAS.

David. C. Joy(EM Facility University of Tennessee, Knoxville, TN and Oak Ridge National Laboratory, Oak Ridge, TN). *Fundamental Parameters for Microanalysis*.

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

D. Drouin, P. Hovington, R. Gauvin, and J. Beauvais(Departement de genie mecanique, U. de Sherbrooke, Sherbrooke, Quebec, Canada). *How to Get the Most of A SEM Using the Casino Monte Carlo Program.*

1997 Microscopy and Microanalysis, Cleveland OH

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

Brendan J. Griffin (Centre for Microscopy and Microanalysis, The University of Western Australia, Nedlands, Australia). *A New Mechanism for the Imaging of Crystal Structure in Non-Conductive Materials: An Application of Charge-Induced Contrast in the Environmental Scanning Electron Microscope (ESEM).*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

R. Agnello,* J. Howard,* J. McCarthy,* and D. OHara** (*NORAN Instruments Inc., Middleton, WI and **Parallax Research Inc., Tallahassee, FL). *The Use of Collimating X-ray Optics for Wavelength Dispersive Spectroscopy.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

P.A. Crozier (Center for Solid State Science, Arizona State University, Tempe, AZ). *Energy-Filtered Imaging and Spectrum Imaging: Which One Should I Chose?"*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

J. G. Lewis and A. M. Glazer (Clarendon Laboratory, Department of Physics, University of Oxford, Oxford, England). *Deltascan: A Light Microscope Imaging System for Examining Birefringent Materials.*

1998 Microscopy and Microanalysis, Atlanta GA

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

J. P. Buban, J. Zaborac, H. Moltaji, G. Duscher, and N. D. Browning. *Investigating Ca Segregated to Grain Boundaries in MgO using Multiple Scattering Analysis of Electron Energy Loss Spectra.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

L. Struder, P. Lechner, P. Leutenegger, and T. Schülein. *High-Resolution X-ray Spectroscopy at Room Temperature.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

M. F. Wendt-Gallitelli, T. Voigt, M. Schulz, F. Rudolf, and G. Isenberg. *EDS of Thin Biological Specimen in the Study of Time-Dependent Processes.*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

D. J. Stokes, B. L. Thiel, and A. M. Donald. *Using Secondary Electron Contrast for Imaging Water-Oil Emulsions in the Environmental SEM.*

1999 Microscopy and Microanalysis, Portland OR

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

M.G Burke, B.Z. Hyatt (Bechtel Bettis Inc, West Mifflin, PA) and G.M. McMahon (Materials Technology Laboratory, CANMET, Ottawa, CANADA). *SIMS/AEM Characterization of Banded Microstructures in an Ni-Cr-Fe Alloy.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

J. Pulokas, C. Green, N. Kisseberth, C.S. Potter, and B. Carragher (Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Urbana, IL). *Improving the Positional Accuracy of the Goniometer on the Phillips CM200 TEM.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

Klaus Keil (Hawaii Institute of Geophysics and Planetology, University of Hawaii at Manoa, Honolulu, HI). *Application of the Electron Probe Microanalyzer to the Analysis of Planetary and Geological Materials: A Historical Perspective.*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

Travis C. Baroni (Department of Chemistry, University of Western Australia, Nedlans, Australia), Brendan J. Griffin (Western Australia Centre for Microscopy and Microanalysis, University of Western Australia, Perth, Australia), and Frank J. Lincoln (Department of Chemistry, University of Western Australia, Nedlands, Australia). *Spatial Correlation of Elemental Impurities and Charge Contrast Image Detail in Gibbsite.*

2000 Microscopy and Microanalysis, Philadelphia, PA

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

D.C. Elbert, K. T. Moore, D.R. Veblen . *Applications of Energy Filtered Imaging in Mineralogy, I: Pyroxenes.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

P.G. Kotula, M.R. Keenan. *Information Extraction: Statistical Analysis to the most from Spectrum Images.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

K.I. Winey, J. H. Laaurer, B.P. Kirkmeyer. *Ionic Nano-aggregates in Polyethylene-based Ionomers: Comparison of STEM and SAXS Results.*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

D.A. Winesett, H. Ade, M. Rafailovich, J. Sokolov, W. Zhang. *X-ray Microscopy of Polymer Blends Compatibilized with Clay Nanocomposites.*

2001 Microscopy and Microanalysis, Long Beach, CA

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

C.M. MacRae, N.C. Wilson, M. Otsuki. *Holistic Mapping in an Electron Microprobe.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

P.C. Tiemeijer, J.H.A. van Lin, A.F. de Jong. *First Results of a Monochromatized 200KV TEM.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

D.A. Muller, J. Neaton, D.R. Haman. *Current Limits in Predicting EELS Fine Structure.*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

M. Weyland, P.A. Midgley. *Three Dimensional Energy Filtered Transmission Electron Microscopy (3D-EFTEM).*

2002 Microscopy and Microanalysis, Quebec City, Canada

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

J. Dubois, M. Jackson, R. Baydack. *Looking at Prion Diseases in situ with Infrared Microscopy.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

L.N. Brewer, M.A. Othon, L.M. Young, T.M. Angeliu. *Misorientation Mapping for Visualization of Plastic Strain via Electron Backscattered Diffracton.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

M.R. McCartney, R.E. Dunin-Borkowski. *Magnetic and Structural Characterization of Biogenic Magnetite.*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

A.J.M. Lubag, K. Kangasniemi, I.H. Musselman. *Synthesis and STM Imaging of Substituted Phenylalkyl Ethers: Towards Functional Group Discrimination.*

2003 Microscopy and Microanalysis, San Antonio, TX

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

P.G. Kotula, M.R. Keenan, J.R. Michael. *Tomographic Spectral Imaging: Comprehensive 3D X-ray Microanalysis.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

D. O'Hara. *Grazing Incidence X-ray Optics for Wavelength Dispersive Spectrometers in Micro-Analysis.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

D. P. Adams. *Evolution of Surface Morphologies During FIB Sputtering and Gas-Assisted Sputtering Processes.*

Castaing Award-Best Student Paper

P. Goulet. *Raman Microscopy and Imaging Applications to Monolayers and Single Molecule Detection.*

2004 Microscopy and Microanalysis, Savannah, GA

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

A.P. Hitchcock, C. Morin, L.Li, J. Brash, A. Scholl, A. Doran. *Methods and Examples of Quantitative Chemical Mapping using Synchrotron Soft X-ray Spectromicroscopy.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

M. Terauchi. *A high energy-resolution wavelength-dispersive soft-X-ray spectrometer for a transmission electron microscope to investigate valence electrons.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

M.K. Miller. *Atom Probe Tomography and the Local Electrode Atom Probe.*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

Q. Wang, E.C. Dickey, G. Lian. *Y and Nb Grain Boundary Segregation in Polycrystalline Titanium Dioxide.*

2005 Microscopy and Microanalysis, Honolulu, HI

Birks Award-Best Contributed Paper. Sponsored by JEOL USA.

L. A. Giannuzzi. *Focused Ion Beam Induced X-Ray Analysis.*

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.

M. Fries and A. Steele. *Characterization of Meteorites, Interplanetary Dust, and Other Extraterrestrial Materials by Confocal Raman Imaging.*

Cosslett Award-Best Invited Paper. Awarded by MAS.

C. Merlet and X. Llovet. *New Measurements of the Surface Ionization at Low Energies.*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc

Helene Maury, Jean -Marie André and Philippe Jonnard. *Quantitative study of the transition layers in Mo/Si multilayers from the analysis of the Si Ka x-ray emission band*

2006 Microscopy and Microanalysis, Chicago, IL

Macres Award-Best Instrumentation/Software Paper. Sponsored by Oxford Instruments.
J Notte, R Hill, S McVey, L Farkas, R Percival, B Ward. *An Introduction to Helium Ion Microscopy*

Cosslett Award-Best Invited Paper. Awarded by MAS.
JP Buban, Y Sato, K Matsunaga, N Shibata, T Yamamoto, Y Ikuhara. *Observing Impurity Doping in Oxide Grain Boundaries Using STEM*

Castaing Award-Best Student Paper. Sponsored by Cameca Instruments, Inc
V Tileli and B Thiel. *Modeling Noise in Gas Cascade Secondary Electron Amplifiers*