

1995 MTT-S Awards

David N. McQuiddy, Jr.

THIS YEAR, the MTT-S Awards were presented by President Eliot Cohen in three separate events—the AdCom meeting, the Plenary Session, and the IMS Awards Banquet—during the 1995 International Microwave Symposium in Orlando, Florida.

The Awards Evaluation Committee, the Fellow Nominations Committee, and the Microwave Prize Committee evaluated an extensive number of outstanding candidates from the nominations solicited from members over the last year, to choose those deserving the 1995 MTT-S Awards. As usual, it was difficult to reach a consensus on the various awards, especially when so many talented individuals in the microwave community were nominated by their colleagues. The Awards Committee worked very hard to be objective in selecting this year's awardees.

On a sad note, the recipient of this year's Microwave Career Award, Mr. William J. (Bill) Getsinger, died on June 5, 1995 shortly after the symposium. Mr. Getsinger had been ill for some time and was unable to attend the Awards Banquet to receive his award. Dr. John Bandler accepted the award on behalf of Mr. Getsinger and read a note of appreciation from him. Dr. Bandler personally delivered the plaque to Mr. Getsinger at his home after the symposium. *Resquiescat in pace.*

In addition to the technical awards and certificates of recognition for service, President Cohen also announced the election of Dr. Tatsuo Itoh as a Honorary Life Member of MTT-S. Dr. Itoh joins the other six Honorary Life Members: A. C. Beck, S. B. Cohn, A. A. Oliner, T. S. Saad, K. Tomiyasu, and L. Young, previously recognized for their extraordinary and distinguished services to the Microwave Theory and Techniques Society. Also, ten Fellow Awards were presented at the Awards Banquet by Dr. Rolf Jansen, Director of IEEE Division IV and a present member of the MTT-S AdCom.

I. AWARDS SUMMARY

A. Technical Awards

Career Award: Mr. William J. Getsinger

"FOR A CAREER OF MERITORIOUS ACHIEVEMENT AND OUTSTANDING CONTRIBUTIONS TO THE FIELD OF MICROWAVE THEORY AND TECHNIQUES."

Plaque, Certificate, Check for \$2000.

Pioneer Award: Mr. William C. Brown

"FOR PIONEERING WORK ON CROSSED FIELD AMPLIFIERS OR PLATINOTRONS."

Plaque, Check for \$1000.

Distinguished Educator Award: Dr. G. P. Rodrigue

"FOR AN EXEMPLARY CAREER IN EDUCATION AND RESEARCH AND DEDICATED SERVICE TO THE MICROWAVE PROFESSION."

Plaque, Check for \$1000.

Applications Award: Dr. Cheng Paul Wen

"FOR THE INVENTION AND DEVELOPMENT OF THE COPLANAR WAVEGUIDE AND FOR THE APPLICATION OF THE WAVEGUIDE TO VARIOUS MICROWAVE STRUCTURES."

Plaque, Certificate, Check for \$1000.

Microwave Prize: Dr. Frank Olyslager, Dr. Daniël De Zutter, and Mr. Krist Blomme

"RIGOROUS ANALYSIS OF THE PROPAGATION CHARACTERISTICS OF GENERAL LOSSLESS AND LOSSY MULTICONDUCTOR TRANSMISSION LINES IN MULTILAYERED MEDIA," IEEE TRANS. MICROWAVE THEORY AND TECH., VOL. 41, NO. 1, PP. 79-88, JAN. 1993.

Certificate, Check for \$500 each.

B. Honorary Life Member

Dr. Tatsuo Itoh

"THE MICROWAVE THEORY AND TECHNIQUES SOCIETY HEREBY ACKNOWLEDGES THE CONTINUED OUTSTANDING CONTRIBUTIONS AND SERVICES OF TATSUO ITOH WITH THE AWARD OF HONORARY LIFE MEMBER, 12 DECEMBER 1994."

Plaque.

C. Fellow Awards

Mr. Renato G. Bosisio,
Dr. J. Brian Davies,
Dr. Lionel E. Davis,
Dr. Robert L. Eisenhart,
Dr. Peter A. Rizzi,
Dr. Klaus F. Schuenemann,
Mr. Richard A. Sparks,
Dr. Barry E. Spielman,
Dr. Peter W. Staecker, and
Mr. Britton T. Vincent, Jr.

D. Service Awards

Distinguished Service Award: Dr. Reinhard H. Knerr

"FOR HIS OUTSTANDING AND DEDICATED SERVICE TO THE SOCIETY."

Plaque, Certificate.

N. Walter Cox Award: Dr. Krishna K. Agarwal

"FOR EXEMPLARY SERVICE, GIVEN IN A SPIRIT OF SELFLESS DEDICATION AND COOPERATION."

Plaque.

Transactions Editor: Mr. Daniel J. Massé

"IN RECOGNITION OF DISTINGUISHED SERVICE AS 1991-1994 EDITOR OF THE IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES."

Plaque.

Letters Editor: Dr. Tatsuo Itoh

"IN RECOGNITION OF DISTINGUISHED SERVICE AS 1991-1994 EDITOR OF THE IEEE MICROWAVE AND GUIDED WAVE LETTERS."

Plaque.

Past President: Dr. E. James Crescenzi Jr.

"1994 PRESIDENT."

Plaque.

Distinguished Lecturer (1993-1995): Dr. Tsukasa Yoneyama

Title of Lecture: "NON-RADIATIVE DIELECTRIC WAVEGUIDE AND ITS APPLICATION."

Plaque.

E. Certificates of Recognition

Dr. Barry S. Perlman, Member of AdCom 1990-1994.

Dr. Don Parker, *Chairman*, 1994 International Microwave Symposium.

Dr. Ralph Levy, *Vice-Chairman*, 1994 International Microwave Symposium.

Dr. Robert L. Eisenhart, *Chairman Technical Program Committee*, 1994 International Microwave Symposium.

Dr. Gus P. Tricoles, *Vice-Chairman Technical Program Committee*, 1994 International Microwave Symposium.

Mr. Dave Rubin, *Chairman Local Arrangements Committee*, 1994 International Microwave Symposium.

Dr. Richard B. Gold, *General Chairman*, 1994 Microwave and Millimeter-Wave Monolithic Circuits Symposium.

Mr. H. George Oltman, Jr., *Chairman*, International Microwave Symposium Site Negotiating Committee.

Dr. Krishna K. Agarwal, *Member*, MTT-S Fellows Evaluation Committee 1992-1994.

Mr. Norman R. Dietrich, *Member*, MTT-S Fellows Evaluation Committee 1992-1994.

Mr. Vladimir G. Gelnovatch, *Member*, MTT-S Fellows Evaluation Committee 1992-1994.

Dr. John M. Owens, *Member*, MTT-S Fellows Evaluation Committee 1992-1994.

Mr. Arye Rosen, *Member*, MTT-S Fellows Evaluation Committee 1992-1994.

F. Meritorious Service Awards

Dr. James R. Mink

"FOR HIS SUPPORT OF RESEARCH AND DEVELOPMENT IN MICROWAVE FIELD THEORY AND FOR HIS CONTRIBUTIONS AS THE CHAIRMAN OF THE MTT-S TECHNICAL COMMITTEE ON MICROWAVE FIELD THEORY."

Dr. George L. Heiter

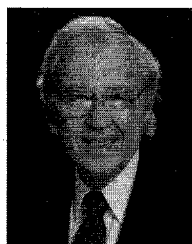
"FOR LEADERSHIP AND SUSTAINED CONTRIBUTIONS TO THE MTT-S TECHNICAL COMMITTEE ON MICROWAVE SYSTEMS."

Mr. Terence H. Oxley

"FOR LEADERSHIP AND CONTRIBUTIONS TO INTERNATIONAL TECHNICAL ACTIVITIES IN MTT-S SYMPOSIA AND CHAPTER ACTIVITIES."

II. MICROWAVE CAREER AWARD

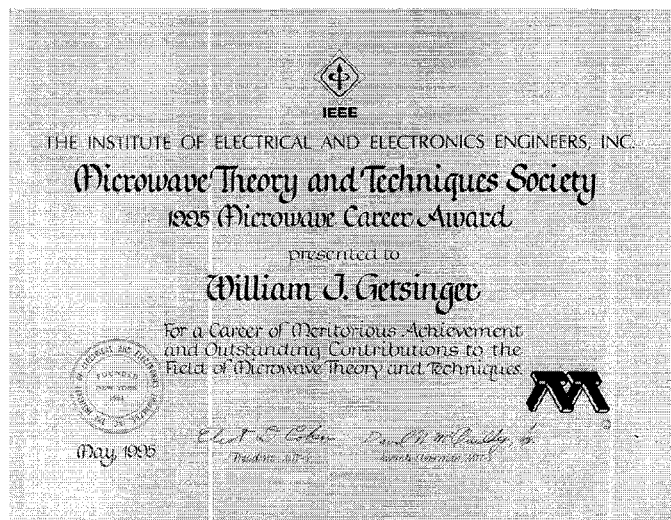
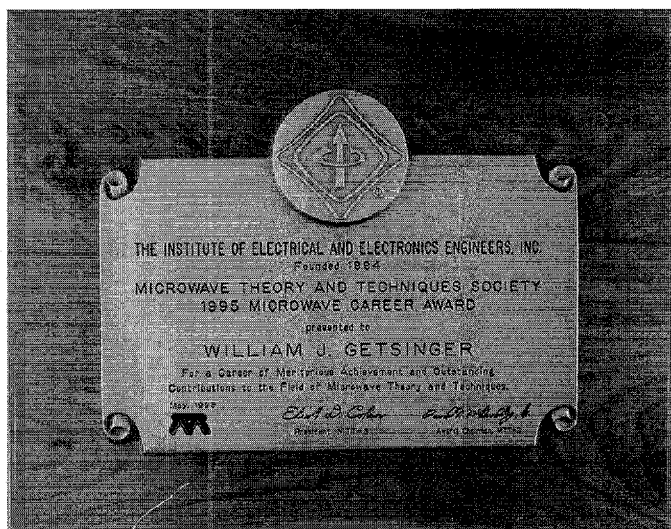
The Microwave Career Award is the highest honor bestowed by MTT-S. This award is to recognize an individual for a lifetime career of meritorious service and technical excellence in the microwave field. This year's honored recipient is Mr. William J. Getsinger whose papers on microwave transmission media were exceptional in their clarity and applicability.



William J. Getsinger (S'48-A'50-M'55-SM'69-F'80-LF'90) was born in 1924 in Waterbury, CT. He attended public schools in Watertown, CT. During World War II he was a flight radio operator with the Air Transport Command of the U.S. Army Air Force. After the war he attended the University of Connecticut, from which he received the degree of Bachelor of Science in electrical engineering in 1949.

In 1950 he began work as a Design Engineer of microwave components at Technicraft Laboratories in Thomaston, CT. In 1952 he moved to the Westinghouse Electric Corporation, Air Arm, where he designed airborne radar waveguide packages. In 1957 he joined the outstanding team of microwave research engineers headed by Dr. Seymour B. Cohn at Stanford Research Institute (SRI), where he worked on the theory and design of directional couplers, filters, antennas, amplifiers and microwave circuit elements. During his employment at SRI he attended Stanford University, earning the MSEE degree in 1959 and the degree of Engineer in 1961. In 1962 he moved to MIT Lincoln Laboratory, where he continued research on microwave components, measurements and computer-aided design. At Lincoln Laboratory, he developed parametric amplifiers and also directed the development of GCP, one of the first interactive microwave circuit analysis programs. In 1969 he joined COMSAT Laboratories as Manager of the Low-Noise Receiver Department. While at COMSAT, he was Project Manager for design, development and production of centimeter-wave beacons orbited on four Bell Laboratory's COMSTAR satellites. In 1981, he was appointed a Senior Scientist at COMSAT. At the end of 1983, he left COMSAT and became a consulting engineer in the areas of microwave circuits and transmission lines. His technical papers in IEEE publications span the years from 1960 to 1994.

Mr. Getsinger joined the IRE in 1948 and he was elected a Fellow of the IEEE in 1980. He organized and chaired technical sessions at various MTT-S International Microwave Symposia. For many years he was on the Editorial Board of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES. He was the first Chairman of the MTT-S Technical Committee on Computer-Oriented Microwave Practices. He was Guest Editor of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES Special Issue on Computer-Oriented Microwave Practices in 1969, and also Guest Editor of the MTT Transactions Special Issue of the 1986 International Microwave Symposium held in Baltimore.



III. PIONEER AWARD

The Pioneer Award recognizes contributions which have had major impact on our field and have stood the test of time. The basis for the nomination is an archival paper in the field of interest of MTT-S, published at least 20 years prior to the year of the award, i.e., it recognizes important technical contributions that have had a continuing impact on the practice of microwave engineering for a period exceeding two decades.

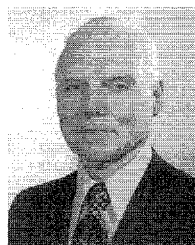
The 1995 recipient is Mr. William C. Brown, retired Vice-President of Raytheon and Consultant with Microwave Power Transmission Systems. The citation on the award reads:

"For Pioneering Work on Crossed Field Amplifiers or Platinotrons."

His paper entitled "Description and Operating Characteristics of the Platinotron—a New Microwave Tube Device" was published in the *Proc. IRE*, vol. 45, no. 9, pp. 1209–1222, Sept. 1957. The Platinotron is now known as the CFA or crossed field amplifier. It was also marketed as the Amplitron at Raytheon.

The crossed field amplifier is widely used in airport surveillance radars and many military radars, including the Patriot and

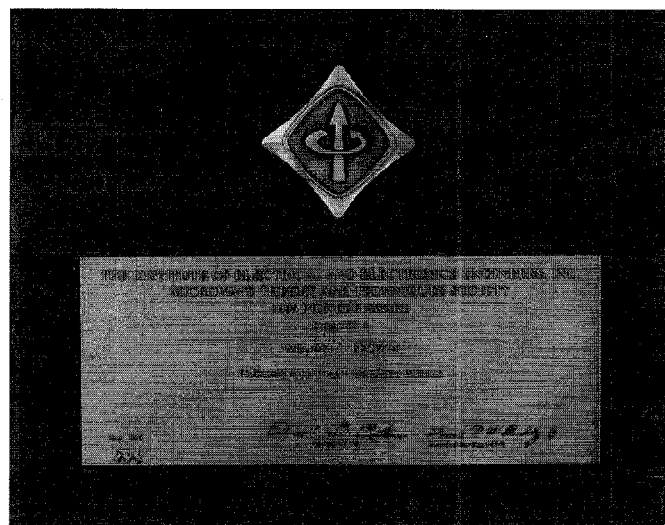
the Ageis systems. The television images of the first landing on the moon were beamed to earth with the aid of the aid of a CW CFA in the lunar lander.



William C. Brown (A'39-M'55-SM'58-F'59-LF'82) received the B.S.E.E. degree from Iowa State University in 1937 and the M.S.E.E. degree from M.I.T in 1941.

He joined the Raytheon Co. in 1940, and became involved in making improvements on the design of magnetrons that were used in all World War II microwave radar. However, magnetrons are oscillators and were not suitable for the next generation of radars that needed an efficient, high powered, and broadband amplifier. In 1952 he made a major contribution in fulfilling that need by converting the magnetron oscillator into a broadband amplifier. This device, variously referred to as the "platinotron," "Amplitron" or simply as the "CFA" (for crossed field amplifier) found immediate military and civil applications that include the Navy Aegis radar, the Hawk and Patriot Missile Systems, commercial air route surveillance radar, and the high data rate communications system in the Apollo lander that sent televised images from the moon to Earth. He then proposed that the CFA be developed into a super power amplifier and the resulting DOD contract produced a CFA that generated 425 kW of continuous power with an efficiency of 76 percent at the frequency of 3 GHz. One of the proposed applications of this much power was the efficient wireless transmission of large amounts of power from one point to another. The public was first alerted to this application by the nationally televised demonstration in 1964 of a tethered microwave powered helicopter at Raytheon's Spencer Laboratory. He has published more than 70 papers and has 50 issued patents in the areas of microwave tube technology and wireless power transmission.

Mr. Brown retired from Raytheon in 1984 and has since been active as a Consultant and as a Spokesperson for wireless power transmission. Under the sponsorship of IBM and Northeastern University he made a series of four videotaped lectures on its technology and applications. He is a Life Fellow of the IEEE.

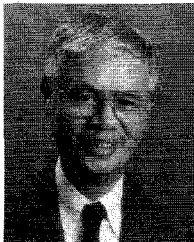


IV. MICROWAVE APPLICATION AWARD

The Microwave Applications Award is presented aperiodically to an individual for an outstanding application of microwave theory and techniques. The eligibility requirements are: creation of a new device, component or technique; novel use of a device or component; or a combination of any or all of the above.

Dr. Cheng Paul Wen, Chief Scientist and Program Manager at Hughes Aircraft Company, is the recipient of the 1995 Microwave Application Award. His award citation reads:

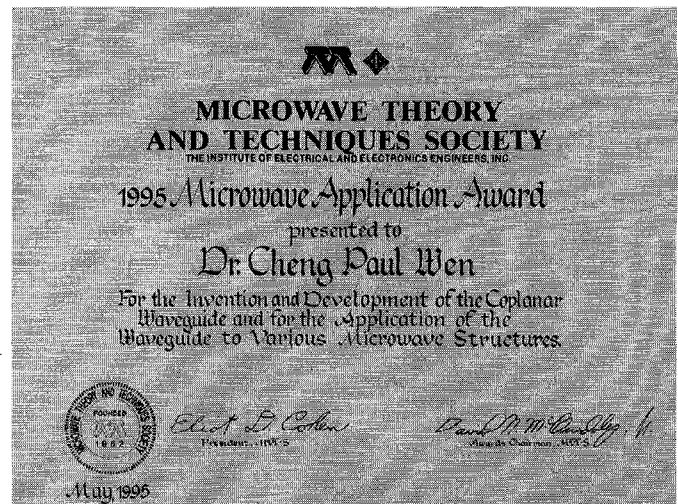
"For the Invention and Development of the Co-planar Waveguide and for the Application of the Waveguide to Various Microwave Structures."



Cheng Paul Wen (S'54-M'63-SM'74) received the B.S., M.S., and Ph.D. degrees, all in electrical engineering in 1956, 1957, and 1963, respectively, all from the University of Michigan, Ann Arbor, MI. From 1955 to 1963, he was employed by the University of Michigan Electron Physics Laboratory as a Research Assistant. During this period, he worked on traveling-wave amplifiers, leading to his dissertation in "Noise Propagation in Two-Dimensional Electron Streams."

In 1963, he joined the Microwave Research Laboratory of the RCA Laboratories (David Sarnoff Research Center), Princeton, NJ, where he conducted research on ultra-low noise traveling-wave amplifiers, gas lasers, microwave acoustics, ferromagnetic semiconductors, microwave magnetics in integrated circuits, and millimeter-wave avalanche diodes. His accomplishments included the demonstration of the lowest noise traveling-wave amplifier, the construction of the first surface acoustic wave coder/decoder, the operation of a electronic laser color switch, the development of coplanar waveguide (an alternate integrated circuit transmission medium), and the development of high power mm-wave IMPATT devices. Dr. Wen joined Rockwell International Corporation in 1974 and established a microwave device research activity at the Science Center, Thousand Oaks, CA. Subsequently, he transferred to the Rockwell Electronics Division to develop manufacturing technology for discrete microwave devices. In 1982, Dr. Wen joined the Hughes Aircraft Company in Torrance, CA. He has provided leadership to technical teams to develop solid-state devices/components and to transition technology from research and development to manufacturing. Accomplishments include the development of an ultra-high power millimeter-wave IMPATT diode (25-watt pulsed power output at W-band frequencies) and the demonstration of a Gamma-radiation hard, superlattice long-wavelength infrared detector with built-in intrinsic event discrimination capability. He is currently leading a project team to engage in the development of a co-planar waveguide based, dielectric coated, flip-chip monolithic microwave integrated circuit technology. He is also in charge of establishing magnetoresistance position sensor chip manufacturing at Hughes Microelectronics Division for automotive applications. He also held a part-time teaching position under a Hughes microwave engineering program at California State University, Northridge, in the 1980s. He has published more than 30 technical papers on microwave solid-state devices and circuits, lasers, acoustic devices, traveling-wave amplifiers and infrared detectors.

Dr. Wen has been awarded 27 U.S. patents. He was a recipient of the RCA Laboratory Outstanding Achievement Awards in 1964, 1969 and 1973. He is a Senior Member of the IEEE and a Member of the American Physical Society, Sigma Xi, Eta Kappa Nu, and Tau Beta Pi.

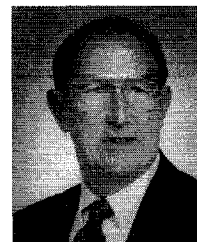
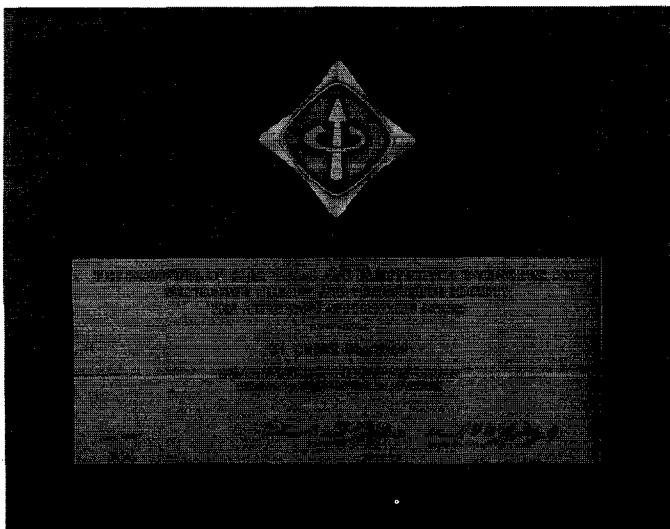


V. DISTINGUISHED EDUCATOR AWARD

The creation of this award was inspired by the untimely death of Prof. F. J. Rosenbaum (1937–1992), an outstanding teacher of microwave science and a dedicated MTT-S AdCom member. This award is to be presented to a distinguished educator in the field of microwave engineering and science who exemplifies the special human qualities of the late Fred J. Rosenbaum. The awardee must be a distinguished educator, recognized, in general, by an academic career. It is desirable for the candidate to have received other teaching awards. The effectiveness of the educator should be supported by a list of graduates in the field of microwave science who have become recognized in the field. Relevant letters of support are encouraged to bolster the nomination. The candidate also should have an outstanding record of research contributions documented in archival publications, as well as a record of many years of service to MTT-S.

The recipient of the 1995 Distinguished Educator Award is Dr. G. P. (Pete) Rodrigue of the Georgia Institute of Technology. He is a gifted teacher and has made many significant contributions to MTT-S. His citation reads:

"For an Exemplary Career in Education and Research and Dedicated Service to the Microwave Profession."

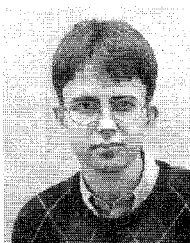
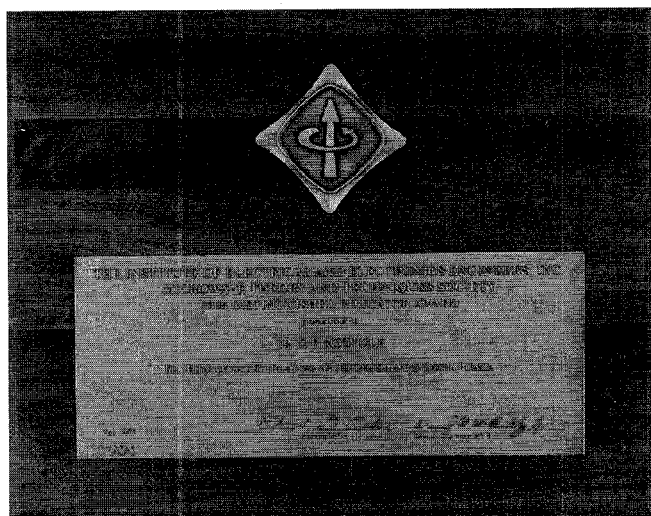


G. Pete Rodrigue (S'56-M'65-SM'69-F'75) received B.S. and M.S. degrees in physics from the Louisiana State University in 1952 and 1954, respectively. He then studied under Prof. C. L. Hogan at Harvard University where he completed the Ph.D. degree in applied physics in 1958. His dissertation dealt with microwave properties of ferrimagnetic garnets.

From 1958 to 1968 he worked for the Sperry Microwave Electronics Company in Clearwater, FL. At Sperry he continued research on properties and microwave applications of ferrites, and worked on the development of parametric amplifiers, and microwave acoustic devices. In 1968 he joined the faculty of the School of Electrical Engineering at Georgia Tech as a Professor. He was made a Regents' Professor in 1977. At Georgia Tech, he introduced new microwave course work at both the graduate and undergraduate levels, as well as in continuing education programs. His Ph.D. students have concentrated on the general areas of microwave materials, transmission lines, and measurements, and in superconductivity.

VI. MICROWAVE PRIZE

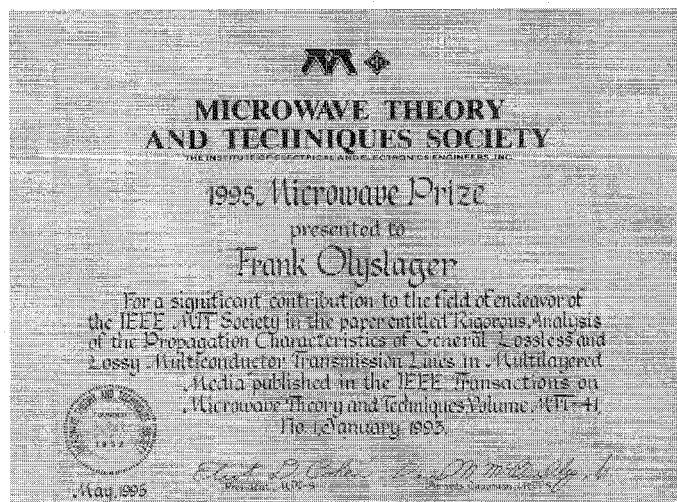
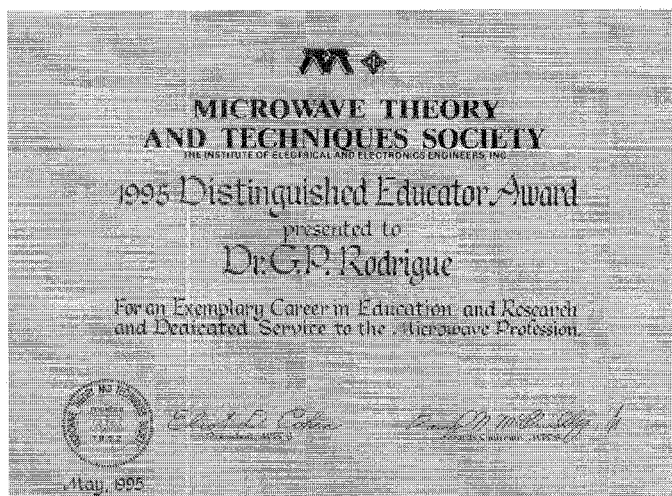
The 1995 Microwave Prize was awarded to Frank Olyslager, Daniël De Zutter, and Krist Blomme for their paper, "Rigorous Analysis of the Propagation Characteristics of General Lossless and Lossy Multiconductor Transmission Lines in Multilayered Media," *IEEE Trans. Microwave Theory Tech.*, vol. 41, no. 1, pp. 79–88, Jan. 1993.



Frank Olyslager (S'90-M'93) was born in Wilrijk, Belgium, on November 24, 1966. He received the electrical engineering degree from the University of Ghent, Belgium, in 1989. From 1989 until 1993 he was a Research Assistant of the National Fund for Scientific Research of Belgium. In 1993 he obtained the Ph.D. degree from the Laboratory of Electromagnetism and Acoustics (LEA) of the University of Ghent with a thesis entitled "Electromagnetic Modeling of Electric and Dielectric Waveguides in Layered Media."

At present he is a Postdoctoral Researcher of the National Fund for Scientific Research of Belgium in the Department of Information Technology (the former LEA) of the University of Ghent. His research concerns the use of integral equation techniques to solve Maxwell's equations numerically. His activities focus on the electromagnetic wave propagation along high-frequency electrical and optical interconnections in multilayered isotropic and bianisotropic media, on the singularity of electromagnetic fields at edges and tips, and on the study of Green's dyadics in bianisotropic media. He is also investigating the construction of transmission line models for general waveguide structure and electromagnetic compatibility problems on printed circuit boards and microwave circuits. His personal interests also include gravitational wave propagation. He is author or co-author of more than 20 papers in international journals and of 15 papers in conference proceedings. He is also co-author of the book *Electromagnetic and Circuit Modeling of Multiconductor Lines* (Clarendon Press, 1993) in the Oxford Engineering Science Series.

In 1994 he became laureate of the Royal Academy of Sciences, Literature and Fine Arts of Belgium.



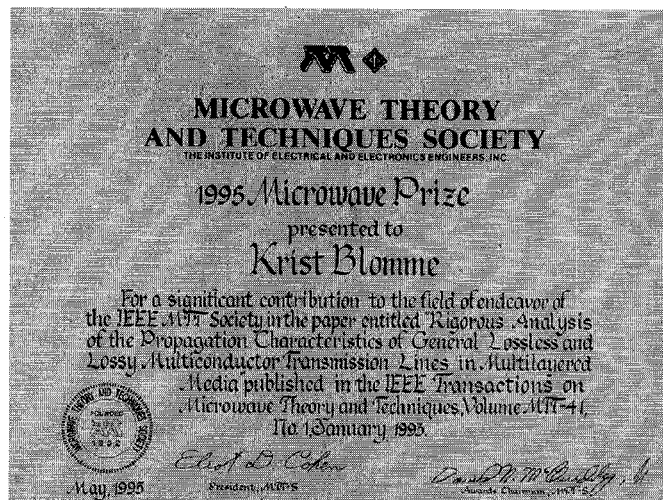


Daniël De Zutter (M'92) was born in Eeklo, Belgium, on November 8, 1953. He received the degree in electrical engineering from the University of Ghent, Belgium in 1976. From 1976 to 1984 he was a Research and Teaching Assistant in the Laboratory of Electromagnetism and Acoustics (now the Department of Information Technology) at the same university. In 1981 he obtained the Ph.D. degree; his dissertation was "Scattering and Radiation by Moving Objects and Sources" and he completed a thesis in 1984 titled "Electromagnetic Field and

Force Calculations in the Presence of Moving Conductors and Moving Sources" leading to a degree equivalent to the French Agrégation or the German Habilitation.

He is now Professor at the Department of Information Technology, University of Ghent and Research Director of the National Fund for Scientific Research of Belgium. Most of his earlier scientific work, under the supervision of Jean Van Bladel, dealt with the electrodynamics of moving media, with emphasis on the Doppler effect and on Lorentz forces. His research now focuses on all aspects of circuit and electromagnetic modeling of high-speed and high-frequency interconnections, on electromagnetic compatibility, and electromagnetic interference topics, and on indoor propagation. As author or co-author, he has contributed to about 60 international journal papers and 70 papers in conference proceedings. He co-authored the book *Electromagnetic and Circuit Modeling of Multiconductor Lines*, (Clarendon Press, 1993) in the Oxford Engineering Science Series.

In 1990 Dr. De Zutter was elected as member of the Electromagnetics Society.

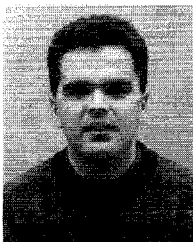
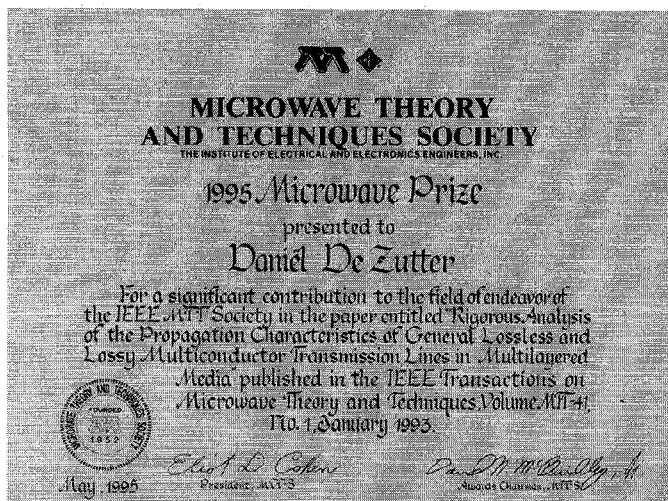


VII. HONORARY LIFE MEMBER

Honorary Life Members of MTT-S are elected by AdCom in recognition of outstanding technical accomplishments, service to the profession, MTT-S, and IEEE. An Honorary Life Member is entitled to all discussion and voting privileges on matters before AdCom, except on elections. Honorary Life Members also serve on MTT-S AdCom Standing Ad Hoc Committees.

Dr. Tatsuo Itoh was elected Honorary Life Member during the December 12, 1994 meeting of AdCom. His citation reads as follows:

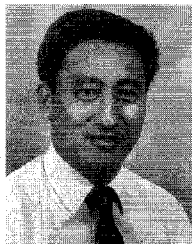
"The Microwave Theory and Techniques Society Hereby Acknowledges the Continued Outstanding Contributions and Services of Tatsuo Itoh with the Award of Life Member, 12 December 1994."



Krist Blomme (S'90-M'91) was born in Eelko, Belgium, on October 17, 1968. He received the electrical engineering degree from the University of Ghent, Belgium, in 1991.

At present, he is a Research Assistant of the National Fund for Scientific Research of Belgium in the Department of Information Technology of the University of Ghent. He is working toward the Ph.D. degree in electrical engineering. During his licentiate thesis he studied polygonal waveguides embedded in layered media. In the first part of his

Ph.D. research he investigated the incorporation of via holes, finite conductor thickness and air bridges in spectral Green's functions for layered media. At present he is studying the use of wavelets and related functions in the Method of Moments. He is author or co-author of three papers in international journals and of six papers in conference proceedings.

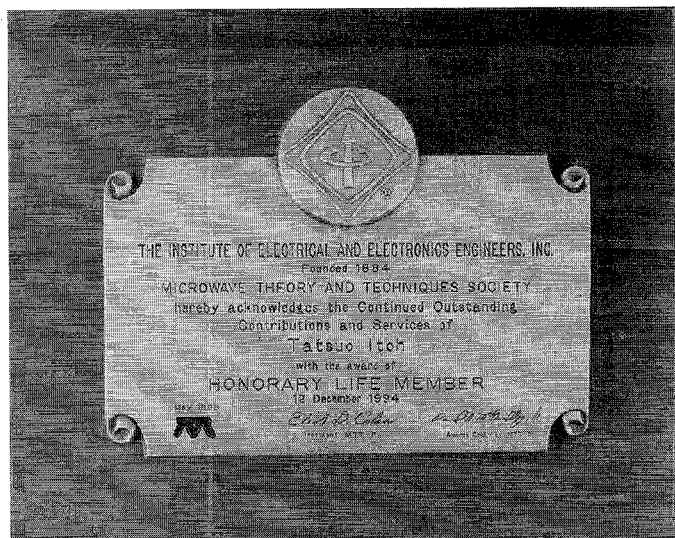


Tatsuo Itoh (S'69-M'69-SM'74-F'82) received the Ph.D. degree in electrical engineering from the University of Illinois, Urbana in 1969.

From 1966 to 1976, he was with the Department of Electrical Engineering, University of Illinois. From 1976 to 1977, he was a Senior Research Engineer in the Radio Physics Laboratory, SRI International, Menlo Park, CA. From 1977 to 1978, he was an Associate Professor at the University of Kentucky, Lexington. In 1978, he joined the faculty at the University of Texas at Austin, where

he became a Professor of Electrical Engineering in 1981 and Director of the Electrical Engineering Research Laboratory in 1984. In 1983, he was selected to hold the Hayden Head Centennial Professorship of Engineering and in 1984, he was appointed Associate Chairman for Research and Planning of the Electrical and Computer Engineering Department at the University of Texas. In 1991, he joined the University of California, Los Angeles as Professor of Electrical Engineering and holder for the TRW Endowed Chair in Microwave and Millimeter Wave Electronics and is co-Director of the Joint Services Electronics Program.

Dr. Itoh is a member of the Institute of Electronics and Computer Engineers of Japan, Sigma Xi, and Commissions B and D of USNC/URSI. He served as Editor of IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES from 1983 to 1985. He serves on the Administrative Committee of IEEE Microwave Theory and Techniques Society, where he previously was Vice President and President in 1989 and 1990, respectively. He is the Editor-in-Chief of IEEE MICROWAVE AND GUIDED WAVE LETTERS. He also serves on IEEE TAB periodicals Council and Publication Board as Division IV Representative from 1992 to 1993. He was the chairman of USNC/URSI form 1988 to 1990 and is the Vice Chairman of Commission D of the International URSI.



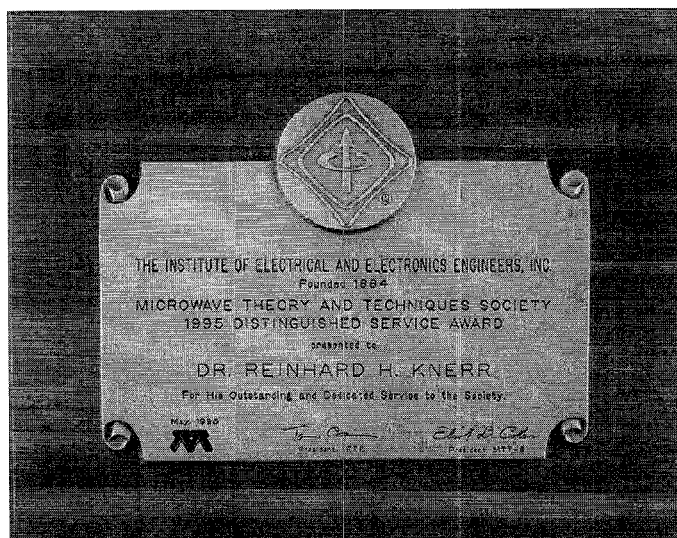
VIII. DISTINGUISHED SERVICE AWARD

The Distinguished Service Award is presented to honor an individual who has given outstanding service over a period of years for the benefit and advancement of MTT-S.

Dr. Reinhard H. Knerr is this year's honored recipient who has served MTT-S in a variety of functions, including President of our Society.

The citation for the Distinguished Service Award reads: "For His Outstanding and Dedicated Service to the Society." The award consists of a plaque and certificate.

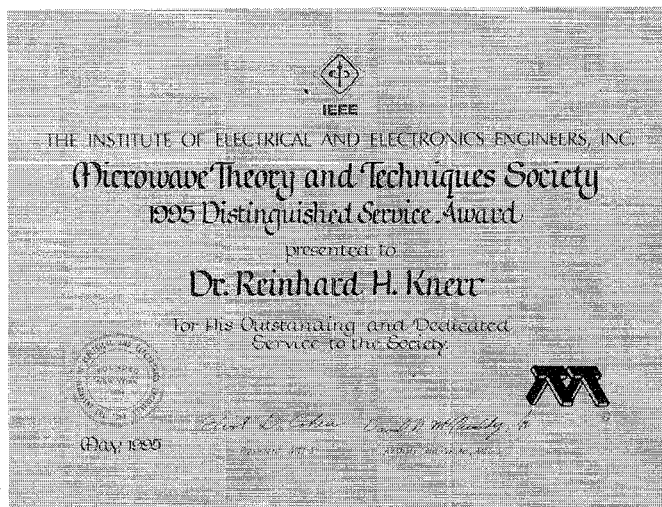
Board for Transactions on MTT since 1974, Co-Chair of AdHoc Committee on Publications 1979, Member Publications Evaluation Committee 1980 to 1982, Chairman, Publications Evaluation Committee 1983, Representative and Founding Member of the Journal of Lightwave Technology 1977 to 1978, Co-Representative to Lightwave Technology Council 1983, Liaison Representative to New Jersey Coast, MTT/ED/QEA Chapter 1983 to 1988, Liaison to Benelux MTT/AP Chapter 1985 to 1994, Liaison to French MTT Chapter 1989 to 1994, Representative to TAB 1986, Intersocietal Relations/Planning Activity Chairman 1985, AdCom Advisory Committee Member 1991 to 1992, Long Range Planning Committee Chairman 1985, Past Presidents Council Chairman 1993 to 1994. His Accredited Standards Committees activities include: X3T9—Management Committee for X3T9.2 (SCSI); X3T9.3 (Fiber Channel); X3T9.5 (Fiber Distributed Data Interface, FDDI);—AT&T Voting Member (Principal) since 1985; X3T9.5—FDDI; AT&T Principal Member since 1978, involved in the total evolution of the FDDI Standard; and X3T9.3 Fiber Channel; Alternate Voting Member since 1989.



Reinhard H. Knerr (M'71-SM'73-F'80) received the Cand. Ing. degree in 1960 from Technical University of Aachen, Germany, the Dipl. Ing. degree in 1962 from École Nationale Supérieure d'Hydraulique, d'Électronique de Toulouse, France; the M.S.E.E. degree in 1964 from Lehigh University; and the Ph.D. in electrical engineering in 1968 from Lehigh University. His dissertation was on electro-magnetic propagation in nonreciprocal, gyrotropic materials.

Dr. Knerr has been a Member of the Technical Staff of AT&T Bell Laboratories since 1968, where he has developed microwave ferrite devices, and solid state low noise and power amplifiers. He has held various management positions and has introduced microwave and lightwave products into manufacture in several AT&T factories in the US and Europe. He is presently involved in the development of high reliability, lightwave components for submarine cable applications.

Dr. Knerr's honors include: 1961 to 1962 German Government Scholarship to study in Toulouse; 1962 to 1963 Baldwin Scholar at Lehigh University; and 1964 NATO Scholar at Lehigh University studying plasma oscillations in thin silver films. His MTT-S activities include: Fellow IEEE, MTT-S President 1986, MTT-S Transactions Editor 1980 to 1982, Distinguished Microwave Lecturer 1988 to 1989, Awards Chairman 1992 to 1994, AdCom Member 1978 to 1986, Member of IEEE delegation to USSR 1979, Co-Chairman of Technical Committee on MIC's (MTT-6) 1976, Chairman of Technical Committee on MIC's 1977 to 1978, Member of Technical Committee on Microwave Ferrites (MTT-13), Assistant Chairman for MTT-S Technical Committees 1978, MTT-S Guest Editor 1978, Transactions Business Editor 1979, Member of Editorial

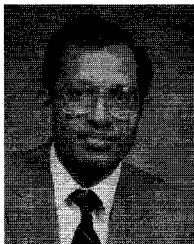


IX. N. WALTER COX AWARD

The N. Walter Cox Award has been established in recognition of the qualities of N. Walter Cox and his service to the MTT Society prior to his untimely death in 1988. It is given aperiodically to a Society Volunteer whose efforts on behalf of MTT-S best exemplify his spirit and dedication.

Dr. Krishna K. Agarwal of the University of Bridgeport is the recipient of this year's award. He has been a contributor to MTT-S for a long time and often under very difficult personal circumstances. His citation reads:

"For Exemplary Service, Given in a Spirit of Selfless Dedication and Cooperation."



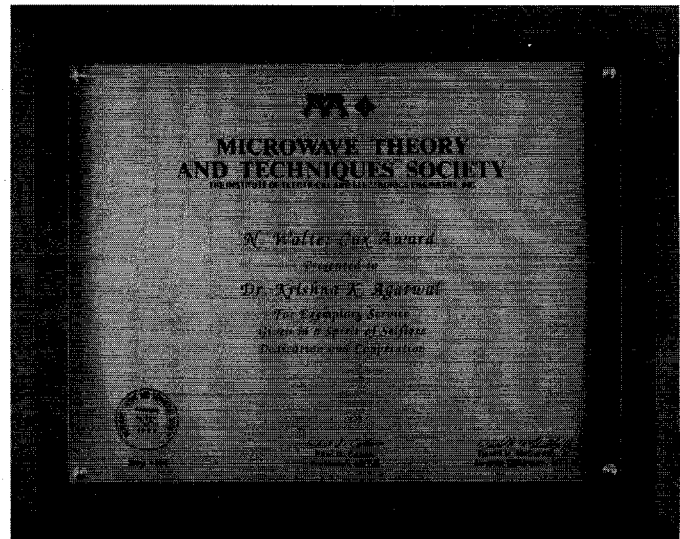
Krishna Agarwal (S'62-S'69-M'73-SM'84-F'92) received the B.E. (Hons.) degree in 1960 from Roorkee University, Roorkee (India), the Master of Technology degree in 1962 from Indian Institute of Technology, Kharagpur (India), and the Ph.D. degree in 1973 from North Carolina State University, Raleigh, NC, all in electrical engineering.

In 1962, he served a one year fellowship at the Philips Research Labs, in Eindhoven, The Netherlands. He subsequently became a Research Fellow in microwave magnetized ferrites in the Electrical

Engineering Department at the Technical University of Eindhoven. He has been a Professor of Electrical Engineering in the School of Science and Engineering at the University of Bridgeport, Bridgeport, CT since 1993. In 1967, Dr. Agarwal became a member of the technical staff in the Transmission Systems Division at Bell Telephone Labs, North Andover, MA. His research work primarily addressed applied microwave circuits and GaAs FET's for low-noise and medium power applications. He was credited with the first insertion of a 6-GHz low-noise FET amplifier in the Single Sideband system of the Bell System network. From 1980 to 1982 at TRW and at Rockwell Collins from 1982 to 1987, he was Manager of advanced microwave circuit technology for point-to-point digital radio systems. He joined E-Systems, Electronic Warfare Division in 1987 to manage the development of high performance wideband receiver systems. He was a Member of the corporate science and technology advisory board and Chairman of the MMIC committee at E-Systems. He was inducted in the E-Systems Hall of Fame in 1992 and further honored by E-Systems in 1993 when he was presented the highest award of E-Systems Corporation for his outstanding research efforts by the Chairman of the Board of Directors.

Dr. Agarwal has published over 25 papers in IEEE/MTT-S Transactions and other journals. He has presented many papers at International Microwave Symposia, chaired and organized several panel sessions and workshops. He has served on the IEEE Press Board and on MTT-S AdCom as Chairman of the Education Committee, Technical Committees and co-Chairman of Membership Services. He now serves as Chairman of the Distinguished Microwave Lecturer program of MTT-Society. He serves on the editorial boards of MTT-S Transactions, *Microwave & Optical Technology Letters*, and *Electronic Letters* and is a contributing editor to the *Applied Microwave & Wireless* magazine.

Dr. Agarwal is a Fellow of IEEE. He is a member of Eta Kappa Nu, Pi Mu Epsilon and Tau Beta Pi honor societies. A President of India Gold Medalist for merit, he received Philips, NASA, and Ford Foundation fellowships for graduate studies.



X. PRESENTATION OF 1995 IEEE FELLOWS

Twelve MTT-S members who were evaluated by our Society were elected to the grade of Fellow, effective Jan. 1, 1995. Fifteen other MTT-S members who were evaluated by other Societies were also elected to the grade of Fellow.

The grade of Fellow is conferred in recognition of unusual professional distinction. It is awarded at the initiative of the IEEE Board of Directors after a rigorous evaluation process. Individuals receiving this distinction have demonstrated extraordinary contributions to one or more fields of electrical engineering, electronics, computer engineering, and related sciences. This grade is not conferred automatically on nomination: only a fraction of those nominated are honored by elevation to the grade of Fellow IEEE.

Rolf Jansen, Division IV Director and a present member of MTT-S AdCom, introduced the following new Fellows who elected to receive their certificates at the 1995 IMS Awards Banquet:

Renato G. Bosisio: For contributions to microwave instrumentation, computer-aided measurements, and microwave power applications.

J. Brian Davies: For contributions to computer-aided engineering of optical and microwave devices, and the advancement of finite element methods for electromagnetic field analysis.

Lionel E. Davis: For contributions to the development of novel circuit configurations using nonreciprocal media.

Robert L. Eisenhart: For contributions to the modeling, design, and measurement of microwave circuits and antennas.

Peter A. Rizzi: For contributions to microwave education, and the innovative design of microwave filters and ferrite components.

Klaus F. Schuenemann: For contributions to the analysis, modeling, and design of active and passive microwave components.

Richard A. Sparks: For leadership in the development, application, and manufacture of solid-state microwave devices for missile and radar systems.

Barry E. Spielman: For leadership in research and teaching in the microwave and millimeter-wave integrated circuits area.

Peter W. Staecker: For leadership and contributions to the design and development of microwave and millimeter-wave devices and circuits.

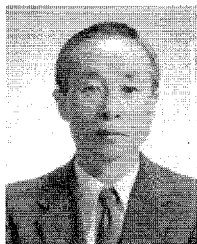
Britton T. Vincent, Jr.: For contributions to the development of solid-state phased-array radar systems and hybrid microwave integrated circuits.

XI. DISTINGUISHED LECTURER

The MTT-S Distinguished Lecturer provides a very valuable service to our Society by giving many expert lectures to MTT Chapters around the world. The Lecturer spends significant time traveling to keep our members updated on the latest developments in their field of expertise.

We were privileged to have Dr. Tsukasa Yoneyama, Professor at the Research Institute of Electrical Communication at Tohoku University, as the MTT-S Distinguished Lecturer from 1993 to 1995. The title of his lecture is:

"Non-Radiative Dielectric Waveguide and its Application."



Tsukasa Yoneyama (S'60-M'64-SM'84-F'90) received the B.E., M.E., and Ph.D. degrees, all in electrical communication engineering from Tohoku University, Sendai, Japan, in 1959, 1961, and 1964, respectively.

He was appointed a Research Associate and an Associate Professor at the Research Institute of Electrical Communication, Tohoku University, in 1964 and 1966, respectively, and a Professor in 1986 after serving as a Professor at the Faculty of Engineering, Ryukyu University from 1984 to 1986.

Working in the field of antennas, and microwave and millimeter wave transmission lines, he has proposed and developed the nonradiative dielectric waveguide, which has been proven to be attractive to the use of millimeter wave integrated circuits and antennas. He has also made a significant contribution in the field of microwave and optical wave interaction by developing the inverted slotline optical modulator.

Dr. Yoneyama is a member of the Institute of Electronics, Information and Communication Engineers (IEICE) of Japan, the Institute of Electrical Engineers (IEEE) of Japan, and the Institute of Television Engineers (ITE) of Japan. He was Chairman of the Research Committee of Microwave, IEICE from 1989 to 1991, Chairman of IEEE MTT-S Tokyo Chapter from 1991 to 1992, Chairman of the Investigation Committee of Millimeter Waves, IEEE, from 1990 to 1993, and also served as Chairman of the Steering Committee of the 3rd Asia-Pacific Microwave Conference, Tokyo in 1990. From 1993 to 1995, he is the Distinguished Microwave Lecturer of IEEE MTT-S for Region 10. He has published more than 80 papers. He was awarded the Inada Memorial Prize, the Best Publication Prize, and the Best Paper Prize from the IEICE in 1963, 1983, and 1990, respectively.

