



## **1999 International Metallographic Contest Winners**

### **Best In Show, Jacquet-Lucas Award**

#### **Corrosion Fatigue of Alloy 625 Weld Claddings Exposed to Combustion Environments**

Luer, Kevin  
Lehigh University  
Dept. Materials Science, Whitaker Lab,  
5 East Packer Ave.  
Bethlehem, PA, 18015 USA

#### **CLASS 1: Light Microscopy - Metals and Metal Alloys**

1st Place

#### **Localized Gaseous Corrosion in Thermal Spray Ni50Cr Coatings**

Luer, Kevin  
Lehigh University  
Dept. Materials Science, Whitaker Lab  
5 East Packer Ave.  
Bethlehem, PA, 18015 USA

2nd Place

#### **Creep Damage Assessment of Serviced Components by In-situ Metallography**

Venkataraman, Dr. G  
Bharat Heavy Electricals Ltd.  
Welding Research Institute  
Tiruchirappalli, 620 014 INDIA

3rd Place

#### **How the Addition of Rhenium Effects the Physical Properties of Mo-Re Alloys**

Moore, Nancy  
Jan-C Carlen  
Rhenium Alloys Inc.  
PO Box 245, 1329 Taylor St.  
Elyria, Ohio, 44036-0245 USA

Honorable Mention

#### **Did You Ever Wonder What Happens When Lightning Strikes An Airplane?**

Gammon, Luther  
Michael Hyatt, G. Hari Narayanan, Henry Oberson, Harcayal Singh  
Boeing Commercial Airline Group  
PO Box 3707, MS 73-44  
Seattle, WA 98124-2207USA

CLASS 2: Light Microscopy - All Other Engineering Materials

2nd Place

**TiHyBor**

Gammon, Luther

Dr. Brian S. Hayes, Rodney R. Boyer

Boeing Commercial Airline Group PO Box 3707, MS 73-44

Seattle, WA 98124-2207 USA

2nd Place

**Carbon Microtrees**

Crawford, Paula

John Nugent

Rensselaer Polytechnic Institute

110 Eighth Street

Troy, NY 12180 USA

3rd Place

**Unmasking Sub-Surface Details with Basic Techniques in Light Microscopy**

Scotch, Adam M.

Lehigh University

Materials Science and Engineering

5 E. Packer Ave.

Bethlehem, PA, 18015 USA

CLASS 3: Electron Microscopy - Transmission and Analytical

3rd Place

**Plain-view TEM Observation of an Uneven Film in Multi-layer Films**

Aoki, Shigeri

Toshiaki Yamanaka, Yoshiaki Kamigaki, Syuji Ikeda

Hitachi Central Research Laboratory

1-280, Higashi-koigakubo Tokyo 185-8601, Japan

3rd Place

**Atomistic Processes of Si/Si Direct Bonding at Room Temperature**

Kizuka, Tokushi

Kazue Hosoki, Shunji Deguchi, Mikio Naruse

Nagoya University

Dept. of Applied Physics, School of Engineering

Furo-cho, Chikusa-ku, Nagoya, Japan

CLASS 4: Electron Microscopy - Scanning

2nd Place

**Multifaceted Surface Topography in Multiphase Corrosion of C-Steel  
in Oil and Gas Lines**

Sapre, Kedar

Sudipta Seal, Ajay Kale, Satyajit Shukla, Leyda Bracho, Vimal Desai, Madan Gopal, Paul Jepson

University of Central Florida  
AMPAC and MAME, Eng., 381  
4000 University Blvd.  
Orlando, FL, 32816 USA

3rd Place

**In-Situ Creep Damage Studies of Aged Plants using Gold Sputtered Replicas**

Venkataraman, Dr. G.  
Bharat Heavy Electricals Ltd.  
Welding Research Institute  
Tiruchirappalli, 620 014 INDIA

Honorable Mention

**Topological Characterization of Ecoceramics by Scanning Electron Stereoscopy**

Valera-Ferria F. M.  
J. Martinez-Fernandez, M. Singh  
NASA Glenn Research Center  
MS 106-5, Ceramics Branch  
Cleveland, Ohio, 44135-3191 USA

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

1st Place

**Vapine - A Novel In-situ Electropolisher for Challenging Material**

Venkataraman, Dr. G.  
Bharat Heavy Electricals Ltd.  
Welding Research Institute  
Tiruchirappalli, 620 014 INDIA

3rd Place

**Difference of Crack Morphology in 180 deg. Bend-forming of Ti Film Deposited on (011)[100] Single Crystal of Silicon Steel and Stainless Steel Sheets**

Yukio Inokuti  
Kawasaki Steel Corp  
1, Kawasaki, Chuo, Chiba 260, Japan

3rd Place

**Magnetically Aligned Microstructure in Fe-C Alloy**

Maruta, Kei-ichi  
Michio Shimotomai, Yasunori Yonehana  
Kawasaki Steel Corp  
1, Kawasaki, Chuo, Chiba 260-0835, Japan

3rd Place

**Observations of Interaction between Magnetic Domain Wall and Grain Boundary in Grain-Oriented Silicon Steel by Kerr Microscopy**

Yagy, Yukinori  
Koichi Kawahara, Sadahiro Tsurekawa, Tadao Watanabe  
Tohokoku University

Aramaki-Aza-Aoba 01  
Sendai, 980-8578, Japan

CLASS 6: Color Microscopy

2nd Place

**Delamination of the Layered Oxide K<sub>4</sub>Nb<sub>6</sub>O<sub>17</sub> Due to Hydration**

Boatner, L. A.  
J. O. Ramey, T. S. Gear  
Oak Ridge National Lab  
MS-6065, Bldg. 3150  
Oak Ridge TN, 37831 USA

3rd Place

Weinov, Dr. Andrey M.  
Valerij I. Gorlov  
Donbass Mining & Metallurgical Inst.  
16 Lenin Ave., Alchevsk, 94204  
Lugansk Region, UKRAINE

CLASS 7: Artistic Microscopy - Color Only

1st Place

**As Cast Microstructure of Al-3.12 wt. % Cu**

Crawford, Paula  
Rensselaer Polytechnic Institute  
110 Eighth Street  
Troy, NY 12180 USA

2nd Place

Serra, Juliano Graziel  
Companhia Siderrurgica Nacional  
RUA 4 N 33 - Bairro Conforto-Volta Redonda  
Rio De Janernio, Brasil CEP 27265-610

2nd Place

**Aegis Nickeliferous**

Luer, Kevin  
Lehigh University  
Dept. Materials Science, Whitaker Lab,  
5 East Packer Ave.  
Bethlehem, PA, 18015 USA

CLASS 8: Artistic Microscopy - B&W Only

1st Place

**The Cabbage Patch**

Witkoski, Karen D.  
Naval Surface Warfare Center

Carderock Division  
9500 MacArthur Blvd., Code 612  
W Bethesda, MD 20817-5700 USA

2nd Place

**Dendrite**

Deschamps, B.  
CEA Valrho  
CEA VALRHO Pierrelatte,  
DTE/SIM, BP111,  
26702 Pierrelatte, FRANCE

3rd Place

**Anchor In The Sand**

Perodeaud, P.  
CEA Valrho  
CEA VALRHO Pierrelatte  
DTE/SIM, BP111,  
26702 Pierrelatte, FRANCE

Honorable Mention

**Dorsal**

Perret, Ch  
CEA Valrho  
CEA VALRHO Pierrelatte  
DTE/SIM, BP111,  
26702 Pierrelatte, FRANCE

CLASS 9: Undergraduate Student - Metals and Metal Alloys

1st Place

**Evolution of Solidification Microstructure in a Type 304 Alloy**

Adamik, Sharon  
Alleghany Ludlum Corp.  
Alabama and Pacific Ave.  
Brackenridge, PA, 15014 USA

2nd Place

**Effects of Austenitizing Temperature on AISI 1040 Steel**

Sherverbush, William  
San Jose St University  
Dept. Materials Engineering  
One Washington Square  
San Jose, CA, 95192 USA

3rd Place

**Metallographic Interpretation of a CuSi Alloy**

Bergevin, Joe  
Jarrad Bowen

San Jose St University  
Dept. Materials Engineering,  
One Washington Square,  
San Jose, CA, 95192 USA

CLASS 10: Undergraduate Student - All Other Engineering Materials

2nd Place

**Effect of Lead-Aluminate + PbO Compound  
on Microstructure Development in PMN-35 mol% PT**

Gorzowski, Ed  
Lehigh University  
Dept. Materials Science, Whitaker Lab  
5 East Packer Ave.  
Bethlehem, PA, 18015 USA

CLASS 11: Digital Microscopy

2nd Place

**Digital X-Ray Mapping of Corroded Braze**

Jerman, Gregory  
NASA Marshall Space Flight Center  
MS ED33  
MFSC, AL, USA