Education in Materials Research—The Role of MRS

At the founding meeting of the Materials Research Society in 1973, a charter was adopted stating that the purpose of the Society was to "...serve and promote the common interests of those people involved in the preparation, characterization, design and utilization of materials. Particular emphasis is placed on research activities involving the interfaces of many scientific and engineering disciplines. This is a professional society specifically designed to appeal to a community of scientists and engineers trained in a broad spectrum of fields...." This is the description of an organization born partly out of the frustration of not having an adequate forum at which to discuss the multidisciplinary aspects of comprehensive materials research. But it was created principally by and for professionals who had finished their formal education, who were already "trained in a broad spectrum of fields." This is not to say that they were insensitive to the needs of students for this type of forum and to other educational issues. Indeed, the inaugural meeting of the Society was held on the campus of the Pennsylvania State University, and fully half of the Founding Committee members were university professors. Nevertheless the first order of business was to make the Society succeed for the professionals.

As MRS evolved, attention began to focus on students and their needs. In 1980 Kathy Taylor, as treasurer, instituted the first MRS Graduate Student Awards to recognize outstanding research at the graduate level. These awards were established not only to honor the students, but also to illustrate by example how productive research on materials is done. The Society has now bestowed more than 60 of these awards.

Student Chapters were also established to expose students to the idea that materials research is most effectively done in an interdisciplinary environment. Each of the nine current chapters has travel grants from MRS to assist member travel to the technical meetings. The chapters are also eligible to participate in the Distinguished Lecturer Program in which an outstanding practitioner of interdisciplinary materials research visits the campus where the chapter is located and talks about his/her work. In addition, of course, there are numerous financial aids for students such as reduced fees for membership, meeting registration, short courses, and subscription to *Journal of Materials Research*.

While all these programs are beneficial to individual students, they do not deal with

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MRS President

larger issues of education in preparation for research on materials. As we move into an age in which materials products depend increasingly on new and sophisticated methods of preparation and characterization, the materials research community must take an active interest in the way universities are preparing students to conduct effective materials research. I believe that MRS should be providing assistance specifically for educators on fundamental issues of modern materials research: how materials research is done, how it should be taught, and what resources are needed for effective instruction.

In a limited way this effort has already begun. In 1982 the popular lunchtime Symposium X series, Frontiers of Materials Research, was developed by Rustum Roy. In this series outstanding speakers from the various technical symposia present tutorial overview lectures about recent developments in their fields. These lectures are subsequently published by the U.S. Materials Education Council and widely distributed to universities. Another MRS activity serving education was the inclusion in our 1985 Fall Meeting of the symposium on Frontiers in Materials Education which was cosponsored by the University Materials Council.

These two activities are only examples of what could be done; a more sustained and expanded program is certainly possible and should be pursued. One possible form of MRS support might be the creation of an educational division or section within the Society. However, for various reasons I think that would be the worst conceivable solution. The Society has succeeded well with a monolithic structure and a focused purpose of disseminating research results; the assumption of a new mission would detract from our ability to fulfill this purpose. Even if we had the human resources—volunteers and staff—to operate an educational division, the experiences of divisions within other technical societies should warn us against such a structure.

Instead, MRS ought to seek affiliation with one or more professional associations whose members are dedicated to improving education, see the necessity of an interdisciplinary approach to materials research, and want to stay abreast of the latest research activities. As in all successful affiliations, benefits would be mutual. The most important would be to publicize the interests and activities of each group to its affiliate(s) to stimulate interactions where interests overlap. With coordinated programming of meetings and exchanged articles in publications, MRS members would become more aware of educational issues in materials science, and educators could more easily identify the needs of the research community.

MRS

Do You Have An Opinion?

The **MRS BULLETIN** *wants your comments and views on issues affecting materials research.*

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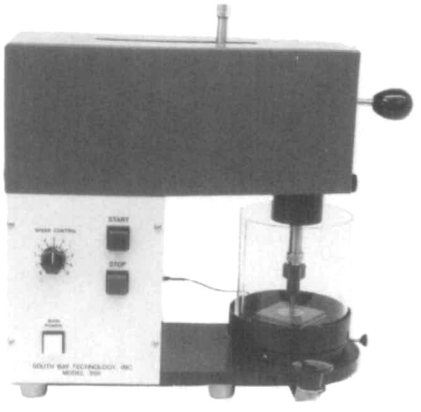

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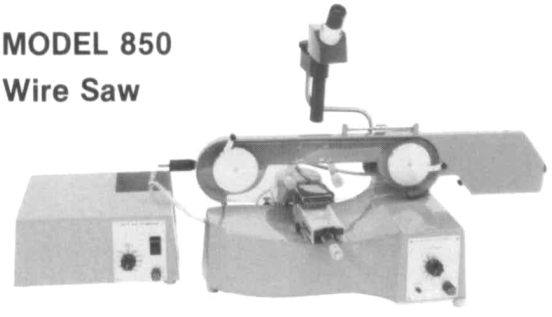

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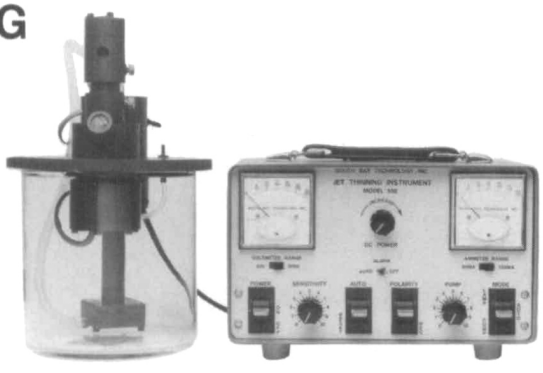

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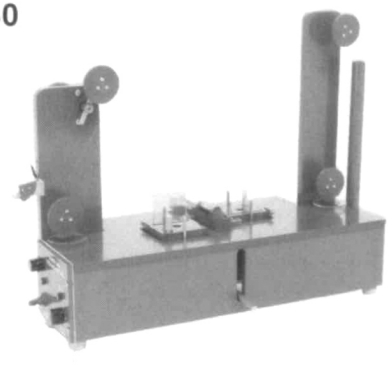

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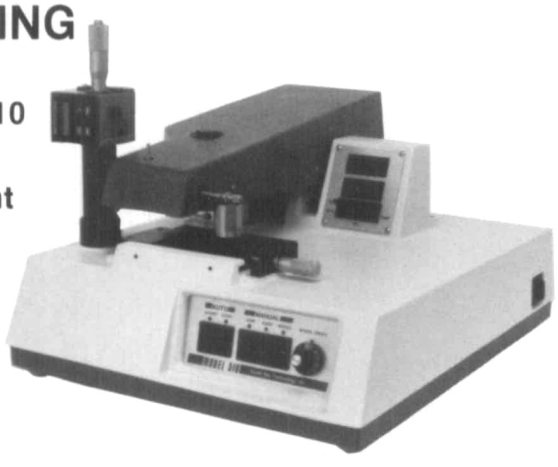

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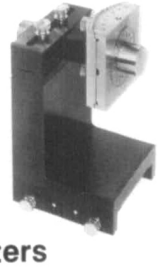

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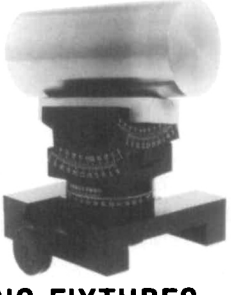

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