

MRS Washington-Baltimore Section Reports 1990 Activities

During the Materials Research Society's Washington-Baltimore Section Spring Meeting held on June 19, 1990 in Bethesda, Maryland, James Butler of the Naval Research Laboratory, Washington, DC presented a talk on the chemistry of diamond synthesis via chemical vapor deposition. While describing methods for growing diamond films, the characterization of their structure, and their important properties, he reported in detail a novel model that accounts for the mechanisms of diamond growth, and its application in combustion-based processes. Butler also related recent developments in organic vapor pyrolysis that have opened new vistas for making diamonds of larger size and better quality. In the future, these developments may make it possible to produce artificial diamonds of gem quality.

Following Butler's presentation, Graham Hubler, office coordinator, told the section about the opening of the MRS Washington Office, explained its function, and called for active participation by the section membership in its activities.

The section held two meetings in November. The first, held November 22, featured Mildred S. Dresselhaus of the Massachusetts Institute of Technology, who earlier in the month received the National Medal of Science from President Bush. She highlighted recent developments in the area of carbon fibers and carbon-based materials, reported new data pertaining to the phase diagram of carbon, and described high-strength composites based on the use of carbon fibers.

1991 officers for the Washington-Baltimore Section were elected during this meeting. They are: Albert Feldman (NIST), (301) 975-5740, president; Farley Fisher (NSF), (202) 357-9624, vice president; James Cullen (NSWC), (301) 394-2768 or -2167, secretary; Hamid Hojaji (Catholic University), (202) 269-6705, treasurer; Lourdes Salamanca-Riba (University of Maryland), (301) 405-5220, program chair; and Elie Saad (Mobay), (301) 631-4397, assistant program chair.

The second section meeting, held November 29, welcomed Sean M. Brennan of the Stanford Synchrotron Radiation Laboratory, who provided a presentation on the identification of crystalline phases of films as thin as 45Å on surfaces using grazing incidence x-ray scattering. Data from magnetic iron oxide recording film were used to describe the capabilities of this method and its applicability to the control of surface structures and properties.

Greater Pittsburgh Section Holds Fall Dinner

Highlighting the MRS Greater Pittsburgh Section's fall dinner meeting on October 4 was guest speaker Rustum Roy, Evan Pugh Professor of the Solid State at Pennsylvania State University. Roy, a founding member and past president of MRS, preceded his talk, "CVD Diamond Film and Technology," with a brief account of the Society's inception and goals.

Roy's main topic included a history of diamond film research in the Soviet Union and Japan, its introduction to the United States' materials community, and the present state of diamond film deposition, characterization, and application.

Roy also addressed science policy issues and expressed views on federal research and development funding allocation. He criticized "Big Science" outlays and the superconducting supercollider in particular, which he believes are funded at the expense of projects that could have higher technological impact. Roy encouraged his audience and MRS to publicly voice concern on this matter. A lively discussion followed Roy's talk.

More than 50 scientists and engineers were in attendance, representing a diverse group of academic and industrial materials research and development centers in the greater Pittsburgh area. The Section plans to hold its next meeting in early 1991. □

Advanced Materials and Processing for the ULSI Era

NATO-Sponsored Satellite Program

Six lectures will be available to more than 320 satellite downlink receiving sites served by the National Technological University. The live broadcasts, hosted by Roland Levy of the New Jersey Institute of Technology, will be transmitted on six Mondays, beginning February 25, from 1 - 3:30 p.m. Eastern Time and will feature audience question-and-answer sessions.

Topics, Speakers, and Dates:

High-Speed, High-Performance Devices, J.R. Brews, February 25, 1991

Thin Films for Future Generation ICs, R. Wolters, March 11, 1991

Submicron Lithographic Technologies, A.N. Broers, March 25, 1991

ULSI Process Integration, S.J. Hillenius, April 8, 1991

Advanced Plasma Processes, G. Kenneth Herb, April 22, 1991

Microelectronic Packaging Technologies, A. Lemke, April 29, 1991

Lecture notes will be distributed to all registered sites. Videotapes will be available for purchase after the broadcasts.

For information, contact: R.J. Soderberg, Director, NTU Advanced Technology and Management Programs, 700 Centre Avenue, Fort Collins, CO 80526; telephone (303) 484-6050.



1991
Spring Meeting
 April 29 - May 4
 Anaheim Marriott Hotel
 Anaheim, California

MRS
 MATERIALS RESEARCH SOCIETY

New Materials Development
New Characterization Methods
New Process Technology

Technical Program

- A: Amorphous Silicon Technology - 1991
- B: Silicon Molecular Beam Epitaxy
- C: Heteroepitaxy of Dissimilar Materials
- D: Atomic Layer Growth and Processing
- E: Low Energy Ion Beam and Plasma Modification of Materials
- F: Rapid Thermal and Integrated Processing
- G: Materials Reliability Issues in Microelectronics
- H: Mechanical Behavior of Materials and Structures in Microelectronics
- I: Contamination Control in Microelectronics
- J: Materials Science of High Temperature Polymers for Microelectronics
- K: Polymeric Alloys
- L: Polymer Lifetimes
- M: Polymeric Materials for Integrated Optics and Information Storage
- N: Materials for Optical Information Processing
- O: Molecular Tribology
- P: Interfaces in High Temperature Superconducting Systems
- Q: Structure/Property Relationships for Metal/Metal Interfaces
- R: Phase Transformation Kinetics in Thin Films
- S: Magnetic Thin Films, Multilayers and Surfaces
- T: Magnetic Materials: Microstructure and Properties
- U: Synthesis/Characterization and Novel Applications of Molecular Sieve Materials
- V: Modern Perspectives on Thermoelectrics and Related Materials
- W: Environmentally Conscious Materials Processing
- X: Frontiers of Materials Research

Equipment Exhibit

A major exhibit of the latest analytical and processing equipment which closely parallels the nature of the technical symposia will be located in the Anaheim Convention Center convenient to the technical session rooms. For show booth information, contact: Bob Finnegan, MRS Show Manager, American Institute of Physics, 335 East 45th Street, New York, NY 10017; Telephone (212) 661-9404; FAX (212) 661-2036.

Job Placement Bulletin Board

A Job Placement Bulletin Board for MRS meeting and short course attendees will be open Tuesday through Thursday during the meeting. Contact Jane Stokes at MRS Headquarters to request application forms and/or information: (412) 367-3003; FAX (412) 367-4373.

Short Course Program

Courses on advanced materials characterization, preparation, and processing/diagnostic techniques have been designed for scientists, engineers, managers, and technical staff who wish to update their knowledge and skills in the research, development and processing of materials. These up-to-date courses are at the forefront of science and technology and complement Spring Meeting symposia. Class sizes are limited. Early pre-registration is encouraged.

Special Discount

Facilities registering three or more persons at the same time in one MRS short course receive a 20% discount for the third and all additional persons.

Proceedings

Many of the MRS symposia will be publishing proceedings or extended abstracts. For a complete list of MRS publications and prices, contact Materials Research Society, Publications Department, 9800 McKnight Road, Pittsburgh, PA 15237; Telephone (412) 367-3012; FAX (412) 367-4373.

Preregistration

Preregister by telephone, (412) 367-3003, or FAX (412) 367-4373, with your VISA, Mastercard or Diners Club card. Ask for Meeting Registration and your preregistration will be completed for you. Telephone preregistrations are accepted between 8:00 a.m. and 5:00 p.m. Eastern time, Monday through Friday. Confirmations will be mailed within 10 working days.

To request detailed 1991 Spring Program or Short Course information, contact:

Materials Research Society
 9800 McKnight Road
 Pittsburgh, PA 15237
 Telephone (412) 367-3003
 FAX (412) 367-4373

The 1991 MRS Spring Meeting will serve as a key forum for discussion of interdisciplinary leading-edge materials research from around the world. Various meeting formats - oral, poster, roundtable, forum and workshop sessions - are offered to maximize participation.