

## Candidates Sought for Graduate Student Awards at 1990 MRS Spring Meeting

The Materials Research Society announces the availability of several awards for graduate students at the 1990 MRS Spring Meeting to be held April 16-21 in San Francisco, California. Each award consists of a \$250 cash prize, payment of the registration fee for the 1990 Spring Meeting, and a certificate of achievement.

Award selection criteria include the following:

1. Graduate standing in a recognized academic program in materials science, metallurgy, ceramics, or polymers; physics or chemistry, geology or mineral science; electrical, civil, mechanical, mining, or nuclear engineering; or other materials-related field.

2. Participation in the 1990 MRS Spring Meeting as an attendee and author or co-author of a symposium paper.

3. Outstanding performance in the conduct of a thesis project and promise for future substantial achievement in materials research as judged by the faculty adviser.

4. Significant and timely research results.

Graduate student award finalists will be selected prior to the meeting and must participate in the Graduate Student Symposium at the MRS Meeting to be eligible to receive an award. All finalists will receive a waiver of the meeting registration fee. Award recipients will also each receive \$250 to be presented during the Plenary Session.

Required application materials include an application form obtainable from MRS headquarters, abstract of the paper to be presented at the meeting, and a letter of support from the research supervisor.

The deadline for applications to be received by MRS headquarters is **January 22, 1990**. Obtain applications from:

John B. Ballance  
Executive Director  
Materials Research Society  
9800 McKnight Road  
Pittsburgh, PA 15237  
Telephone (412) 367-3003  
Fax (412) 367-4373

MRS

**1989 MRS Fall Meeting Proceedings**  
Available at Pre-Publication Prices  
Until March 1, 1990  
*See p. 62*

### SHORT COURSE NEWS

## MRS On-Site Short Course Program Reaches Out to Industry

In 1989 the MRS On-Site Short Course Program continued to provide a valuable educational service to the materials science community by reaching out to discover and respond to industry's special needs. The On-Site Program is designed to take MRS short courses to companies interested in upgrading their staffs' scientific, engineering, and technical knowledge in a cost-effective manner. Several companies now regularly use the MRS On-Site Program for their continuing education programs.

The On-Site Short Course Program was originally developed to respond to companies' needs for training at their own geographical locations. The materials science and technology courses most frequently requested were those a staff member had attended at an MRS meeting and which were considered of interest to the company in general. Companies can take advantage

of the convenience and economy of the program when eight or more staff are interested in a particular subject.

In 1989 MRS presented several courses for the Massachusetts Microelectronics Center and also assisted in marketing this local presentation. The program was extremely successful and will probably be expanded and repeated annually for the technical community in that area.

The on-site concept has also been extended to interactions with other professional societies. In a spirit of cooperation and in the interest of establishing communication between respective memberships, MRS presented several courses at the Annual Technical Symposium of the Society of Vacuum Coaters in 1988 and 1989. In 1988 MRS courses enjoyed a successful venue at the World Congress on Superconductivity.

The thrust of this on-going and expand-

ing program is to reach out to industries and discover their real needs. New courses are generally developed by MRS to complement symposia topics of high interest to the MRS membership and the materials science community. However, since companies may have needs not already addressed in the existing portfolio of about 55 topics, the MRS Continuing Education Committee solicits suggestions and input from them.

Anyone responsible for continuing education within an organization is invited to contact Vivienne Harwood Mattox, MRS short course manager, to make arrangements to audit portions of any MRS course at an MRS meeting, and to review the course content for applicability. For information about the MRS On-Site Short Course Program, please call Mattox at (505) 294-9532; fax (505) 298-7942.

MRS

Available for Presentation at  
Your Facility

One of the best ways to keep your staff up to date on the latest developments is through an on-going program of continuing education. Many of these courses are now available on a contract basis for presentation at your facility or technical meeting.

Benefits to you with the MRS On-Site Short Course Program include:

**EXPERTISE**—MRS short courses are continually upgraded so they remain up-to-date and address in-depth the latest technological developments in science and technology.

**QUALITY**—MRS short course program instructors are acknowledged leaders in their individual fields of expertise.

**CUSTOM-DESIGN**—MRS on-site short courses can be adapted and tailored to the specific needs of your organization.

**VALUE**—There are no travel or hotel costs for your staff.

**CONVENIENCE AND FLEXIBILITY**—Employees now have the luxury of not scheduling valuable staff travel time. Courses may be scheduled at a time when it is convenient for you and your staff. Our experts come to you.

To obtain a copy of the MRS catalogue of short courses, to discuss the special needs of your organization, or to schedule an on-site course, contact:

**Vivienne Harwood Mattox**

MRS Short Course Manager

440 Live Oak Loop

Albuquerque, NM 87122

(505) 294-9532

FAX (505) 298-7942

## Advanced Materials

- M-01: Crystalline Polymers
- M-03: Superconductive Materials and Applications
- M-04: Optoelectronic Materials, Processes, and Devices
- M-05: Fabrication, Characterization, and Applications of High-Temperature Superconducting Materials
- M-06: Growth and Characterization of Diamond and Diamond Films
- M-07: Polymers for Electronic and Photonic Applications
- M-08: Nature of Solid Lubricants and Their Applications
- M-09: Polysilicon Thin Films and Interfaces

## Preparation

- P-01: Liquid Phase Epitaxy
- P-02: Molecular Beam Epitaxy
- P-03: Vapor Phase Epitaxy
- P-04: Film Formation, Adhesion, and Surface Preparation
- P-05: Plasma Enhanced Chemical Vapor Deposition of Thin Films for Microelectronic Fabrication
- P-06: Ion Implantation, Diffusion, Defects, and Rapid Thermal Processing
- P-07: Sol-Gel Processing of Glass
- P-09: Materials Processing in Thermal Plasmas
- P-10: Metallorganic Chemical Vapor Deposition
- P-11: Rapid Thermal Processing
- P-12: Photon-Controlled Processing for Microelectronics
- P-13: Silicon Epitaxy: Present and Future
- P-14: Film Formation, Adhesion, Surface Preparation and Characterization of Thin Film Structures
- P-15: Ohmic Contacts to Compound Semiconductors
- P-16: Epitaxial Growth of Compound Semiconductors: MBE, LPE, VPE
- P-17: Materials Processing by Vapor Phase Techniques
- P-18: Surface Preparation for Thin Film Deposition
- P-19: III-V Semiconductor Epitaxy and Processing

## Techniques

- T-01: Hazardous Aspects of Semiconductor Device Processing
- T-02: Experimental Strategies for Optimizing Process Variables
- T-04: Contamination Control for the Microelectronics Industry
- T-05: Vacuum and Plasma Technology for Materials Processing
- T-06: Optical and Laser Diagnostics for Semiconductor Processing
- T-07: Ion Source Fundamentals

## Characterization

- C-01: Modern Materials Analysis Techniques
- C-02: Electron Microscopy of Thin Films
- C-03: Surface and Thin Film Analysis
- C-04: Characterization of Films, Coatings, and Surfaces
- C-05: Application of RHEED to Epitaxial Growth
- C-06: Characterization of Semiconductors Using Deep-Level Transient Spectroscopy
- C-07: Amorphous Semiconductor Materials and Devices
- C-08: Ceramic and Metal Matrix Composites
- C-09: Fractals: Concepts and Applications in Materials Science and Engineering
- C-10: Computer-Assisted X-Ray Diffraction Analysis
- C-11: Characterization of Powders and Porous Materials
- C-12: IC Failure Mechanisms and Analytical Techniques
- C-13: Atom Probe Microanalysis: Principles and Applications to Materials Problems
- C-14: Fundamentals and Applications of Scanning Tunneling Microscopy
- C-15: Nuclear Magnetic Resonance Spectroscopy
- C-16: Scanning Electron Microscopy and X-Ray Microanalysis
- C-18: TEM Specimen Preparation in the Physical Sciences
- C-20: Optical Characterization of III-V Semiconductor Epitaxial Layers
- C-21: Scanning, Transmission & Analytical Electron Microscopy and Specimen Preparation

## Fabrication

- F-01: Film and Coating Deposition Techniques
- F-02: Plasma Etching for Microelectronic Fabrication
- F-03: Ion Beam Processes for Materials Modification
- F-04: Microelectronic Packaging: Materials, Processing, and Reliability
- F-05: Ceramic Packaging of Integrated Circuits: Design, Processing & Applications
- F-06: Technology and Metallurgy of Fusion Welding
- F-07: Fundamentals and Applications of Ion Plating
- F-08: Chemical Aspects of Silicon Integrated Circuit Fabrication
- F-09: Microwave Interactions with Materials
- F-10: Fundamentals and Applications of Ion Beam Assisted Deposition