

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. □

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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.