



2007 International Metallographic Contest Winners

Best In Show, Jacquet-Lucas Award

TEM Sample Preparation Method for Grain Boundary Phase Identification in Al-Mg alloys

Kinga A. Unocic, Glenn S. Daehn
Ohio State University
2041 College Rd.
477 Watts Hall
Columbus, OH 43210
US

CLASS 1: Light Microscopy - Metals and Metal Alloys

Honorable Mention

Improving High Stress Wear Performance of Weld by Metallographic Feedback

Dr. G. Venkataraman
Consultant to Thermax India Ltd.
1103, Vignesh Nagar
Tiruvalluvar Avenue, No. 1 Tollgate
TRICHY 621 216
India

CLASS 2: Light Microscopy - All Other Materials

Honorable Mention

Etching of Zinc Oxide During High-Temperature Treatments in Metal Vapor

Lynn A. Boatner, Hu Longmire, John Neal, Allison Gray
Oak Ridge National Laboratory
1 Bethel Valley Road
Oak Ridge, TN 37831
US

CLASS 3: Electron Microscopy - Transmission and Analytical

1st Place

TEM Sample Preparation Method for Grain Boundary Phase Identification in Al-Mg alloys

Kinga A. Unocic, Glenn S. Daehn

Ohio State University
2041 College Rd.
477 Watts Hall
Columbus, OH 43210
US

2nd Place

Hybrid Electron Tomography Observation of Phase Separation in Ni-Al-Ti Superalloy

S. Hata

Department of Engineering Sciences for Electronics and Materials
Kyushu University
Fukuoka 816-8580
Japan

and

K. Kimura, H.-Y. Gao, S. Matsumura

Department of Applied Quantum Physics and Nuclear Engineering
Kyushu University
Japan

and

M. Doi, T. Moritani

Department of Materials Science and Engineering
Nagoya Institute of Technology
Nagoya 466-8555
Japan and

J.S. Barnard, J.R. Tong, J. Sharp, P.A. Midgley
Department of Materials Science and Metallurgy
University of Cambridge
Cambridge CB2 3QZ
UK

3rd Place

Toughness of Carbon Nanocapsules

Koji Asaka

Dept. of Quantum Engineering
Graduate School of Engineering
Nagoya University
Furo-cho, Nagoya 464-8603
Japan

and

Ryoei Kato

Institute of Materials Science
Graduate School of Pure & Applied Sciences
University of Tsukuba
Japan

and

Kun'uchi Miyazawa
Advanced Nano Materials Laboratory

National Institute for Materials Science
1-1, Namiki
Tsukuba 305-0044
Japan and
Tokushi Kizuka
Special Research Project on Nanoscience
Graduate School of Pure and Applied Sciences
University of Tsukuba
Tsukuba 305-8571
Japan

Honorable Mention

Direct Observation of Field Emission in a Single TaSi₂ Nanowire by Electron Microscopy

Joong Jung Kim, Daisuke Shindo, Yasukazu Murakami, Weixing Xia
Institute of Multidisciplinary Research for Advanced Materials
Tohoku University
Sendai 980-8577

Japan
and

Li-Jen Chou, Yu-Lun Chueh
Department of Materials Science and Engineering
National Tsing Hua University
Taiwan, ROC

CLASS 4: Electron Microscopy - Scanning

1st Place

Orientation Imaging Microscopy of Stray Grain Formation in Single Crystal Laser Weld Structures

Timothy Anderson
Lehigh University
5 East Packer Ave.
Bethlehem, PA 18015
US

2nd Place

Surface Characteristics Associated with High Temperature Cyclic Oxidation of Precious Metal Modified Nickel Based Superalloys

Jason S. Van Sluytman
Department of Materials Science Engineering, College of Engineering
University of Michigan
3062D H.H. Dow Bldg., 2300 Hayward St.
Ann Arbor, MI 48109
US

3rd Place

Microstructure of a Novel Eutectoid Fe-Ni-Mn-Al Alloy

Yifeng Liao, Ian Baker
Thayer School of Engineering
Dartmouth College
Hanover, NH 03755
US

Honorable Mention

**MgAl₂O₄ Spinel Particles Formed on Al₂O₃ Particles in Al₂O₃/Al-Mg-Si Composite Material Observed
by Scanning Electron Microscopy (SLEEM)**

Kenji Matsuda, Susumu Ikeno
Graduate School of Science & Engineering for Research
University of Toyama
3190, Gofuku, Toyama, 930855
Japan

and

Ilona Mullerova, Ludek Frank
Institute of Scientific Instruments
Academy of Sciences of the Czech Republic
Kralovopolska 147, CZ-61264
Czech Republic

CLASS 5: Color Microscopy

1st Place

Metallography, Microanalysis, and Corrosion of the Atlatl Ram

Matthew Edward McBan
Materials Science & Engineering Dept.
Lehigh University
5 East Packer Avenue
Bethlehem, PA 18015
US

2nd Place

Criticality of Composition and Temperature for a Forged Leaded Brass Component

I. Kayafas, J. Quinn, C. Bagnall
Product Evaluation Systems, Inc.
637 Donohoe Road
Latrobe, PA 15650
US

Honorable Mention

**Transducer Debonding During Single Crystal Pulse-Echo Elastic Constant Measurements of a 70Fe-
15Ni-15Cr Alloy**

Lynn A. Boatner, Hu Longmire, Allison Gray

Oak Ridge National Laboratory
1 Bethel Valley Road
Oak Ridge, TN 37831
US

CLASS 6: The DuBose-Crouse Award for Unique, Unusual, and New Techniques in Microscopy -
sponsored by Elsevier

1st Place

Advanced Metallographic Techniques Applied to Diesel Particulate Filters

Natalio Saenz, Heather Dillon, Shelley Carlson, Gary Maupin
Battelle PNNL
P.O. Box 999 m/s J2-50
Richland, WA 99352
US

2nd Place

Eximer Laser Etching - A New Metallographic Sample Preparation Technique

Lynn A. Boatner, Hu Longmire, Christopher Rouleau, Allison Gray
Oak Ridge National Laboratory
1 Bethel Valley Road
Oak Ridge, TN 37831
US

3rd Place

**Quantifying the Clay Dispersion Degree of Polymer/Clay Nanocomposites Based on Quantitative
Metallography**

Dr. Zhiping Luo
Microscopy and Imaging Center, Biological Sciences Building West 119
Texas A&M University
College Station, TX 77843-2257
US

Honorable Mention

Metallographic Preparation for Electron Backscattered Diffraction

George F. Vander Voort
Buehler Ltd.
41 Waukegan Rd.
Lake Bluff, IL 60044
US
and
Dr. Elena P. Vander Voort

CLASS 7: Undergraduate Student Entries - Metals and Metal Alloys Only

no award

CLASS 8: Undergraduate Student Entries - All Other Materials

no award

CLASS 9: Artistic Microscopy - Black and White Only

1st Place

Microcrystal Deformation Using Novel Fabrication and Testing Techniques

Dave Norfleet
Ohio State University
477 Watts Hall
2041 College Rd.
Columbus, OH 43210
US

2nd Place

Growth of Primary Silicon Crystals in Al-20% Si Piston Alloy

Elena Saez
Novelis Global Technology Centre
Novelis, Inc.
Box 8400, 945 Princess St.
Kingston, Ontario K7L 5L9
Canada

3rd Place

Untitled

Qiang Li, Chao Ma
Ryerson University
Dept. of Mechanical & Industrial Engineering
Ryerson University
KHE32, 350 Victoria St.
Toronto, ON M5B 2K3
Canada

Honorable Mention

Hafnium

Ramiro A. Pereyra
Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, NM 87545

U.S.

CLASS 10: Artistic Microscopy-Color Only

1st Place

Grain Structure in CC Cast 3004 Aluminum Alloy

Elena Saez
Novelis Global Technology Centre
Novelis, Inc.
Box 8400, 945 Princess St.
Kingston, Ontario K7L 5L9
Canada

2nd Place

Carbon Diffusion in Tantalum

Ramiro A. Pereyra
Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, NM 87545
U.S.

3rd Place

Polish Easter Egg

Kirk J. Trautman, Mauricio A. Gordillo
HEICO Aerospace
3000 Taft Street
Hollywood, FL 33021
US

Honorable Mention

Shrinkage Porosity Fish in Dendritic Blue Sea

K.Chandra Sekhar
Indian Institute of Technology
Material Testing Lab
Indian Institute of Technolgy
KANPUR-208016
UP, India

CLASS 11: Digital Microscopy

no entries