

The Institute of Electrical and
Electronics Engineers

Cledo Brunetti Award

to

Hideo Sunami

For Contributions
in the
Invention and Development
of the

Trench Capacitor DRAM Cell



Hideo Sunami



Presentation of the

1991 IEEE CLEDO BRUNETTI AWARD to

HIDEO SUNAMI

1991 IEEE FREDERIK PHILIPS AWARD to

GENE STRULL

1991 IEEE SOLID-STATE CIRCUITS AWARD to

FRANK M. WANLASS

Presented by

1990 IEEE PRESIDENT CARLETON A. BAYLESS

at the

1991 INTERNATIONAL SOLID-STATE CIRCUITS CONFERENCE

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Hideo Sunami was born on July 22, 1943 in Takamatsu, Kagawa, Japan. He received the B.E., M.S., and Ph.D. degrees in Electronics from Tohoku University in 1967, 1969, and 1985, respectively.

In 1969, Dr. Sunami joined the Central Research Laboratory of Hitachi, Ltd. as a research engineer in the Integrated Circuits Research Department. He progressed to Supervisor and Senior Researcher of the Integrated Circuits Research Department, and, in 1987, to Department Head. In August 1990, Dr. Sunami was named Manager, Strategic Planning, of the Semiconductor Design and Development Center. His research activities at Hitachi have involved silicon integrated circuits technologies, including intermediate insulator characterization, CCDs, process CAD, and DRAMs from 64Kbit to 64Mbit. His current responsibilities include management of strategic planning activities, particularly those dealing with communication LSIs.

Dr. Sunami's tenure at Hitachi was interrupted briefly, 1973-74, to serve as research associate in the Electronics Laboratory at Stanford University, where he conducted basic studies on surface characterization with photoemission spectroscopy. Upon return to Hitachi in 1975, he began his work on the development of the trench capacitor DRAM cell, which culminated in the first demonstration of the cell at the 1982 IEEE International Electron Devices Meeting.

1991 IEEE CLEDO BRUNETTI AWARD

"For contributions in the invention and development of the trench capacitor DRAM cell"

Dr. Sunami is an author of the early Japanese patent on the trench capacitor DRAM structure, applied for in 1975. He recognized that the third dimension could be used to decrease the planar surface area of the memory cell without reducing the capacitance. His 1982 paper led the way to a flow of related papers from other DRAM manufacturers, and the trench cell is now being used in a number of products.

Dr. Sunami is a Senior Member of the IEEE. He has authored or co-authored numerous papers in the field and was a co-recipient of the 1984 IEEE Paul Rappaport Best Paper Award of the Electron Devices Society for a paper on the trench capacitor cell. Dr. Sunami is a Director of the Japan Society of Applied Physics and a member of the Institute of Electronics, Information, and Communication Engineers of Japan.

Hideo Sunami and his wife, Michiko, have two children, Takeo and Taeko. His personal interests include music, golfing, and collecting butterflies.