



## MESSAGE FROM THE PRESIDENT



**David J. Fitzgerald**  
IMS President

On behalf of the International Metallographic Society, welcome to Albuquerque for Microscopy & Microanalysis 2008, the premier event in our scientific field. IMS is pleased to again join the Microscopy Society of America and the Microbeam Analysis Society to offer a unique combination of Scientific Content, Exhibitions and most fun of all, the gathering of our peers involved in the field of studying the very small. This meeting represents the 41st Annual Event for IMS, and the seventh year that we have joined in the M&M Event.

Our Short Courses include “Metallographic Interpretation for Medical Devices” by Gabe Lucas and Fred Schmidt, “Failure Analysis and Evidence Preservation by Metallography” by Fred Schmidt, and “How to Organize and Run a Failure Investigation” by Daniel Dennies.

Once again our Special Event will be the IMS Henry Clifton Sorby Award Lecture, presented by this year’s Awardee Dr. Lawrence Murr of the University of Texas. Dr. Murr has contributed to the IMS Technical Event for many years, and we look forward to an interesting and informative presentation. We have moved the Sorby Lecture to the early afternoon on Monday, so be sure to look for this lecture within the Symposia.

We are presenting Physical Science Symposia, including “Metallographic Techniques and Material Characterization” chaired by Rick Noeker and Nat Saenz, “Image Analysis and Quantitative Microscopy” chaired by Rob Panaro and Don Susan, “Failure Analysis: Real World Applications and Case Studies” chaired by Daniel Dennies and Fred Schmidt, and “Nuclear and Reactive Materials” chaired by Ian Davidson and

## IMS CALENDAR OF EVENTS 2008

### Saturday, August 2, 2008

IMS Board Meeting, 8:00 AM–5:00 PM (Pecos)  
IMS Poster Judging, 8:00 AM–5:00 PM (Pecos)  
IMS Ice-Breaker Reception, 7:30 PM (Hyatt Regency Albuquerque)

### Sunday, August 3, 2008

Sunday Evening Social Event (Rio Grande Zoo)  
(for details see Page 19), 6:30 PM–9:30 PM

### Monday, August 4, 2008

IMS Henry Clifton Sorby Award and Lecture,  
11:00 AM–12:00 PM (Pecos)  
Student Mixer, 5:15–6:15 PM (Centro del Sol)

### Wednesday, August 6, 2008

IMS General Members Meeting, 12:15–1:15 PM  
(Pecos)  
IMS Awards Banquet, 6:30 PM (National Hispanic Cultural Center, Ticket required, visit the IMS Booth for information)

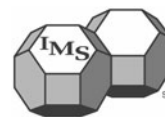
Allan Lockley. In the area of Advances in Instrumentation & Techniques Symposia we are pleased to offer “Microscopy Techniques for Ceramics and Composites” chaired by Erica Corral, Luther Gammon, and Bryan Gaunt.

Be sure to plan a visit to the outstanding posters displayed in the exhibition area showing this year’s entries in the IMS International Metallographic Contest. The IMC allows scientists to compete for monetary prizes in 11 classes, with the Best in Show winning the Jacquet-Lucas Award, which includes a cash award of \$3000.

So as you can see, when combined with the outstanding offerings from MSA and MAS, we have an exciting week in the Southwest!

## IMS BOARD OF DIRECTORS

President:	David J. Fitzgerald
Vice President:	Frauke Hogue
Financial Officer:	Richard A. Blackwell
Secretary:	Thomas F. Murphy
Past President:	Dennis W. Hetzner
Directors:	Judith L. Arner Steven J. Dekanich Jaret J. Frafjord Gabriel M. Lucas Natalio T. Saenz Donald F. Susan
Board Liaison:	Daniel P. Dennies



## IMS APPOINTED OFFICERS

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Editor, *Materials Characterization* Chris Bagnall  
Executive Director Thomas S. Passek

Administrator of Affiliate Societies Sarina Pastoric  
SlipLines Managing Editor Ed Kubel

## IMS CORPORATE SPONSORS

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**IMS Benefactors** Buehler Ltd.  
Carl Zeiss Microimaging, Inc.  
Elsevier

**IMS Associates** LECO Corp.  
B&W Technical Services Y-12  
Carl Zeiss SMT, Inc.  
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**IMS Patrons** Allied High Tech Products, Inc.  
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Struers Inc.

**IMS Sponsors** MetLab Corp.  
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## PAST PRESIDENTS

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1968–1971 John H. Bender Jr.  
1971–1973 Arthur E. Calabra  
1973–1975 E. Daniel Albrecht  
1975–1977 James H. Richardson  
1977–1979 Robert J. Gray  
1979–1981 P.M. French  
1981–1983 George Vander Voort  
1983–1985 James E. Bennett  
1985–1987 William E. White  
1987–1989 M.R. Louthan, Jr.

1989–1991 Donald W. Stevens  
1991–1993 Iain LeMay  
1993–1995 Japnell D. Brown  
1995–1997 E. Daniel Albrecht  
1997–1999 Mahmoud T. Shehata  
1999–2001 Elliot A. Clark  
2001–2003 Richard K. Ryan  
2003–2005 Allan J. Lockley  
2005–2007 Dennis W. Hetzner

## HISTORY OF THE IMS AWARDS

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**HENRY CLIFTON SORBY AWARD**—The Sorby Award was established to recognize outstanding contributions to the field of metallography by an internationally recognized senior figure in the field of metallography. This award is a personalized plaque, and the recipient is honored during the M&M Conference Sorby lecture and at the IMS Annual Meeting banquet.

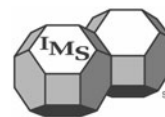
**PIERRE JACQUET-FRANCIS F. LUCAS AWARD**—The Jacquet-Lucas award is given each year to the International Metallographic Contest entry judged “Best in Show” by a panel of judges. This is a joint IMS/ASM award with origins dating back to 1946, and has been endowed by Buehler Ltd. since 1976. The winner receives \$3000, the Jacquet Gold Medal, the ASM Lucas Award, and is honored at banquets at both the IMS Annual Meeting and the ASM Annual Event.

**PRESIDENT’S AWARD**—This award is presented to an individual deemed deserving of special recognition by the Society. This award is a plaque personalized for the recipient.

**BUEHLER TECHNICAL PAPER MERIT AWARD**—This award shall be given annually to the authors of the technical paper published that year in the journal *Materials Characterization* that was determined most outstanding by a panel of IMS judges. A plaque and cash award is given to the recipients each year by Buehler Ltd.

**PAST-PRESIDENTS AWARD**—This award shall be presented by the Board of Directors to the out-going Past-President in recognition of their contributions to the Society. This award is a plaque personalized for the recipient.

**PRESENTATION OF THE IMS AWARDS**—The awards are presented at the annual banquet Wednesday, August 6, 2008, at 6:30 PM.



## President's Award (Service to IMS)

- 1977 Carus K.H. DuBose
- 1978 Richard D. Buchheit
- 1979 Arthur E. Calabra
- 1980 James L. McCall
- 1981 E. Daniel Albrecht
- 1982 James H. Richardson
- 1983 Robert J. Gray
- 1984 Japnell D. Braun
- 1985 Not Given
- 1986 P. Michael French
- 1987 George F. Vander Voort
- 1988 Robert S. Crouse
- 1989 Iain Le May
- 1990 William E. White
- 1991 Chris Bagnall
- 1992 Gary W. Johnson
- 1993 Donald W. Stevens
- 1994 MacIntyre R. Louthan, Jr.
- 1995 Gunter Petzow
- 1996 James Nelson
- 1997 John Wylie
- 1998 John W. Simmons
- 1999 William Forgeng, Jr.
- 2000 Natalio Saenz
- 2001 William W. Scott, Jr.
- 2002 George Blann
- 2003 Jeff Stewart
- 2004 Elliot A. Clark
- 2005 Chris Bagnall
- 2006 Art Geary
- 2007 Richard K. Ryan

## Henry Clifton Sorby Awards

- 1976 George L. Kehl
- 1977 Cyril Stanley Smith
- 1978 Adolph Buehler
- 1979 Frederick N. Rhines
- 1980 Len E. Samuels
- 1981 Robert J. Gray
- 1982 Gunter Petzow
- 1983 William D. Forgeng
- 1984 Ervin E. Underwood
- 1985 Alan Price
- 1986 Robert W. K. Honeycombe
- 1987 Gareth Thomas
- 1988 Franz Jeglitsch
- 1989 Tanjore R. Anantharaman
- 1990 E. Daniel Albrecht
- 1991 W.C. Leslie
- 1992 Charles S. Barrett
- 1993 Raimond B. Castaing
- 1994 F. Brian Pickering
- 1995 Erhard Hornbogen

- 1996 Peter Duncumb
- 1997 Robert T. DeHoff
- 1998 Kay Geels
- 1999 Joseph Goldstein
- 2000 Hans Eckhart Exner
- 2001 Brian Ralph
- 2002 Walter Mannheimer
- 2003 Enrica Stagno
- 2004 George F. Vander Voort
- 2005 Iain LeMay
- 2006 Arlen Bencscoter
- 2007 McIntyre R. Louthan, Jr.

## International Metallographic Contest

### ASM Metallographic Award

- 1946 G.R. Kuhn
- 1947 R.H. Hays
- 1948 E.C. Pearson
- 1949 D.H. Rowland
- 1950 S.O. Modin
- 1951 H.P. Roth
- 1952 H. Griffin
- 1953 B.C. Leslie, R.J. Gray
- 1954 R.D. Buchheit, J.E. Boyd,  
A.A. Watts, F.C. Holden
- 1955 F.M. Cain, Jr.
- 1956 D. Mannas
- 1957 T.K. Bierlein, B. Mastel

### Francis F. Lucas Metallographic Award

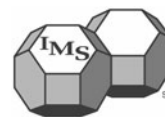
- 1958 J.C. Gower, E.P. Griggs,  
W.E. Denny, J.E. Epperson,  
R.J. Gray
- 1959 F.M. Beck
- 1960 G.C. Woodside
- 1961 J.F. Radavich, W. Coutts, Jr.
- 1962 D. Medlin
- 1963 W.C. Coons
- 1964 B.C. Leslie, R.J. Gray
- 1965 W.C. Coons, A. Davinroy
- 1966 D.M. Maher, A. Eikum
- 1967 J.F. Kisiel
- 1968 R.M.N. Pelloux, H. Wallner
- 1969 R.H. Beauchamp, R.P. Nelson
- 1970 D.R. Betner, W.D. Hepfer
- 1971 R.J. Gray

### Pierre Jacquet Award

- 1968 L.R. Salvage
- 1969 S. DiGiallonardo,  
R.R. VanderVoort
- 1970 G. Menke
- 1971 R.H. Beauchamp, J.F. Williford

## Jacquet-Lucas Metallographic Award

- 1972 C.J. Echer, S.L. DiGiallonardo
- 1973 M.S. Grewal, B.H. Alexander,  
S.A. Sastri
- 1974 M.P. Pinnel, D.E. Heath,  
J.E. Bennett, G.V. McIlharagie
- 1975 W.C. Coons
- 1976 L.E. Soderqvist
- 1977 R.H. Beauchamp, D.H. Parks,  
N.T. Saenz, K.R. Wheeler
- 1978 C. Bagnall, R. Witkowski
- 1979 M.J. Bridges, S.J. Dekanich
- 1980 R.H. Beauchamp, K. Fredriksson
- 1981 F. Kurosawa, I. Taguchi,  
H.G. Suzuki
- 1982 M.J. Carr, M.C. Mataya,  
T.O. Wilford, J.L. Young
- 1983 V. Carle, E. Schmid
- 1984 R.H. Beauchamp, N.T. Saenz,  
J.T. Prater
- 1985 U. Taffner, R. Telle
- 1986 N.T. Saenz, C.A. Lavender,  
M.T. Smith, D.H. Parks,  
G.M. Salazar
- 1987 S.A. David, J.M. Vitek,  
C.P. Haltom, A.G. Barcomb
- 1988 A. David, J.M. Vitek, A. Boatner,  
G.C. Marsh, A.B. Baldwin
- 1989 G. Hoerz, M.C. Kallfass
- 1990 A. David, J.M. Vitek, A.B. Baldwin
- 1991 M.R. Jones
- 1992 G.F. VanderVoort
- 1993 T. Leonhardt, F. Terepka, M. Singh,  
G. Soltis
- 1994 J.W. Simmons, B.S. Covino, Jr.,  
S.D. Cramer, J.S. Dunning
- 1995 Kamal, K. Soni, R. Levi-Setti,  
S. Shah, S.J. Gentz
- 1996 R.L. Bodnar, S.J. Lawrence
- 1997 J. Yewko, D.L. Marshall
- 1998 R. Pereyra, E.G. Zukas
- 1999 K.R. Luer
- 2000 D.J. Lewis, S. Allen
- 2001 D. Chakrapani
- 2002 F.F. Noecker, II
- 2003 F.F. Noecker, II
- 2004 R. Unocic, P.M. Sarosi, M.J. Mills
- 2005 K. Kimura, S. Hata, S. Matsumura,  
T. Horiuchi
- 2006 Ryan Deacon
- 2007 K.A. Unocic, G.S. Daehn



## JACQUET-LUCAS AWARD

In the 2007 International Metallographic Contest, the Jacquet-Lucas award was awarded to the entry titled: “TEM Sample Preparation Method for Grain Boundary Phase Identification in Al-Mg Alloys.” This exceptional display of metallography combined traditional chemical etching with focused ion beam (FIB) milling, and came about through the combined efforts Ms. Kinga Unocic and Prof. Glenn S. Daehn from the Department of Materials Science and Engineering, Ohio State University, Columbus, Ohio.



**IMS Jacquet Lucas Award**

Kinga A. Unocic

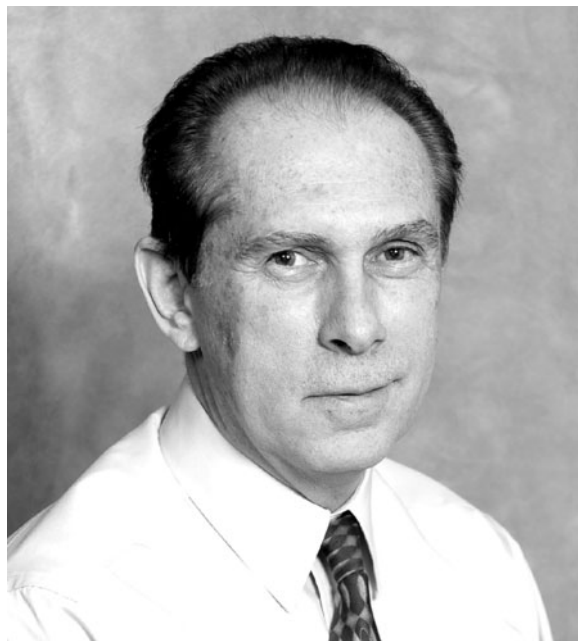
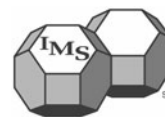
**Kinga A. Unocic** is a Ph.D. student in the Materials Science and Engineering Department at the Ohio State University working with Professors Glenn Daehn and Michael Mills. Originally from Oswiecim Poland, she graduated from AGH-University of Science and Technology in Krakow, Poland, in 2002 with a MS degree in Metallurgy, where she also received an award for scholar athlete of the year in 1998/99. She was a visiting research scholar at Lehigh University in Bethlehem, PA, where she conducted research on extrusion of 6xxx series aluminum alloys with the Institute for Metal Forming group under the guidance of Professor Wojciech Misiolek. Her current research is focused on alloy development of 5xxx series aluminum alloys for improved intergranular corrosion resistance and her research interests include the use of materials characterization techniques (SEM, TEM, FIB) to explore the relationship between microstructure, corrosion, and mechanical properties.



**IMS Jacquet Lucas Award**

Glenn S. Daehn

**Glenn S. Daehn** is the Mars G. Fontana Professor of Metallurgical Engineering in the Department of Materials Science and Engineering at The Ohio State University, Columbus, OH. He carries out research in three principal areas: high velocity and impulse methods for metal forming, the high temperature deformation of metals, and the processing of metals and ceramic-metal composites. He is also active in programs to bring materials science to high school students through new or improved courses. Prior awards include the ASM Grossman Young Author Award, the TMS Hardy Medal and he was named a National Young Investigator of The National Science Foundation. Glenn received his BS from Northwestern University and PhD and MS were granted from Stanford University, all in Materials Science and Engineering.



**Henry Clifton Sorby Award**  
Lawrence E. Murr

**Lawrence E. Murr** is Mr. & Mrs. MacIntosh Murchison Professor and Chairman of the Department of Metallurgical and Materials Engineering and Ph.D. Program Director in the Materials Research & Technology Institute at The University of Texas at El Paso. Dr. Murr received his B.Sc. in physical science from Albright College, and his B.S.E.E. in electronics, his M.S. in engineering mechanics, and his Ph.D. in solid-state science, all from the Pennsylvania State University. Dr. Murr has taught at the Pennsylvania State University, the University of Southern California, New Mexico Institute of Mining and Technology, and the Oregon Graduate Institute of Science and Technology. He was Director of the John D. Sullivan Center for In-Situ Mining Research, President of the New Mexico Tech Research Foundation, and Professor and Head of the Metallurgical and Materials Engineering Department at New Mexico Institute of Mining and Technology. He was a past Chairman of the New Mexico Joint Center for Materials Science and served as Vice President for Academic Affairs and Research and Director of the Office of Academic and Research Programs at the Oregon Graduate Institute, where he was also Professor of Materials Science and Engineering.

Dr. Murr has published 20 books, over 700 scientific and technical articles in a wide range of research areas in materials science and engineering, environmental science and engineering, manufacturing science and engineering, and biological science and engineering. Recent honors include the 2001 Buehler Technical Paper Merit Award for Excellence (IMS), the TMS 2007 Educator Award, and the 2007 John S. Rinehart Award (a TMS Symposium award). Professor Murr is also a Fellow of ASM International.



**President's Award**  
Richard (Dick) K. Ryan

**Richard (Dick) K. Ryan** has been active with IMS as a Charter member, joining at the Society's inception in 1968. He served as a Board Member, Officer, and as its President from 2001–2003. Dick was also very active in ASM International where he served as a Chapter Chairman and on many national committees including the Publications Council which he chaired for two years. Dick was honored as a Fellow of ASM in 1998.

His professional career was spent entirely with Buehler Ltd. (1957–2002) where he served in various capacities. He started in the Metallographic Laboratory, was promoted to Sales Engineer (1959–1970) and held various management positions during subsequent years. Dick was awarded the Masters of Business Administration Degree from Lake Forest Graduate School of Management in 1983. During the last twelve years of his working career, he held the position of Executive Vice-President of Buehler Ltd.

## THE 2007 INTERNATIONAL METALLOGRAPHIC CONTEST JUDGING TEAM

Chair: Jeff Stewart, Stern-Leach Company  
Local Chair: Alice Kilgo, Sandia National Labs  
Members: Steve Glancy, Struers Inc.  
Tom O'Connell, HEICO Aerospace  
Brian Rose, Arvin-Meritor Inc.  
Tim Weber, Buehler Ltd.



## IMS 2008 CONFERENCE ORGANIZING OFFICERS

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Jaret J. Frafjord, *2008 Convention General Chair*

Frederick Schmidt, Jr., *2009 Convention General Chair*

Jeff Stewart, *International Metallographic Contest Chair*

Alice Kilgo, *International Metallographic Contest Local Chair*

Erica Corral, *Symposia Co-Chair*

Ian Davidson, *Symposia Co-Chair*

Daniel P. Dennies, *Symposia Co-Chair*

Luther Gammon, *Symposia Co-Chair*

Bryan Gauntt, *Symposia Co-Chair*

Allan Lockley, *Symposia Co-Chair*

Gabriel Lucas, *Symposia Co-Chair*

Rick Noecker, *Symposia Co-Chair*

Rob Panaro, *Symposia Co-Chair*

Natalio Saenz, *Symposia Co-Chair*

Frederick Schmidt, Jr., *Symposia Co-Chair*

Donald Susan, *Symposia Co-Chair*