



2006 International Metallographic Contest Winners

Best In Show, Jacquet-Lucas Award

Analysis of 19th Century Boat Anchor Using Field Metallography Techniques

Ryan Deacon
Lehigh University
Department of Materials Science and Engineering
5 East Packer Ave
Bethlehem PA 18015

CLASS 1: Light Microscopy - Metals and Metal Alloys

1st Place

Analysis of 19th Century Boat Anchor Using Field Metallography Techniques

Ryan Deacon
Lehigh University
Department of Materials Science and Engineering
5 East Packer Ave
Bethlehem PA 18015

2nd Place

Martensitic Structures Produced by the Cryogenic Quenching of Oriented Single Crystals of an Fe-Ni-Cr Alloy

Lynn A. Boatner, Hu Longmire, Allison Gray
Materials Science & Technology Division
Oak Ridge National Laboratory
1 Bethel Valley Road, MS-6056, Bldg 3150
Oak Ridge, TN 37831

3rd Place

Metallographic Confirmation of a Martensite Boundary on the WRC-1992 Weld Constitution Diagram

Tim Anderson
Lehigh University
Department of Materials Science and Engineering
5 East Packer Ave
Bethlehem, PA 18015

Honorable Mention

Quasicrystalline Alloy A1-Cu-Fe

Mrs. Boncina Tonica

University of Maribor, Faculty of Mechanical Engineering

Smetanova ulica 17, SI-2000 Maribor, Slovenija

CLASS 2: Light Microscopy - All Other Engineering Materials

1st Place

Polycrystalline Glacier Ice

Rachel W. Obbard

Thayer School of Engineering at Dartmouth College

1420 North Street

Montpelier, Vermont 05602

and

Ian Baker

Thayer School of Engineering at Dartmouth College

8000 Cummings Hall

Hanover, NH 03755

2nd Place

no entries

3rd Place

no entries

Honorable Mention

no entries

CLASS 3: Electron Microscopy - Transmission and Analytical

1st Place

Precipitates with Peculiar Morphology Consisting of a Disk-Shaped Amorphous Core

Masahiko Nishijima, Kenji Hiraga Yoshida

Institute for Materials Research

Tohoku University

Sendai, 980-8577, Japan

and

Makoto Matsuura, Kazuya Konno, Mitsuhiko Yoshida

Miyagi National College of Technology

Nodayama Natori Miyagi, 981-1239, Japan

2nd Place

Dynamic Observation of Magnetization Process in Mn-Zn Ferrite by Electron Holography

T. Kasahara, H.S. Park, J.J. Kim, D. Shindo, H. Yoshikawa, T. Sato, K. Kondo

Institute of Multidisciplinary Research for Advanced Materials

Tohoku University

1-1, Katahira, 2-Chrome, Aobaku

Sendai 980-8577, Japan

3rd Place

no entries

Honorable Mention

no entries

CLASS 4: Electron Microscopy - Scanning

1st Place

Mineral Filaments in Ice

Rachel W. Obbard

Thayer School of Engineering at Dartmouth College

1420 North Street

Montpelier, Vermont 05602

and

Ian Baker

Thayer School of Engineering at Dartmouth College

8000 Cummings Hall

Hanover, NH 03755

2nd Place

Porous Alumina Ceramic

Rachel W. Obbard

Thayer School of Engineering at Dartmouth College

1420 North Street

Montpelier, Vermont 05602

and

Chris Pekar, Ian Nettleship

University of Pittsburgh

BENDM 848 Pittsburgh

Pittsburgh, PA 15260

3rd Place

Understanding the Growth Mechanism of Lanthanum Cobalt Based Mixed Ionic-Electron Conductors

Siddhartha Pathak
Drexel University
3141 Chestnut Street, LeBow 344, Philadelphia PA 19104

Honorable Mention

9-Fold Symmetry of the Surface Termination Steps of (La.9Sr.1).95Cr.85Mg.10Ni.05O3

Rachel Rosten, Dr. Nina Orlovskaya
Michigan Technological University
1400 Townsend Drive
Houghton, Michigan 49931-1295

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

1st Place

STM Observation of Surface Atomic Arrangement and Surface Relief in Parent and Martensite Phases

Yuichi Ozawa, Toshiyuki Ito, Hee Young Kim, Shuichi Miyazaki
Institute of Materials Science
Tsukuba University
Tsukuba, 305-8573, Japan

2nd Place

Anomalous Surface Structures on ZnO Single Crystal Hexagonal Plates

Lynn Boatner, Allison Gray
Materials Science & Technology Division
Oak Ridge National Laboratory
1 Bethel Valley Road, MS-6056, Bldg 3150
Oak Ridge, TN 37831
and
Miria Varela, Ulrike Diebold, Olga Dulub
Department of Physics
Tulane University

3rd Place

Crack Morphology of TiN Ceramic Film after Deformation

Yukio Inokuti
Steel Research Lab
JFE Steel Corp.
1, Kawasaki, Chuo, Chiba
260-0835, Japan

Honorable Mention

**Improved Jet Electropolishing and Thinning of TEM Foils using New Type Cathode Gun
and Secondary Anode Leak Current Sensor**

Dr. G. Venkataraman
Consultant for Thermax Babcock and Wilcox Ltd.
1103, Tiruvalluvar Avenue
No.1 Toll Gate, TRICHY 621 216, INDIA

CLASS 6: Color Microscopy

1st Place

Thermochemical Reactions on the Zinc and Oxygen-Terminated Surfaces of ZnO -a fast Scintillator

Lynn A. Boatner, Hu Longmire, John Neal, Allison Gray
Center for Radiation Detection Materials & Systems
Oak Ridge National Laboratory
1 Bethel Valley Road, MS-6056, Bldg 3150
Oak Ridge, TN 37831

2nd Place

Engine Cylinder Liner

Dr. Asim Bag
05-03 Hong Leong Garden Condominium
85, West Coast Drive
Singapore 128 001

3rd Place

Development of Clear Ultrasonic Detectability by Aspiration Biopsy

Yukio Inokuti
Steel Research Lab, JFE Steel Corp.
1, Kawasaki, Chuo, Chiba 260-0835, Japan
and
Masaharu Oishi
Taigold Corp.
516 Yokota Sanbu, Chiba 289-1226, Japan
and
Hiroyuki Fukuda
Dept. of Medicine and Clinical Oncology
Graduate School of Medicine, Chiba University
Inohana 1-8-1, Chuo-ku, Chiba 260-0856, Japan

Honorable Mention

Vacuum Pump Shaft

Dr. Asim Bag
05-03 Hong Leong Garden Condominium
85, West Coast Drive
Singapore 128 001

CLASS 7: Artistic Microscopy - Color Only

1st Place

Amoebic Steadite in Pearlite Sea

Dr. Asim Bag
05-03 Hong Leong Garden Condominium
85, West Coast Drive
Singapore 128 001

2nd Place

Aluminum - 40% Copper

Chris Samuel, Dr. Srinath Viswanathan, Dr. M. Shamsuzzoha
University of Alabama
Dept. of Metallurgical & Materials Engineering A-129 Bevill Building
201 Seventh Ave. PO Box 870202
Tuscaloosa, AL 35487-0202

3rd Place

Coral Dream

Maria I. Lopez
The University of Texas at El Paso
Dept. of Metallurgical and Materials Engineering
Engineering Science Complex Room M-201
500 W. University Ave.
El Paso, TX 79968-0520

Honorable Mention

no entries

CLASS 8: Artistic Microscopy - B&W Only

1st Place

Terraced Fracture Landscape

Rick Noecker
Lehigh University
Department of Materials Science and Engineering
5 East Packer Ave
Bethlehem, PA 18015
and
Gerry Neugebauer
Lockheed Martin Corp.

2nd Place

Cellular Towers

Rick Noecker
Lehigh University
Department of Materials Science and Engineering
5 East Packer Ave
Bethlehem, PA 18015
and
Gerry Neugebauer
Lockheed Martin Corp.

3rd Place

Feeding of a Quasicrystal

Mrs. Boncina Tonica
University of Maribor
Faculty of Mechanical Engineering
Smetanova ulica 17, SI-2000 Maribor, Slovenija

Honorable Mention

Bat Bearing a Cross on it's Back

Rick Noecker
Lehigh University
Department of Materials Science and Engineering
5 East Packer Ave
Bethlehem, PA 18015
and
Gerry Neugebauer
Lockheed Martin Corp.

CLASS 9: Undergraduate Student - Metals and Metal Alloys

1st Place and George L. Kehl Plaque

Surface Termination Steps as Active Catalyst Sites in La₆Sr₄Fe₈Co₂O₃

Rachel Rosten, Dr. Nina Orlovskaya
Michigan Technological University
1400 Townsend Drive
Houghton, Michigan 49931-1295

2nd Place

no entries

3rd Place

no entries

Honorable Mention

no entries

CLASS 10: Undergraduate Student - All Other Engineering Materials

1st Place and George L. Kehl Plaque

Debris Analysis of the Space Shuttle Columbia

Katie Strader, Hubert Gibson, Emily Simonds, Benjamin Petersen, Mike Manrod
(all secondary school students attending an ASM Materials Camp)

and

Jaret Frafjord

Y12 National Security Complex

1010 Commerce Park

Oak Ridge, TN 37830

2nd Place

no entries

3rd Place

no entries

Honorable Mention

no entries

CLASS 11: Digital Microscopy

1st Place

Moons

Michael L. Morgan

ArvinMeritor Inc./Columbus Technical Center

950 W 450S Building 1

Columbus, IN 47201

2nd Place

Cast A356 Aluminum Alloy

Masakazu Kobayashi

Uesugi, Toda, Ohgaki, Kobayashi

Dept of Production Systems Eng.

Toyohashi University of Technology

1-1, Hibarigaoka, Tempaku-cho, Toyohashi, Aichi 441-8580 Japan

3rd Place

Stained Glass

Erika V. Esquivel

The University of Texas at El Paso
Dept. of Metallurgical and Materials Engineering
Engineering Science Complex Room M-201
500 W. University Ave.
El Paso, TX 79968-0520

Honorable Mention

Star Burst

Sara M. Gaytan

The University of Texas at El Paso
Dept. of Metallurgical and Materials Engineering
Engineering Science Complex Room M-201
500 W. University Ave.
El Paso, TX 79968-0520

CLASS 12: DuBose-Crouse Award

Al-Si Phase Diagram

George Vander Voort
Buehler, Ltd.
41 Waukegan Rd.
Lake Bluff, IL 60044