

MRS

BULLETIN

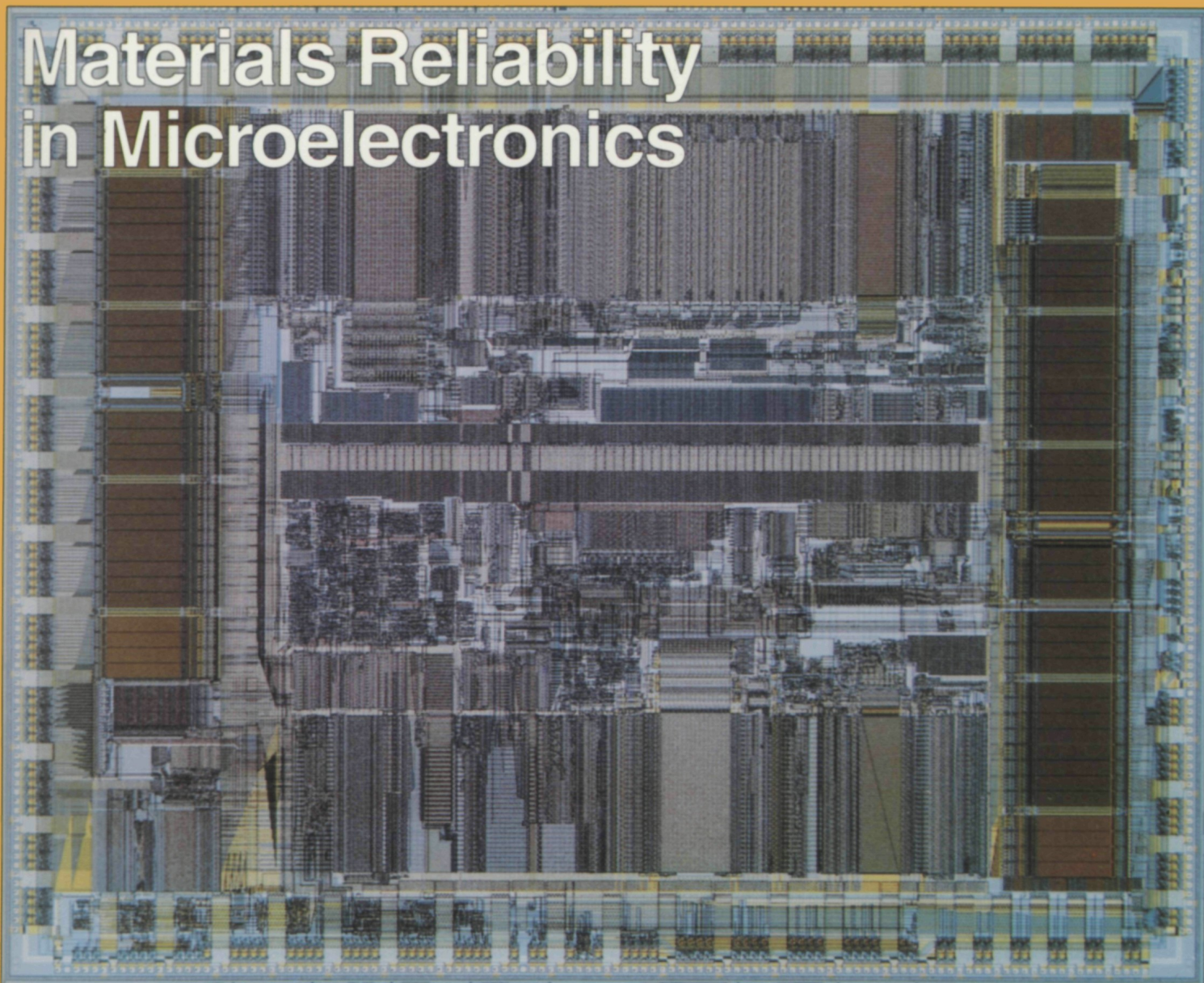
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Materials Reliability in Microelectronics



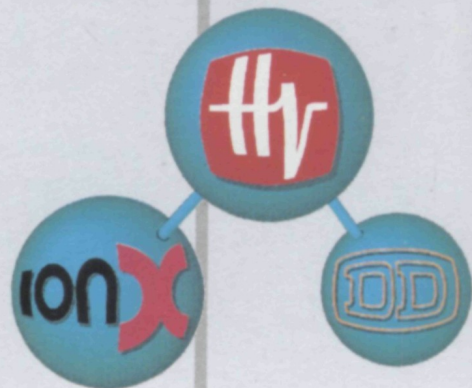
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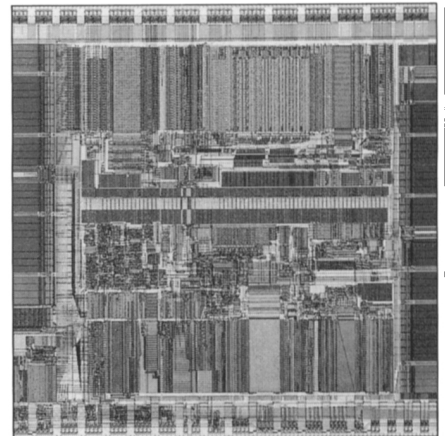
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ON THE COVER: An example of the state of the art in integrated circuit design is the Alpha 21064 Microprocessor Chip manufactured by Digital Equipment Corporation. This IC contains approximately 1.7 million transistors operating at a clock speed of up to 200 MHz. Considering that any one of about 20^6 devices and 10^7 contacts operating on this chip can cause the entire chip to fail—the reliability challenges are clearly significant. For more about reliability issues in microelectronics packaging, see the series of articles that begin on p. 16. (Photo courtesy of Peter Catinella and Brian Edwards, Digital Equipment Corporation.)

About the Materials Research Society

The Materials Research Society (MRS), a non-profit scientific association founded in 1973, promotes interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes nearly 11,000 scientists, engineers, and research managers from industrial, government, and university research laboratories in the United States and nearly 50 countries.

The Society's interdisciplinary approach differs from that of single-discipline professional societies because it promotes information exchange across the many technical fields touching materials development. MRS sponsors two major international annual meetings encompassing approximately 50 topical symposia, and also sponsors numerous single-topic scientific meetings. The Society recognizes professional and technical excellence, conducts short courses, and fosters technical interaction in local geographic regions through Sections and University Chapters.

MRS participates in the international arena of materials research through the International Union of Materials Research Societies (IUMRS). MRS is an affiliate of the American Institute of Physics.

MRS publishes symposium proceedings, *MRS Bulletin*, *Journal of Materials Research*, and other publications related to current research activities.

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