

---

## THIN FILMS AND INTERFACES

---

The theory on Schottky barriers, electronic states and structures were separately addressed with the conclusion emerging that understanding of the interfaces requires correlation of electronic states and structures to electrical properties.

The session on TEM studies was a significant development in that this concerns the first observations on atomic scale of the structure of the interfaces. Since the pioneering work of H. Foell about two years ago, several groups have explored the

problem, and their results are pushing to the limit the resolution of the best TEM. These results clearly lay the foundation for theoretical work that will ultimately lead to the understanding of the Schottky barrier problem.

To balance the basic science areas, the symposium on the third day took up applications to microelectronics, and solar cells, silicides and metallization in VLSI were addressed. Those reviews helped to focus attention on problems that can lead to

new and exciting areas of research, and certainly brought into focus the importance of material properties for device interface and the need for lateral as well as vertical properties of the interfaces. Again, we were over crowded and this brought the meeting to an exciting end.

**P. S. Ho**  
**K. N. Tu**  
IBM Thomas J. Watson  
Research Center  
**Chairmen**

---

## RAPIDLY SOLIDIFIED AMORPHOUS AND CRYSTALLINE ALLOYS

---

While earlier symposia in this series mostly dealt with amorphous metals, the present session also included rapidly quenched crystalline materials, microcrystalline alloys prepared by devitrification, alloy surface layers produced by laser and electron beam processing, as well as catalysis, magnetism, etc., suggesting the widening scope of materials produced by rapid solidification processing that are considered for technological applications.

The symposium, which was sponsored by AFOSR, ARO, DARPA and ONR, was very well attended, especially by industry

representatives. Synergistic interactions existed with other symposia, such as those on ion implantation, laser and electron interactions with solids, and space processing of materials, which in part treated related topics.

About 80 papers in six sessions and

a large poster session dealt with fundamentals, processing, and structure-property relationships in amorphous and crystalline alloys. It is intended that this series of symposia on rapid solidification processing be continued at future Society meetings.

---

**B. H. Kear**  
Exxon Research &  
Engineering Co.

**B. C. Giessen**  
Northeastern University  
**Chairmen**

---

*On these pages appear brief reports by chairmen of some of the 1981 Annual Meeting symposia, which for reasons of space could not appear in the January/February issue of the Bulletin.*

---

## GRADUATE STUDENT AWARD NOMINATIONS

---

Ten awards are available for graduate students conducting research on a topic to be addressed at one of the symposia planned for the Annual Meeting. The award consists of a cash grant of \$50, waiver of meeting registration fee, and a travel grant of one-half the round-trip economy fare between Boston and the applicant's community.

Criteria are graduate standing in a materials-related academic program, participation in one of the symposia, outstanding performance and promise as judged by the faculty advisor and significant research as judged by the symposium chairman.

Application materials - available from the Secretariat, 110 Materials Research Laboratory, University

Park, PA 16802 - must be completed and returned by Sept. 1. The application package must include an abstract of the relevant thesis or publication and a letter of support from the research supervisor.

Results of the competition will be announced Oct. 1, and the winners will be recognized at the Von Hippel Award ceremony.