

## Graduate Student Award Finalists to Compete at the 1996 MRS Fall Meeting/ICEM-96

Thirty finalists will compete for the MRS Graduate Student Awards to be presented during the awards ceremony on Wednesday, December 4, at 6:00 p.m., in the Boston Marriott Hotel, Salon E. The Graduate Student Award Special Talk Session, in which each finalist gives a 10-minute presentation, will be held on Monday, December 2, at 12:00 noon.

The finalists, all authors or co-authors of

papers to be presented at the 1996 MRS Fall Meeting/ICEM-96, were selected on the basis of the quality and thoroughness of their research, the originality and independence of their contributions, and their promise for future achievement in materials research.

Following is the list of finalists, their places of study, titles of papers, and the symposium or symposia in which the finalists are participating.

### Graduate Student Award Finalists— 1996 MRS Fall Meeting/ICEM-96

**Jochen Betz**, CNRS, "Giant Magnetostrictive, Spring Magnet Type Multilayers and Torsion-Based Microactuators" (Symposium I)

**Wengang (Wayne) Bi**, University of California, "A Study of Mixed Group-V Nitrides Grown by Gas-Source Molecular Beam Epitaxy Using an N Radical Beam Source" (Symposium N)

**Kenneth Bryden**, Massachusetts Institute of Technology, "Nanostructured Palladium Alloy Membrane Materials" (Symposium V)

**Darren T. Castro**, Massachusetts Institute of Technology, "Synthesis and Sintering of Nanocrystalline Nitride-Based Ceramic Materials" (Symposium V)

**Konstantinos Chondroudis**, Michigan State University, "Complex Actinide and Rare Earth Polyselenophosphates" and "Synthesis of  $Rb_4Sn_6(P_2Se_6)_3Se_2$ : A New Layered Mixed-Valent Metallic Chalcogenide" (Symposium R)

**Vi-En Choong**, University of Rochester, "Effects of Metals on Luminescence of Organic Materials" (Symposium D)

**Elizabeth Dickey**, Northwestern University, "A Combined-Techniques Approach to Studying Heterophase Interfaces Using HREM, Z-Contrast Imaging and EELS" (Symposium G)

**Robert G. Duan**, University of Minnesota, "Electrically Conducting Dendrimer Films" (Symposium D)

**Jonah Erlebacher**, Harvard University, "Morphological Equilibration of Rippled and Dimpled Crystal Surfaces" and "Ion Sputtering-Induced Rippling of Silicon Surfaces" (Symposium Ca)

**Jonathan E. Guyer**, Northwestern University, "The Compositional Stability of Alloy Thin Films" (Symposium Cb)

**Jonathon J. Host**, Northwestern University, "Magnetic Properties of Graphite Encapsulated Ferromagnetic Nanocrystals" and "Controlled Investigation of Possible Graphite Encapsulated Nanocrystal Formation Mechanisms" (Symposium V)

**Noo Li Jeon**, University of Illinois—Urbana, "Fabrication of Stacked Capacitors Using a Mask-Less Patterning Process" (Symposium K)

**Vicki Keast**, Lehigh University, "Investigation of the Bonding Changes Associated with Grain Boundary Embrittlement" (Symposium W)

**Steven D. Leith**, University of Washington, "Fabrication and Characterization of NiFe Thin Film Composition Modulated Alloys" and "Modeling Damage to Limestone Exposed to Atmospheric Pollutants" (Symposia P and DD)

**Michael M. Lipp**, University of California—Santa Barbara, "Collapse Mechanics of Lipid/Protein Monolayers: Relevance to the Functioning of Lung Surfactant" and "Comparison of the Effect of Lung Surfactant Protein SP-B on the Phase Behavior of Binary Mixtures of the Protein with

**NEW!** VERSION 2.0  
Desktop  
Microscopist

### Diffraction Simulation & Analysis Software

for the Macintosh®

#### NEW FEATURES!

2 Beam Dynamical Dislocation & Stacking Fault Simulation  
Full Dynamic CBED Simulation  
Full SAD Simulations with Spots, K-lines and Streaking  
Lattice Calculation from Patterns  
Compare Diffractometer Spectra  
Rapid Search of EDD, PDF, and NBS/NIST Crystal Databases  
(purchased separately)  
**and so much more!**

### VIRTUAL LABORATORIES

tel: 1-505-828-1640

fax: 1-505-822-9759

<http://www.Rt66.com/~virtlabs/>

Circle No. 41 on Reader Service Card.

For **ISO 9000** certification  
you need **TRACEABLE**  
**CALIBRATION** standards  
for your **METROLOGY**. And  
here's the place to get them ↓

Now, get traceable calibration standards and references for Surface Profiling, Film Thickness, Surface Contamination, Surface Characterization, Electrical, and Critical Dimension metrology, and more. Get the free catalog: VLSI Standards, 3087 N. 1<sup>st</sup> St., San Jose, CA . 95134. Phone: (408) 428-1800 Fax: (408) 428-9555.

 **VLSI Standards**  
Incorporated  
The Measurement Standards for the Industry



Circle No. 42 on Reader Service Card.

Anionic Lipids Found in Lung Surfactant" (Symposia EE and FF)

**Despina Louca**, University of Pennsylvania, "Structure of  $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$  Studied by Pulsed Neutron Diffraction: Evidence of Lattice Polarons" (Symposium CC)

**Marlon Menezes**, University of Illinois—Urbana, "Technique to Measure Thermodynamic Adhesion of Copper-Polyimide Interface" and "Novel Technique to Improve Adhesion Between Metal-Polymer Interfaces" (Symposium J)

**H. C. Ong**, Northwestern University, "The Effect of Laser Intensity on the Properties of Carbon Plasma and Deposited Films" and "Deposition of Nanophase Aluminum Nitride Thin Films by Pulsed Laser Deposition" (Symposia Cb and N)

**Kevin F. Peters**, Northwestern University, "Novel Experimentation for *In Situ* UHV X-ray Diffraction Studies of Phase Transformations in Nanometric Islands of Pb and  $\text{SiO}_2/\text{Si}$ " and "Small-Particle Melting Phenomena" (Symposia CC and FF)

**G. Ramanath**, University of Illinois—Urbana,

"Stability of Poly-TiN/Ti/Poly-TiN and Poly-TiN/Ti/TiN(100) Structures During Thermal Annealing" and "Surface and Interfacial Reactions in TiN/Ti/SiO<sub>2</sub>/Si(100) Structures During WF<sub>6</sub> Exposure" (Symposium Cb)

**Anant A. Setlur**, Northwestern University, "Synthesis and Properties of Filled Nanotubes" (Symposium D)

**Sean M. Seutter**, University of Minnesota, "Microscopic Mechanisms of Surface Segregation: Sn-Doped GaAs(100)" (Symposium Cb)

**Christine A. Smith**, University of California—Davis, "The Role of Traps in Quantum Confined Zinc Selenide Nanocrystals" (Symposium Q)

**Shanthi Subramanian**, Cornell University, "Influence of Local Chemistry and Bonding on the Properties of Grain Boundaries in Intermetallic Compounds" and "Chemistry, Bonding and Mechanical Properties of Grain Boundaries in Ni<sub>3</sub>Si" (Symposia W and Z)

**Maggie E. Taylor**, California Institute of Technology, "Growth of Epitaxial Si on Dihydride-Terminated Si(001) by Pulsed Laser Deposition" (Symposium Cb)

**Alexei Tkachenko**, Bar-Ilan University, "Fluctuations, Lindemann Criterion and Solid-Liquid Transition in Thin Layers" (Symposium EE)

**Zoran Trajanovic**, University of Maryland, "YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub>/Pb(Zr<sub>0.5</sub>Ti<sub>0.5</sub>)O<sub>3</sub>/Au Ferroelectric Field Effect Transistors" (Symposium GG)

**Nicolas Vandewalle**, University of Liège, "Multi Grain Growth, Microstructure and Boundary Features in Composite Systems with Competition Growth: Experiments and Simulations" and "Phase Transitions, Patterns, and Statistical Mechanics of Front Propagation in a Dynamic Random Impurity Model for Strip, Unusual Trees and Other Chain Geometries" (Symposia F and EE)

**Tracey Wolfsdorf**, Northwestern University, "The Morphology of High-Volume Fraction Solid-Liquid Mixtures: An Application of Microstructural Tomography" (Symposium F)

**Pei Zeng**, University of Connecticut, "Nanoparticle Sintering Simulations" (Symposium F)

MRS

C O O L U N D E R P R E S S U R E

## Hall Measurement System

MMR's low cost, Turnkey Hall Effect Measurement System provides user programmed computer controlled measurement and data acquisition over a temperature range of -200°C to +300°C – without the use of liquid nitrogen. The system measures magneto resistivity, four point resistivity, sheet resistivity, sheet number, mobility, Hall coefficient, and carrier density using the Van der Pauw and Hall measurement techniques.

Measurement Ranges (somewhat dependent on sample thickness)	
Resistivity	10 <sup>-4</sup> Ohm-cm to 10 <sup>+13</sup> Ohm-cm
Carrier Mobility	1cm <sup>2</sup> /volt-sec to 10 <sup>+7</sup> cm <sup>2</sup> /volt-sec
Carrier Density	10 <sup>+3</sup> cm <sup>-3</sup> to 10 <sup>+19</sup> cm <sup>-3</sup>

For more information about the Hall Effect Measurement System, contact Bob Paugh at 415/962-9620 or bobp@mmr.com. Or visit our web page at <http://www.mmr.com>.

**MMR** MMR Technologies, Inc.

Visit MRS Exhibit Booth No. U321

Circle No. 22 on Reader Service Card.

## Advanced Chemicals & Materials Processing

- Electronic Grade Red Phosphorus
- InP polycrystalline charge, single crystals, wafers
- GaN powder & submillimeter size single crystals
- Bulk growth of III-V compound crystals with custom doping & orientation
- R&D Consulting Services for the Electronics Materials Industry
- Outsource and/or subcontract R&D and manufacturing services
- Materials Purification
- Custom Single Crystals
- Custom Equipment Design

Visit Our Booth at the Fall MRS Exhibition in Boston, Dec 3-5, 1996

**Parke Mathematical Laboratories**  
 450 Chelmsford Street  
 Lowell, MA 01851  
 (508) 934-0854 FAX (508) 934-0731  
 E-mail: [pml@parkemath.com](mailto:pml@parkemath.com)  
 Web Site: <http://www.parkemath.com>

Circle No. 28 on Reader Service Card.

Visit MRS Exhibit Booth No. W24