



L. S. Napoli



M. Fukuta

1988 Microwave Application Award

“For recognition and demonstration of the potential of GaAs Field Effect Transistors for power applications.”

The Microwave Application Award is presented periodically for an outstanding application of microwave theory and techniques. The eligibility requirements are creation of a new device, component or technique, novel use of components, or both.

The award consists of a certificate, a cash sum of one thousand dollars, and a feature publication in the IEEE Transactions on Microwave Theory and Techniques

L. S. Napoli graduated from Rutgers University with a BS and MS degrees in Electrical Engineering in 1959 and 1961 respectively. During that period he was elected to several of the Engineering and Scientific honor societies. In April 1986, the Engineering Society of the Rutgers Alumnae Association honored him for “Distinguished Achievement in the Field of Engineering”.

During his career as a Member of the Technical Staff at RCA Laboratories, (Now David Sarnoff Research Center, a subsidiary of SRI International), Mr. Napoli specialized in research related to microwave phenomena in electron devices, most notably wave propagation in gaseous plasmas, transferred electron devices, avalanche transit-time devices, and GaAs Schottky-barrier FETs. RCA Laboratories issued him 4 Achievement Awards for unique contributions in these areas. He has been granted more than 25 U.S. patents and has written more than 30 technical articles.

In 1963, Mr. Napoli was appointed Head of the Microwave Components Group that developed a variety of avalanche transit-time devices for phased-array radar and satellite communications applications. He then headed a research group and later became engineering manager in the area of concentrator photovoltaics, laying the engineering and manufacturing base for a solar-electric concentrator business. Subsequently, he acted as engineering manager of a variety of radiation-hardened microprocessor components which culminated in a family of 4K and 16K radiation-hardened CMOS/SOS memories, gate arrays, and other logic products for the Solid State Division of RCA.

In 1983, Mr. Napoli was appointed Head, LSI Memories and Devices Research, in the Integrated Circuit Technology Laboratory where he was responsible for the design and development of advanced CMOS random access memory, nonvolatile memories, SOS CCD memories, and radiation-hardened CMOS/SOS memories, and for short-channel MOS modeling and device development

Presently, Mr. Napoli is Director of the Integrated Circuit Research Laboratory. He is responsible for the development of technology, devices, and circuits for CMOS ICs including gate arrays, nonvolatile IC products, radiation-hardened IC products and power MOS.

M. Fukuta was born in Gifu, Japan on Christmas day in 1940. He received the B.S. degree in electrical engineering from Nagoya Institute of Technology, Nagoya, Japan in 1963 and the Ph.D degree in electrical engineering from Nagoya University, Nagoya, Japan in 1977. In 1963 he joined Kobe Industries Co. which later merged with Fujitsu Ltd. Since joining the company he has been working in the field of semiconductor devices including Si RF power Transistors, Si ICs, and Si MOSFETs. In 1967 he invented “the mesh emitter transistor” and made a series of products.

Since 1972 he has been engaged in developing low-noise and power GaAs FETs and GaAs integrated circuits in Fujitsu laboratories. At ISSCC '73 he presented the first paper on power GaAs FET's titled “Mesh Source Type Microwave Power FET”. From 1979 to 1980, he supervised development of HEMT devices. He moved from Fujitsu Laboratories to Compound Semiconductor Division, Fujitsu in 1980. In the division, he promotes the product development of many semiconductor devices including power GaAs FETs, HEMTs, GaAs ICs, laser diodes and detectors.

He is now deputy general manager of Compound Semiconductor Division, Fujitsu. He holds 20 patents on semiconductor devices.

Dr. Fukuta received a medal from the Minister of Science and Technology in Japan in 1975 for outstanding contributions to the development of power GaAs FETs.