MTT Awards for 1975

J. B. HORTON

ONE of the highlights of the 1976 annual MTT Symposium Banquet was the MTT Society Awards for 1975. MTT President G. P. Rodrigue presented the Society awards to:

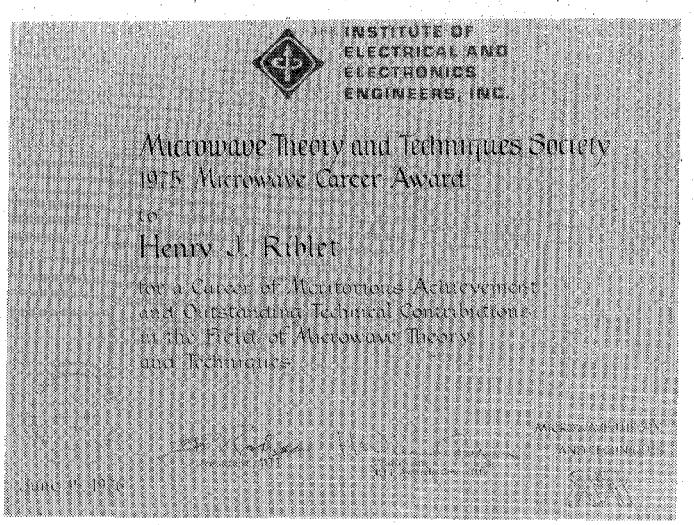
Henry J. Riblet—Microwave Career Award
T. E. Rozzi
W. F. G. Mecklenbräuker } —Microwave Prize
J. F. White—Microwave Application Award
R. W. Beatty—National Lecturer Plaque.

Information about these awards, biographies of the award recipients, and photographs of the awards and presentations follow.

MTT Society Awards

Microwave Career Award

The Microwave Career Award is presented aperiodically to an individual for a career of meritorious achievement and outstanding technical contributions in the field of microwave theory and techniques. Henry J. Riblet received the 1975 MTT Microwave Career Award for "a career of meritorious achievement and outstanding technical contribution in the field of microwave theory and techniques." Dr. Riblet is one of the pioneers of the microwave industry. He is founder and President of the Microwave Development Laboratories (MDL), Needham, MA, and has been active in microwaves since 1942, when he joined the staff of the Radiation Laboratory of MIT. Some of his major contributions include invention of the short slot hybrid coupler in both side-wall and top-wall versions and publication of many papers on microwave network synthesis. Dr. Riblet received a certificate, a plaque, and a cash sum of $500. A photograph of his certificate and plaque, and his biography, are shown as follows.



Henry J. Riblet (A'45–M'55–F'58) received the B.S. degree in 1935, the M.S. degree in 1937, and the Ph.D. degree in 1939, all from Yale University, New Haven, CT, and all in mathematics.

He taught mathematics for three years, first at Adelphi College and then at Hofstra College, both on Long Island. It was then that he received his introduction to microwave circuits from W. W. Hanson for whom he made some of the first calculations of the resonant frequencies of klyston cavities. At Bill Hanson's suggestion, he joined the Radiation Laboratory where he worked under L. C. Van Alta as head of that section of the antenna group specializing in linear arrays. When the war ended, he joined the Submarine Signal Company as head of their antenna group. When the Submarine Signal Company was merged into the Raytheon, he, with three of his associates—T. S. Saad, N. Tucker, and R. Williston—formed the Microwave Development Laboratories where he has been employed since as President and Treasurer. He has also served since (at various times) as an officer and director of the Ferrotec Corporation, Parametric Industries, and Americon Microwave in the formation of each, of which he played some part. From 1960 to 1963 he taught at Harvard University with the title of Professor of Engineering Practice.

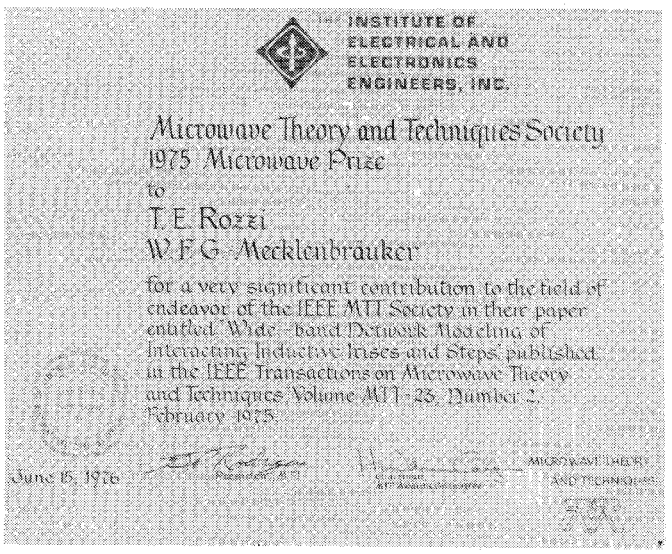
His interest in electromagnetic theory, mechanical devices, and applied mathematics has resulted in papers concerned with the theory and design of microwave circuits, as well as a number of patents for antennas and RF components. This includes the design and/or work on the theory of omnidirectional antennas, the slotted dipole, multihole topwall directional couplers, side and topwall 3-dB hybrids, cross-guide couplers, rotary joints, waveguide switches, stepped impedance transformers, direct-coupled and interdigital filters, and stepped waveguide twists.

More recently, he has written a series of notes concerned with the characteristic impedance of coaxial structures in which one or both of the conductors is rectangular, and has just completed the development of a class of reactively compensated optimum impedance transformers.

Microwave Prize

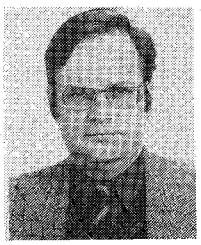
The Microwave Prize is awarded annually for the best paper on a microwave subject published during the previous

year. The 1975 Microwave Prize was awarded to Dr. Tullio E. Rozzi and Dr. Wolfgang F. G. Mecklenbräuker for a very significant contribution to the field of endeavor of the IEEE MTT Society in their paper entitled "Wide-band network modeling of interacting inductive irises and steps," published in the *IEEE Transactions on Microwave Theory and Techniques*, vol. MTT-23, pp. 235–246, February 1975. The recipients each received a certificate and cash sum of $150. A photograph of the certificate and biographies of the recipients are shown as follows.



Tullio E. Rozzi (M'66–SM'74) was born in Civitanova, Italy, on September 13, 1941. In 1965 he obtained the degree of "dottore" in physics at the University of Pisa, Pisa, Italy, and in 1968 the Ph.D. degree in electrical engineering at the University of Leeds, U.K.

While at the University of Leeds, he was engaged in research in the synthesis of microwave directional couplers in TEM line and waveguide, and in the synthesis of coaxial low-pass filters. Since 1968 he has been employed as a Research Scientist at the Philips Research Laboratories, Eindhoven, The Netherlands. He has worked on various problems in field theory of guided waves and in circuit theory, including nonlinear propagation on an optical waveguide, wide-band network representation of waveguide discontinuities, and algebraic invariants of multiport networks in a linear embedding. During 1975 he spent a sabbatical year as a Visiting Research Professor at the Electromagnetics Laboratory, University of Illinois at Champaign-Urbana. At Illinois he worked on problems dealing with transverse field confinement in a d.h. stripe geometry laser, coupling between two antennas on an infinite ground plane, and propagation in a waveguide loaded with resonant irises.



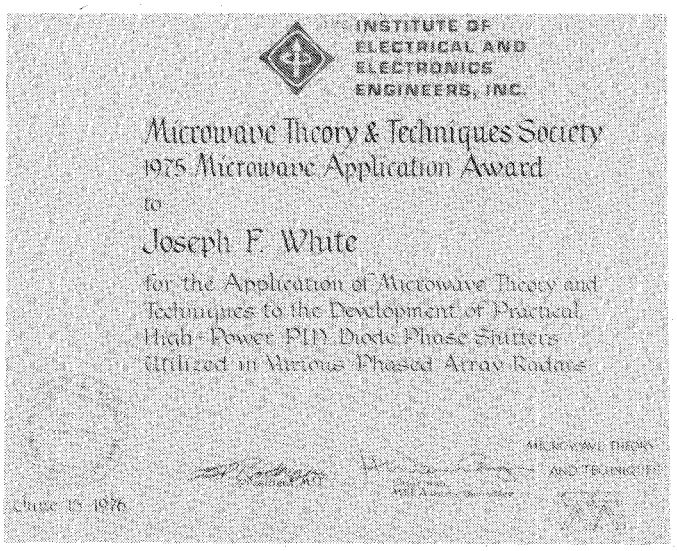
Wolfgang F. G. Mecklenbräuker was born in Dortmund, Germany, on June 16, 1938. In 1964 he received the Dipl. Ing. degree in electrical engineering from Aachen University, Aachen, Germany, and in 1969 the Dr. Ing. degree in electrical engineering from Darmstadt University, Darmstadt, Germany.

He was Research Associate at Darmstadt University from 1964 to 1970, where he worked on network theory and system theory. In 1971 he joined the Philips Research Laboratories, Eindhoven, The Netherlands. During 1975 he was a Visiting Scientist on sabbatical leave at the Massachusetts Institute of Technology, Cambridge. His research interests are in network theory and digital signal processing.

Dr. Mecklenbräuker is a member of the Nachrichtentechnische Gesellschaft, Germany.

Microwave Applications Award

The Microwave Application Award is presented aperiodically to an individual for an outstanding application of microwave theory and techniques. Joseph F. White received the 1975 Microwave Application Award "for the development of practical high-power p-i-n diode phase shifters utilized in various phased array radars." Dr. White received a certificate and cash sum of $100. A photograph of the certificate and Dr. White's biography are shown.



Joseph F. White (S'60–M'61) is the Technical Director of the Device Group at Microwave Associates, Burlington, MA. He is best known for inventing the high-power periodically loaded line phase shifter, a low-loss technique that enabled semiconductor diodes to steer phased array antennas with tens of kilowatts of power per element. He directed the refinement of this method and it was chosen for the steering element control in the U.S. Safeguard System, Missile Site Radar (MSR), and later for the Perimeter Acquisition Radar (PAR). He has also performed advanced developments with numerous other microwave semiconductor devices such as duplexers, switches, multipliers, Gunn and avalanche diode sources. These projects include the first megawatt semiconductor duplexer, the highest power (100-kW) switch, and a temperature-stabilized Gunn source for communication systems.

Recently, he was the Program Manager for a project to design and build over 15 000 very-high-pulse energy diode phase shifters. All of these have been completed and are being installed on Shemya Island in the Aleutian Islands in the Cobra Dane Radar for the U.S. Air Force.

His doctoral dissertation, completed in January 1968 at Rensselaer Polytechnic Institute, Troy, NY, described the first application of bulk semiconductor properties for phase shifting. In addition to numerous IEEE papers for Conferences, Proceedings, and TRANSACTIONS, he has presented many lectures and talks both in the United States and Europe. These include the Chalmers University Phased Array Seminar, Gothenberg, Sweden, and the Microwave Semiconductor Intensive

Course given annually at the University of Michigan. He is a member of Eta Kappa Nu and Sigma Xi, and a Technical Reviewer for the *Microwave Journal* and the *MTT Transactions*. Currently, he is completing a book entitled *Introduction to Microwave Semiconductor Control*.

National Lecturer's Plaque

Robert W. Beatty, 1975 MTT National Lecturer, was presented, in absentia, the National Lecturer's Plaque for his lecture entitled: "The development of modern automatic systems for the measurement of network parameters." Dr. Beatty spoke at 12 MTT chapters in 1975 and 3 chapters in 1976. A summary of his talk is included in the December 1975 issue of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES. A photograph of the National Lecturer's Plaque is shown as follows.