



1997 International Metallographic Contest Winners

Best-In-Show Jacquet-Lucas Award Winner

Lead Metallography Made Easy

John Yewko
Dennis Marshall
Johnson Controls, Inc.
1701 W. Civic Dr
Glendale, WI USA 53209
Phone: (414) 228-2920

Class I : Light Microscopy - Metals and Metal Alloys Only

1st Place:

Engine Valve Seat Wear Mechanisms and Materials Property Requirements

Brad Trine
Yushu Wang
Ed Hurlbert
Eaton Corporation
Engine Components Division
19218 B Drive South,
Marshall, MI USA 49068-0307
Phone: (616) 781-0200
Fax : (616) 781-0307

2nd Place:

In-situ Observation of Engulfment and Pushing of Nonmetallic Inclusions in Steel Melt By Advancing Melt/Solid Interface

Hiroyuki Shibata
Toshihiko Emi Mikio Suzuki
Hiroshi Chikama
Institutue for Advanced materials Processing
Tohoku University
2-1-1 Katahira, Aobaku
Sendai, Japan 980-77
Phone: 81-22-217-5144
Fax : 81-22-217-5144

3rd Place:

Observation of the Magnetic Domains on Rare Earth Magnets with Magneto Optical Kerr Effect

Masanobu Shimao
Takehisa Minowa

Shin-Etsu Chemical Co., Ltd
Magnetic Materials Research & Development Center
2-1-5 Kitago,, Takefu,
Fuki, 915, Japan
Phone:778-21-8146
Fax : 778-23-8538

Honorable Mention:

Laser Glazed M50 Bearings

Dennis Hetzner
Don McMahon
Michele Petraoli
Timken
1835 Dueber Ave S.W.
Canton, OH USA 44706-2798
Phone: (330) 471-2150

Class 2: Light Microscopy - All Other Engineering Materials

1st Place:

Characterization of Exhaust Gas Sensors

S. Carlson
D.W Matson
Battelle Pacific Northwest Labs
M/S K2-50
P.O. Box 999,
Richland, WA USA 99352
Phone: (509) 375-2347
Fax: (509) 375-2167
E Mail: sj_carlson@pnl.gov

Honorable Mention:

**X-ray Spectromicroscopy: A Powerful tool
for the study of polymers**

Adrian Garcia, H. Ade, S. Seal, A. Warwick, and B. Tonner
Advanced Light Source
E.O.Lawrence Livermore National Labs
One Cyclotron Rd, M/S 7-222
Berkeley, Ca USA 94720
Phone: (510) 486-7163
Fax: (510) 486-7588
E Mail: algarcia@lbl.gov

Class 3: Electron Microscopy - Transmission and Analytical

1st Place:

Cathodic Protection of Coastal Reinforced Concrete Bridges

Bernard Covino, S.D.Cramer
S.J. Bullard G.R. Holcomb
W.K. Collins G.E. McGill R. Reis
Albany Research Center
US Dept of Energy
1450 SW Queen Ave,
Albany, OR USA 97321
Phone: (541)967-5828
Fax: (541)967-5914
E Mail: covino@alrc.doe.gov

2nd Place:

Atomistic Visualization of Deformation

Tokushi Kizuka Kanji Yamada
Shunji Deguchi Mikio Naruse
Nobuo Tanaka
Department of Applied Physics
School of Engineering
Nagoya University, Furo-cho Chikusa-ku
Nagoya 464-01, Japan
Phone: 81-52-789-4458
Fax: 81-52-789-4458
E Mail: j46110a@nucc.cc.nagoya-u.ac.jp

3rd place:

Fivefold Twins Al-Cu-Mn Particles in Al-Cu-Li-Mn Alloys

Bernard Q. Li
Alex Cho
Reynolds Metal Company
Corporate Technology Center
13203 N. Enon ChurchRoad,
Chester, VA USA 23831
Phone: (804) 751-2562
E Mail: bqli@lanmail.rmc.com

Honorable Mention:

Quantitative Analysis of Short Range Ordered Structure of Al_{0.48}In_{0.52}As by Energy Filtered Electron Diffraction and HREM

Yuichi Konno Jun-Mo Yang
Daisuke Shindo Akiko Gomyo
John Spence Jianm-Min Zuo
Institute For Advanced Materials Processing
Tohoku University
2-1-1 Katahira,, Aoba-ku
Seadai, Japan 980-77

Honorable Mention:

HREM Observations of Continuously Changing Intermediate Structures Between f.c.c. and b.c.c. at the Austenite-Martensite Interface

K. Ogawa
T. Kikuchi

S. Kajiwara
National Research Institute for Metals
1-2-1 Sengen,
Tsukuba 305,, Japan
Phone:+81-298-59-2657
Fax : +81-298-59-2601

Class 4: Electron Microscopy - Scanning

1st Place:

Thermal Sprayed Ti Anode for Concrete Bridge Cathodic Protection

S. Cramer, B. Covino, G. Holcomb
SJ Bullard WK Collins
RD Govier GE McGill
Albany Research Center
US Dept of Energy
1450 SW Queen Ave,
Albany, OR USA 97321
Phone:(541)9675924
Fax : (541)967-5914
E Mail: cramer@alrc.doe.gov

2nd Place:

Tritium Autoradiography

Ming Au
Carnegie Mellon University
Carnegie Mellon Research Institute
700 Technology Drive,
Pittsburg, PA USA 15230
Phone:412-268-6376
Fax : 412-268-7759

3rd Place:

Engine Valve Seat Wear Mechanisms

Ed Hurlbert
Yushu Wang
Brad Trine
Eaton Corporation
Engine Components Division
19218 B Drive South,
Marshall, MI USA 49068-0307
Phone:(616)781-0200
Fax : (616)781-0307

Honorable Mention:

Evaluation of C-SiC Laminated Matrix Composites

K.L. Moore
D.W. Coffey
J. Lachey

Oak Ridge National Labs
Oakridge, Tn USA

Class 5: Unique, Unusual, and New Techniques in Microscopy

1st Place:

Lead Metallography Made Easy

John Yewko
Dennis Marshall
Johnson Controls, Inc.
1701 W. Civic Dr
Glendale, WI USA 53209
Phone: (414) 228-2920

2nd Place:

Atomic Processing and its Visualization

Tokushi Kizuka Kanji Yamada
Shunji Deguchi Mikio Naruse
Nobuo Tanaka
Department of Applied Physics
School of Engineering
Nagoya University, Furo-cho Chikusa-ku
Nagoya 464-01, Japan
Phone: 81-52-789-4458
Fax: 81-52-789-4458
E Mail: j46110a@nucc.cc.nagoya-u.ac.jp

3rd Place:

A Unique Scanning Zone-Plate Photoelectron Microscope to Study AlTi10/Graphite Interfaces

S. Seal, A. Warwick, N. Sobczak, A. Garcia, H. Ade, J. Denlinger, B. Tonner
Advanced Light Source
E.O. Lawrence Livermore National Labs
One Cyclotron Rd, M/S 7-222
Berkeley, CA USA 94720
Phone: (510) 486-5173
Fax: (510) 486-7588
E Mail: Sudipta_Seal@CSA1.lbl.gov

Honorable Mention:

Microtexture Observation with EBSD on Metallographic Changes in Steel Industry

Takashi Obara
Saiji Matsuoka Mineo Muraki
Minoru Takashima, Yoshihiro Ozaski
Technical Research Laboratories
Kawasaki Steel Corporation
Kawasaki-ori 1 -chrome, Mizushima,
Kurashiki 712, Japan

Phone: (81)-86-447-3962
Fax : (81)-86-447-3951

Class 6: Color Microscopy

1st Place:

Oxide Thickness Evaluation of Oxidized Zr-2.5Nb Orthopedic Implants

Carolyn Weaver
Marc Long
Smith + Nephew, Inc. Orthopedic Division
1450 Brooks Road
Memphis, TN USA 38116
Phone: (901) 396-2121
Fax : (910) 348-6020

2nd Place:

Process Parameter Verification of a Thermal Spray Coating

Dave Farmery
Canadian Maintenance & Engineering
Mail Drop YVRO184
6001 Grant McConachie Way,
Richmond, British Columbia Canada V7B1K3
Phone: (604) 270-5794
Fax : (604) 276-3450

2nd Place:

Configuration of Secondary Goss Grains with Different Sizes

Yiko Inokuti
Fumio Saito
Research Laboratories
Kawasaki Steel Corporation
1, Kawasaki-cho,, Chou-ku
Chiba 260, Japan
Fax : 043-262-4155

Honorable Mention:

Metallographic Study of an Al-B-Cu Alloy

Oscar Marcelo Suarez
Department of Materials Science & Engineering
University of Wisconsin - Madison
1509 University Ave,
Madison, WI USA 53706
Phone: (608) 238-6124
Fax: (608) 262-8353
E Mail: suarez@cae.wisc.edu

Class 7: Artistic Microscopy - Color Only

1st Place:

Widmanstatten Austenite

Gisle Rorvik
Sintef Materials Technology
Alfred Getz v.2B
N~7034 Trondheim, Norway
Phone:+47 73 592784
Fax: +47 73 594889
E Mail: gisle.rorvik@matek.sintef.no

2nd Place:

Cosmic Carbide

Dave Farmery
Canadian Maintenance & Engineering
Mail Drop YVR0184
6001 Grant McConachie Way,
Richmond, British Columbia Canada V7B1K3
Phone:(604)270-5794
Fax : (604)276-3450

3rd Place:

Needles in the Hay Stack

Mark Hamby
Smith + Nephew Orthopaedics
1450 Brooks Road
Memphis, TN USA 38116
Phone:(901)396-2121
Fax: (901)348-6020
E Mail: mark.hamby@snrichards.com

Honorable Mention:

**Observation of the Magnetic Domains on Rare Earth Magnets
with Magneto Optical Kerr Effect (a)**

Masanobu Shimao
Takehisa Minowa
Shin-Etsu Chemical Co., Ltd
Magnetic Materials Research & Development Center
2-1-5 Kitago,, Takefu,
Fuki, 915, Japan
Phone:778-21-8146
Fax : 778-23-8538

Honorable Mention:

**Observation of the Magnetic Domains on Rare Earth Magnets
with Magneto Optical Kerr Effect (e)**

Masanobu Shimao
Takehisa Minowa
Shin-Etsu Chemical Co., Ltd
Magnetic Materials Research & Development Center

2-1-5 Kitago,, Takefu,
Fuki, 915, Japan
Phone:778-21-8146
Fax : 778-23-8538

Class 8: Artistic Microscopy

1st Place:

Whistlers Mother in Titanium

Roy S.T. Wong
United Technologies Research Center
411 Silver Lane
East Hartford, Ct USA 06108
Phone:(860) 610-7235

2nd Place:

Elephant in a Micro

Sonya Boone
P.R. Subramanian
UES, Inc.
Materials & Processes Division
4401 Dyton-Xenia Road,
Dayton, OH USA 45432-1894
Phone:(937)255-1300

2nd Place:

Fish

A Garg
M.J. Miller
J.D. Whittenberger B Aikin
NASA Lewis Research Center
21000 Brookpark Road
M/S 77-1,
Cleveland, OH USA 44135
Phone:(216)463-6555

3rd Place:

"Windows" Natural Diamond Defects

Richard H. Lee
Argonne National Lab
ET 212
Argonne, IL USA 60439-4838
Phone:(603) 252-7927

Honorable Mention:

Type 348 Stainless Steel

Zackery Ormiston

Slater Steels
Ft Wayne Specialty Alloys Division
2400 West Taylor Street,
Ft. Wayne, IN USA 46802
Phone: (219) 434-2893

Class 9: Undergraduate Student Entries - Metals and Metal Alloys Only

1st Place and Kehl Student Award:

Tungsten Embrittlement Due to Intermetallics

AJ Carpenter
Bruce Cobb
San Jose State University
Materials Engineering
2649 Senter Creek Court,
San Jose, CA USA 95111-1155
Phone: (408) 292-6955

2nd Place:

Thermally Induced Dendrites in Ag-Hg-Sn Dental Amalagam

Ali Meamaripour
Jeff Krolik
San Jose State University
Materials Engineering
One Washington Square,
San Jose, CA USA 95192-0086
Phone: (408) 924-4050

3rd Place:

Lack of Shielding Gas Produces Cracking in Welded Ti Heat Affected Zone

Bret Dooley
Greg Clapp
Materials Engineering Dept
California Polytechnic State Univ
San Luis Obispo, CA USA 93407
Phone: (805) 756-2568

Honorable Mention:

Metallurgy of a Meteorite

Richard McFadden
Vijayakumar Srinivasan
Ken Tijima
San Jose State University
Materials Engineering Dept
One Washington Square,
San Jose, CA USA 95192-0086
Phone: (408) 924-4050
Fax : (408) 924-4057

Honorable Mention:

Comparison of Old & New Railroad Spikes

Jeff Sheriff
Ben August
California Polytechnical Materials Engineering
San Luis Obispo, CA USA 93407
Phone: (805) 756-2568

Honorable Mention:

Zn-MgZn(2) "Flowers"

Don Lockwood
Chris Beard
Materials Engineering Dept
Cal Poly State University
San Luis Obispo, Ca USA 93407
Phone: (805) 756-2568

Class 10: Undergraduate Student Entries - All Other Engineering Materials

No Entries

Class 11- DuBose-Crouse Award

**Composite Ion Beam Channeling Image
showing Aluminum Grain Structure**

Richard Young
Brian Miller
FEI Company
Portland, OR

Other Awards

**Graduate Student Poster Competition
1st place winner**

**In Situ STM Study on the Effect of Cyanide
on Electroless Copper Plating**

Christoph J. Weber
Dept. of Materials Science and Engr.
The Pennsylvania State University

President's Award

John Wylie

Tech Met Canada LTD/LTEE

In recognition of long term support of the International Metallographic Society's annual conventions, and leadership in highly successful meetings and recruitment of International Metallographic Society members in Canada.

Best Paper Award 1996 Technical Meeting

An Edge-On Transmission Electron Microscopy Investigation of Microstructural Development During Transient Liquid Phase Bonding of NiAl to Nickel

William F. Gale, Yimin Guan

Materials Research and Education Center, Auburn University

and

Sergei V. Orel

Applied Materials Inc.

Best Paper Merit Award (Materials Characterization, Volumes 36/37)

Preparation, Transmission Electron Microscopy and Microanalytical Investigations of Metal-III-V Semiconductor Interfaces.

A. Klein, P. Ressel, E. Nebauer, and U. Merkel

Ferdinand-Braun Institut für Höchstfrequenztechnik, Berlin Germany

and

I. Urban, and W. Sterle,

Bundesanstalt für Materialforschung und -prüfung, Berlin Germany