1987 MTT-S Awards

C. T. RUCKER, FELLOW, IEEE

AT THE ANNUAL Symposium Banquet, MTT-S President D. N. McQuiddy presented the following awards:

Microwave Career Award—Robert W. Beatty
Microwave Prize—Christen Rauscher
Distinguished Service Award—Kiyo Tomiyasu
Distinguished Microwave Lecturers—John H. Bryant and Edward C. Niehenke

In addition, Dr. Bruno Weinschel, Past President of IEEE, presented Fellow Awards to three distinguished members of MTT-S. President McQuiddy also presented the Past President's Pin to Reinhard Knerr, 1986 President. The Meritorious Service Award was presented to Don Parker for his extended and dedicated service to the Society. Other presentations included Certificates of Recognition to Edward C. Niehenke and Hal Schrank, Chairman and Vice-Chairman of the 1986 Symposium Steering Committee, and to Marvin Cohn and Bernard Geller, Chairman and Vice-Chairman of the 1986 Symposium Technical Program Committee. John Kuno, retiring AdCom member, received a Certificate of recognition for his extended service to the Society.

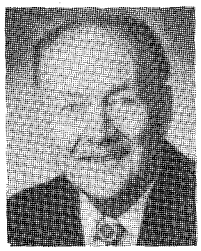
MTT Society Awards

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. The 1987 Career Award was presented to Robert W. Beatty. He has made contributions to the microwave field since 1943.

Dr. Beatty's career has centered on his work while at the National Bureau of Standards, Boulder, CO. While there his interests led to numerous technical articles, a book, *Microwave Network Analysis*, with D. M. Kerns, and two N.B.S. monographs on microwave and automated measurements. His interests are diverse; he has consulted in radio engineering and served as a member of the MTT-S Administrative Committee, and since retiring from N.B.S., he has served as a consultant for the Jet Propulsion Laboratory and General Dynamics.

Dr. Beatty's Career Award Citation reads, "For a Career of Meritorious Achievement and Outstanding Technical Contributions in the Field of Microwave Theory and Techniques." The award includes a plaque, a certificate, and $2000.



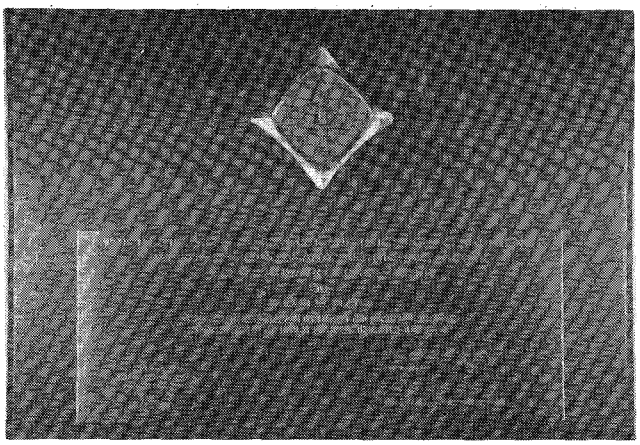
Robert W. Beatty was born in York, PA, on May 31, 1917. He received the B.S. degree in electrical engineering from George Washington University, Washington, DC, in 1939, the S.M. degree in electrical communication from the Massachusetts Institute of Technology, Cambridge, in 1943, and the Doctor of Engineering degree from the University of Tokyo, Tokyo, Japan, in 1972.

From 1940 to 1942 he was employed by the U.S. Naval Research Laboratory, Washington, DC, in work on underwater sound- and radio-direction finding. He was a Staff Aide at the M.I.T. Radar School in 1943 and served in the U.S. Naval Reserve from 1943 to 1946. He has had several years' experience in the field of consulting radio engineering for the radio broadcast industry. From 1948 to 1974 he was employed by the U.S. National Bureau of Standards, working in the field of microwave standards, and was Chief of the Microwave Circuit Standards Section at N.B.S., Boulder, CO, from 1955 to 1962. Dr. Beatty received the Department of Commerce Silver Medal in 1963. Over a period of more than 25 years, he published numerous technical articles, a book, *Microwave Network Analysis*, with Dr. D. M. Kerns (Pergamon Press, 1967), and two National Bureau of Standards Monographs (nos. 137 and 151) concerned with Microwave and automated measurements.

He has been a member of Sigma Tau, Theta Tau, Sigma Xi, the Instrument Society of America (ISA) and the International Scientific Radio Union (URSI). He was chairman of U.S. Commission I of URSI from 1957 to 1960 and was editor of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES during 1963–1965. He was Scientific Editor of Commission I for the 14th and 15th General Assemblies of URSI, and was for many years a member of the Administrative Committee of the IEEE Group on Microwave Theory and Techniques.

He was sent by the U.S. National Bureau of Standards to Japan in 1970 to be a guest worker at the Electrotechnical Laboratory (ETL) in Tanashi, Tokyo. While there, he delivered lectures (on microwave standards developed at N.B.S. in Boulder, CO) at each of the Imperial Universities in Japan. He received an award from the Director of ETL for meritorious service. Together with Mr. I. Tajima, President of the Anritsu Electric Company, Tokyo, Japan, he organized the 1973 Microwave Measurement Seminar in Tokyo and helped open the first Microwave Exhibition at the U.S. Trade Center in Tokyo.

Since retiring from the National Bureau of Standards in 1974, he has done consulting work for the Jet Propulsion Laboratory, Pasadena, CA, and the General Dynamics Electrodynamics Division, San Diego, CA. He was the 1975 MTT-S National Lecturer, delivering a lecture entitled "The Development of Modern Automatic Systems for the Measurement of Network Parameters." In 1985, he became a part-time employee of the Barth Electronics Company, Boulder City, NV.



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Microwave Theory and Techniques Society
1987 Microwave Career Award
to
Robert W. Beatty
for a career of meritorious achievement and outstanding technical contributions in the field of microwave theory and techniques.

June 10, 1987

MICROWAVE THEORY AND TECHNIQUES

Microwave Prize

The Microwave Prize is awarded annually to the author of that paper, published in the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, PROCEEDINGS OF THE IEEE, or other official IEEE publication, which is judged to be the most significant contribution in the field of interest of the Society. The award consists of a certificate, $1000, and a feature publication in the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES.

The 1987 recipient of the Microwave Prize was Christen Rauscher, whose winning paper, "Microwave Active Filters Based on Transversal and Recursive Principles," appeared in the December 1985 issue of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES.

Christen Rauscher (S'73–M'75–SM'82) was born in Boston, MA, on November 4, 1944. He received the diploma in electrical engineering and the doctorate degree in 1969 and 1975, respectively, both from the Swiss Federal Institute of Technology, Zurich, Switzerland.

From 1969 to 1976 he worked as an Assistant and Research Associate at the Microwave Laboratory of the Swiss Federal Institute of Technology, where he conducted research on methods to numerically optimize microwave active circuits so as to reduce variations in performance characteristics resulting from parameter tolerances. He also studied the large-signal behaviors of microwave active diodes and techniques for employing such diodes in broad-band power amplifiers. Subsequently, he held a two-year international fellowship from the Swiss National Science Foundation providing opportunity to further pursue interests in the area of nonlinear interaction between microwave active semiconductor devices and circuits. He spent this time at Cornell University in Ithaca, NY, and at the Naval Research Laboratory in Washington, DC, concentrating specifically on nonlinear properties of GaAs field-effect transisters.

Since 1978, he has been employed at the Naval Research Laboratory in Washington, DC, where he currently heads the Solid-State Circuits Section. His research interests have remained focused primarily on nonlinear phenomena in microwave and millimeter-wave active semiconductor devices. Particular topics of investigation have included the derivation of a quasi-static device model to describe the nonlinear characteristics of GaAs field-effect transistors and the development of novel circuit concepts that optimize the impact of nonlinear effects in a variety of microwave applications. Such applications include power amplification, fixed-frequency and wide-band varactor-tuned fundamental frequency oscillation, frequency doubling, and frequency halving. These efforts have been balanced by linear circuit work with emphasis on microwave active filters. He has also pursued interests in the area of optical–microwave signal interaction in semiconductor devices, as exemplified by the development of a self-oscillating GaAs FET demodulator and down-converter circuit for recovering an millimeter-wave modulation signal from an optical carrier. Involvement in the optical-related area has been enhanced by his recent sabbatical year at the Los Alamos National Laboratory in Los Alamos, NM, which was devoted to the investigation of new circuit approaches to the implementation of a high-speed photoconductor-based reflectometer concept for on-chip measurement of millimeter-wave device characteristics.

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Microwave Theory and Techniques Society
1987 Microwave Prize
to
Christen Rauscher
for a significant contribution to the field of endeavor of the IEEE MTT Society in the paper entitled: "Microwave Active Filters Based on Transversal and Recursive Principles" published in the IEEE Transactions on Microwave Theory & Techniques, Volume MTT-33, Number 12, December 1985.

June 10, 1987

MICROWAVE THEORY AND TECHNIQUES

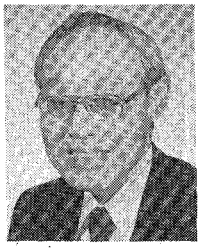
Distinguished Service Award

The Distinguished Service Award honors an individual who has given outstanding service over a sustained period for the benefit and advancement of the Microwave Theory and Techniques Society. The 1987 recipient of this award is one of the most respected members of MTT-S, Dr. Kiyo Tomiyasu, Consulting Engineer at the General Electric Valley Forge Space Center, Philadelphia, PA.

Dr. Tomiyasu has distinguished himself by extraordinary service to both MTT-S and IEEE since becoming a Guest Editor of the TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES in 1958. Dr. Tomiyasu was President of MTT-S in 1960–1961 and has subsequently served on the Nominations Committee and the Awards Committee. He was the Editor of the MTT TRANSACTIONS in 1958 and 1959, and Guest Editor of the May 1978 Special Issue of the TRANSACTIONS on High Power Microwaves. In 1973 he was elected Honorary Life Member of MTT-S and of its Administrative Committee. He was named recipient of the 1980 Microwave Career Award by the MTT-S. In 1984, he received an IEEE Centennial Medal.

At the IEEE level, he has served on the Publications Board, the Technical Activities Board, and the Awards Board for several years. He was elected for the 1985–1986 term as IEEE Director of Division IV, which embraces electromagnetics and radiation. He serves a concurrent term on the IEEE Board of Directors and as a Delegate to the IEEE Assembly.

Dr. Tomiyasu's citation reads "For His Outstanding and Dedicated Service to the Society." He received a plaque and a certificate.



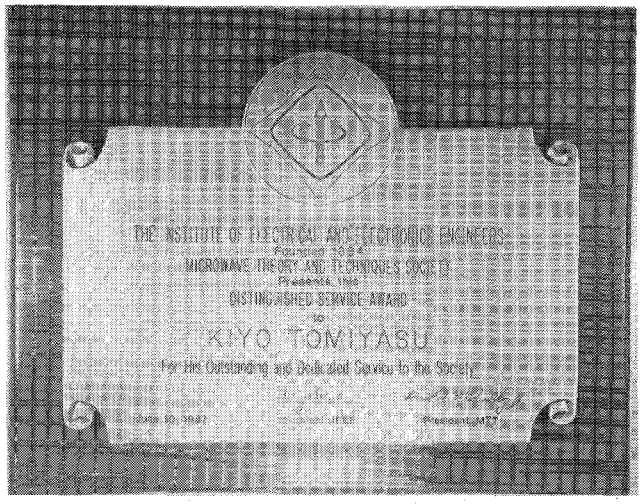
Kiyo Tomiyasu (S'41–A'42–M'49–SM'52–F'62–LF'85) was born in Las Vegas, NV, on September 25, 1919. He received the B.S. degree in electrical engineering from the California Institute of Technology, Pasadena, in 1940 and the M.S. degree in communication engineering from Columbia University, New York, NY, in 1941. He studied at Stanford University, Stanford, CA, under a Low Scholarship and then entered Harvard University, Cambridge, MA, where he continued graduate work with a Gordon McKay Scholarship and received the Ph.D. degree in engineering science and applied physics in 1948.

He served as a Teaching Fellow, Research Assistant, and Instructor at Harvard University. In 1949 he joined the Sperry Gyroscope Company, Great Neck, NY, as a Project Engineer. Later, as Engineering Section Head for Microwave Research, he was responsible for developments on ferrites, microwave components, spectroscopy, and radiometers. In 1955 he joined the General Electric Microwave Laboratory, Palo Alto, CA, as a Consulting Engineer, and five years later he transferred to the General Electric Research and Development Center, Schenectady, NY, where he was involved with lasers and microwave projects. In 1969 he became a Consulting Engineer at General Electric.

For the past several years he has been involved with microwave remote sensing of the earth using satellite-borne radiometers, scatterometers, and synthetic aperture radar. He helped design the NASA/JSC Skylab S-193 Microwave Radiometer Scatterometer Altimeter, and he was a Principal Investigator of the NASA Langley Research Center AAFE RADSCAT sensor. On SEASAT, he was responsible for specifying the spacecraft interfaces with the scatterometer and synthetic aperture radar. Several papers on remote sensing of the earth using microwave sensors have been published and presented by him at various symposia. He has also worked on a conceptual design of a coarse resolution, wide swath synthetic aperture radar for imaging sea ice, oceanic oil spills and geologic features, and inferring soil moisture.

His total publications list over 60 papers, and 20 patents have been issued in his name. In 1977 he was granted a General Electric Company Charles Proteus Steinmetz Award for outstanding individual achievement over a sustained period as evidenced by impact on the company and society. As part of this award a $5000 stipend was designated to the California Institute of Technology for three annual scholarships. In 1977 Dr. Tomiyasu and his sister from Los Angeles established also at Cal Tech an annual scholarship called the Tomiyasu Scholarship. In 1986 he was awarded an Annual Prize of the Telecommunications Association of Japan. The citation reads, "for his distinguished contributions towards the progress of telecommunication industries and for his outstanding service." He is the first non-Japanese citizen to receive the prize in its 27-year history. Dr. Tomiyasu delivered his acceptance speech at a meeting jointly sponsored by the Association and the IEEE Tokyo Section.

Dr. Tomiyasu was elected to the IEEE Fellow Grade in 1962 and became a Life Fellow in 1984. His name is listed in several biographical references, among which are *American Men of Science*, *Who's Who in Engineering*, *Men of Achievement*, *Leaders in Electronics*, and *Who's Who in America*. He is a member of the American Physical Society.



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Microwave Theory and Techniques Society

Presents this

Distinguished Service Award

to

Kiyo Tomiyasu

for his Outstanding and Dedicated Service to the Society.

June 10, 1987

MICROWAVE THEORY AND TECHNIQUES

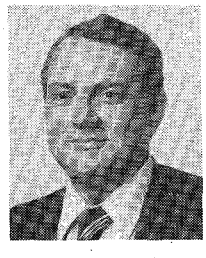
Distinguished Microwave Lecturers

The Distinguished Microwave Lecturers are selected annually by AdCom to present lectures to MTT-S chapters on subjects of importance and current interest to members. Each recipient must be an individual who has made significant contributions in the field of his talk. The 1987 Distinguished Lecturer awards were presented to John H. Bryant for his lecture entitled "The First Century of Microwaves, 1886–1986," and Edward C. Niehenke for his lecture "Gallium Arsenide: Key to Modern Microwave Technology." Their awards consist of a bronze plaque. A brief biography for each recipient and photographs of their plaques follow.

John H. Bryant (M'50–SM'52–F'67) is an Adjunct Research Scientist in the Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor. He holds the B.S.E.E. degree from Texas A&M University and M.S. and Ph.D. degrees from the University of Illinois. He spent six years each at IT&T Laboratories, concerned with microwave electron tubes, and the Bendix Research Laboratories, with interests in passive microwave components and radar systems.

In 1962 he was a founder of Omni Spectra, Inc., and served as its President and Chief Executive Officer. Omni Spectra pioneered in design and production of microwave components of coax and planar construction with the OSM/SMA Connector, especially suitable for use above 10 GHz. These components were at the same time a major influence in the move from waveguide to compact TEM-type microwave systems design. In 1980 Omni Spectra became a part of M/A-Com, Inc.

Dr. Bryant is a Past President of the Microwave Theory and Techniques Society (MTT-S) of IEEE. He is currently serving as Chairman of the IEEE MTT-S Hertz Centennial Committee, charged with planning for a 1988 Hertz Centennial observance.



Edward C. Niehenke (M'61–SM'81) was born in Abington, PA, in 1937. He received the B.S. (1961) and M.S. (1965) degrees in electrical engineering from Drexel University, Philadelphia, PA. In 1970 he completed additional course work in electrophysics at the University of Maryland.

In 1963, after two years of cryogenic electronic research at Martin Marietta, he joined the Westinghouse Defense and Electronics Center in Baltimore, MD, where he has been responsible for the development of state-of-the-art microwave circuits, miniature integrated assemblies, and subsystems. He is presently an advisory engineer. Mr. Niehenke has pioneered the development of

super-low noise microwave circuits, including parametric amplifiers, FET amplifiers, and oscillators (VCO's and DRO's) for high-stability airborne systems. He has innovated fast acting, high-power microstrip pin limiter circuits and linear analog phase shifters, and has conceived unique internally matched subharmonic suppression circuits for bipolar transistors under collector modulation. Mr. Niehenke's innovations can be found in over 13 Westinghouse operational production systems. He holds six patents, two Westinghouse Trade Secret Awards, and one Westinghouse Value Engineering Merit Award. He has given numerous presentations at symposia and workshops, and delivered many keynote addresses at conferences. He has authored numerous papers on microwave circuits, and has developed microwave circuit courses in five microwave design areas that he presents at UCLA and the University of Maryland. He also is on the faculty of the Johns Hopkins University, teaching electricity and magnetism.

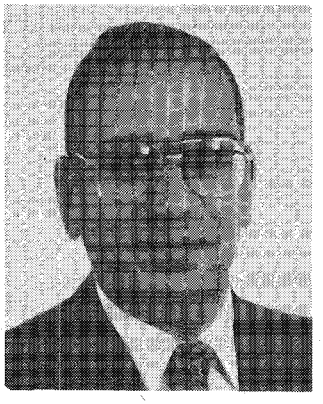
Mr. Niehenke is a member of MTT-S AdCom, is the 1986/87 Distinguished Microwave Lecturer, and is the chairman of the Microwave and Millimeter Wave Integrated Circuits Technical Committee. His past IEEE service includes MTT-S Membership Services Chairman, 1986 International Microwave Symposium Chairman, Standards Committee Member (P457 standard published), Baltimore Section Director, and Facilities Chairman, Secretary/Treasurer, and Chapter Chairman of the Baltimore AP/MTT Chapter (named Best Chapter in 1980). Mr. Niehenke was a recipient of the IEEE Centennial Medal and is a registered professional engineer in the state of Maryland.

IEEE Fellows

Twenty MTT-S members were elected to the grade of Fellow effective January 1, 1987. Of these, seven were evaluated by MTT-S and thirteen by other Societies.

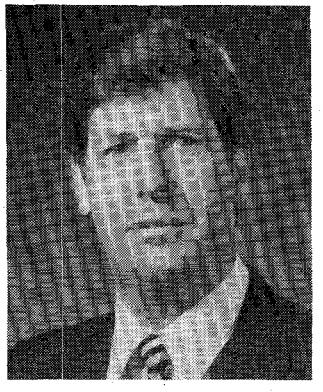
The grade of Fellow is conferred in recognition of unusual professional distinction. It is awarded only at the initiative of the IEEE Board of Directors after a rigorous nomination and evaluation process. Fellow grade is one of unusual professional distinction and is conferred only by the Board of Directors upon persons of extraordinary qualification and experience who have made important contributions to one or more of the fields of electrical engineering, electronics, computer engineering and science, allied branches of engineering, and related arts and sciences. This grade is not conferred automatically upon nomination; only a fraction of those nominated are honored by elevation to Fellow.

Three Fellow recipients chose to have their Fellow Certificates presented at the 1987 International Microwave Symposium Banquet. Bruno Weinschel, Past President of IEEE, presented the Fellow awards.



Ali E. Atia

"For developments in microwave filter design for communication satellites."



Donald M. Bolle

"For contributions to nonreciprocal components for microwave and millimeter-wave systems."

Albert E. Williams

"For contributions to the theory and development of dual-mode, optimal-performance microwave filters."

The following were elected to the grade of Fellow with the endorsement of MTT-S, but received their Fellow Awards elsewhere.

Fred E. Gardiol, "For contributions to the design of ferrite microwave devices."

Bernard Glance "For contributions to the advancement of phase-locked circuits in communication systems."

Kazuhiro Miyauchi "For contributions to the development and application of high speed digital transmission technology in communications."

Adel A. M. Saleh "For contributions to the theory of microwave mixers."

C. Burke Swan "For contributions to the application of microwave and optical devices."