

# 1993 MTT-S Awards

Reinhard H. Knerr, *Fellow, IEEE*

LIKE every year, the Awards Banquet at the International Microwave Symposium is the social highlight of the event. We get together in a festive environment to recognize our colleagues who have distinguished themselves through outstanding technical achievements and those who have worked quietly behind the scenes and provided the service to our members which we take for granted.

Our international Awards Evaluation Committee, the Fellow Nominations Committee, and the Microwave Prize Committee have worked hard to reach a consensus on who of the deserving candidates should be honored this year.

We are proud to present these people to you and feel honored ourselves, since we are part of one professional society.

This year, the awards were presented by Dr. Peter Staecker, President MTT-S, to the following recipients:

Microwave Career Award	Herbert Döring and Leonard Lewin
Microwave Pioneer Award	Claud E. Cleeton and C. Lester Hogan
Microwave Application Award	John L. Carter and Irving Reingold
Microwave Prize	Z. Basta-Popovic, R. M. Weikle II, Moonil Kim, and D. B. Rutledge
Distinguished Educator Award	Arthur A. Oliner
Distinguished Service Award	Stephen F. Adam
N. Walter Cox Award	J. E. Degenford
Past President	Reynold S. Kagiwada

Meritorious Service Awards were presented to Louis Medgyesi-Mitschang, "For his outstanding effort in administering the Distinguished Lecturer Program"; John H. Bryant, "For his efforts in producing an outstanding Heinrich Hertz Centennial"; Roberto Sorrentino, "For sustained service, in Europe, to the benefit of MTT-S"; and Edward C. Niehenke, "For his leadership in creating the IMS Guidelines and Procedures Manual."

Certificates of Recognition were presented to Jerry Hausner, Chairman, 1992 International Microwave Symposium; Robert Hutchins, Technical Program Committee Co-Chairman, 1992, International Microwave Symposium; Robert Antinone, Technical Program Committee Co-Chairman, 1992 International Microwave Symposium; Dennis Martin, Local Arrangements Chairman, 1992 International Microwave Symposium; Alejandro Chu, Chairman, 1992 Microwave and Millimeter-Wave

Monolithic Circuits Symposium; Krishna K. Agarwal, Member, MTT-S Administrative Committee, 1987-1992; Zvi Galani, Member, MTT-S Administrative Committee, 1990-1992; Branka Jokanovic, Member, MTT-S Administrative Committee, 1991; Steven J. Temple, Member, MTT-S Administrative Committee, 1985-1992; and James C. Wiltse, Member, MTT-S Administrative Committee, 1990-1992.

## MTT SOCIETY AWARDS

### Career Award

The Microwave Career Award is the highest honor bestowed by MTT-S. It recognizes an individual for a lifetime career of meritorious service and technical excellence in our field.

In 1993, two individuals will be so honored: Herbert Döring, Technical University of Aachen, Germany, retired, and Leonard Lewin, University of Colorado, retired. Both individuals had very distinguished teaching careers and have established themselves as world-renowned researchers. MTT-S is very proud to have members like Professors Döring and Lewin and considers them very worthy of its highest award. Their Career Award Citation reads:

"For a Career of Meritorious Achievement and Outstanding Contributions to the Field of Microwave Theory and Techniques." The award consists of a plaque, certificate, and \$2000.

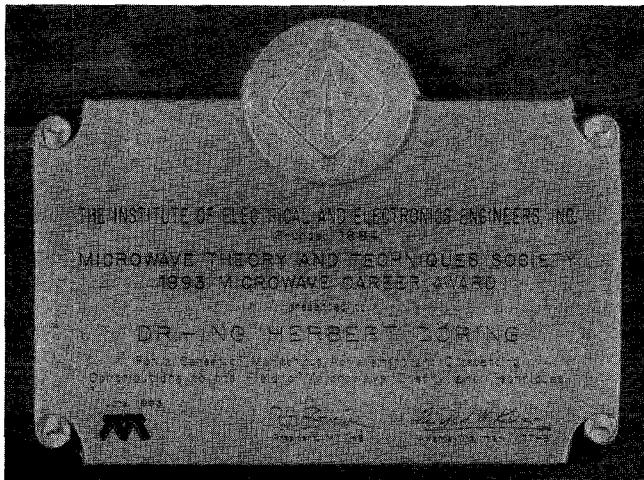


**Herbert K. Döring** (F'74) was born in Vienna, Austria on February 10, 1911. He studied electrical engineering at the Technical University, Vienna, Austria and received the Dipl. Ing. degree and the Ph.D. degree in 1934 and 1936, respectively.

From 1936 to 1938 he developed broadcast receivers at the Siemens and Halske AG, Vienna. For three years he was with the AEG-Research Institute at Berlin where he studied the behavior of electrons in high-frequency fields. In 1941 he joined the C. Lorenz AG where he continued work on velocity modulated coaxial-line oscillators, at first for fixed frequencies. Subsequently, he developed a tunable coaxial-line-Generator for the lower dm-range. After World War II, he developed radio tubes at C. Lorenz AG. Besides this work, he concluded his studies in 1949 at the Technical University of Stuttgart, where he gave lectures on ultra-high frequency techniques and on microwave tubes. In 1952 he was appointed Full Professor at the Technical University Aachen, where he founded the Institute of High-frequency Techniques and where he lectured until 1980. He was Dean of the faculty of Mechanical and Electrical Engineering and later first Dean of the faculty of Electrical Engineering at the RWTH Aachen. He was visiting Professor at the Indian Institute of Technology of Madras, India, in Teheran, Iran, and in Beijing and Nanjing, China. Most of his publications concern the theory of microwave tubes. After his retirement he worked on Gyrotrons and on the history of electron tubes. For five years he was Vice President of the German Research Association (Deutsche Forschungsgemeinschaft)

and for eight years was a surveyor in this organization. For two years he was Vice President and for the following two years President of the Communication Society in Germany (Nachrichtentechnik, Gesellschaft in the VDE). He was regional editor of the Electronics Letters and is member of the editorial board of the *International Journal of Electronics and Communication* (AEÜ). He was also Kurator of the Physikalisch-Technische Bundesanstalt.

In 1970 Dr. Döring was elected a member of the Rheinisch-Westfälische Academy of Sciences and in 1971 a corresponding member of the Austrian Academy of Sciences. He received the ring of honour of the Verband Deutscher Elektrotechniker (VDE) and the Wilhelm-Exner Medal from the Austrian Tradesman's Union. In 1982 he became Honorary Professor at the Southeast University, Nanjing. He has served in the IEEE Section West Germany.



**Microwave Theory and Techniques Society  
1993 Microwave Career Award**

presented to

**Dr.-Ing Herbert Döring**

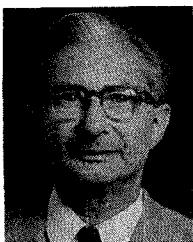
For a Career of Meritorious  
Achievement and Outstanding  
Contributions to the Field of  
Microwave Theory and Techniques



June, 1993

Peter Budde  
President, MTT-S

Reinhard H. Kuehr  
Awards Chairman, MTT-S



**Leonard Lewin** (F'92) was born on July 22, 1919 in Essex, England. He graduated from Southend-on-Sea High School in 1937 and joined the Marconi Wireless Telegraph Company, working on radio and antennas.

In 1941 he became an instructor in radio for the British Armed Forces, and thereafter joined the Admiralty Signals Establishment at a Temporary Experimental Officer, working on radar and antenna design until the end of World War II. In 1946 he joined the Standard Telecommunication Laboratory as a Senior Engineer, where he participated in the design of the first linear electron accelerator to 1 MeV, and the first British commercial microwave link. In 1950 he became head of the Microwave Department,

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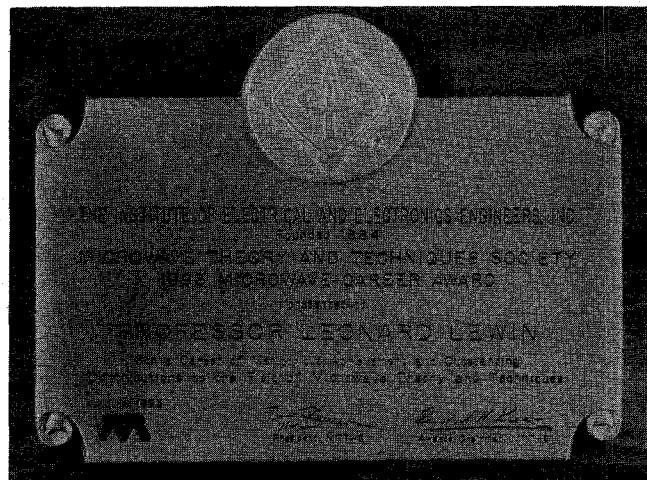
working on the design of microwave components, antennas, and long-haul millimetric waveguide systems. In 1960 he was appointed Assistant Manager of the Transmission Research Laboratory, and in 1967, after a one-year sabbatical at the University of Colorado at Boulder, he was promoted to the position of Senior Principal Research Engineer.

In 1968 he emigrated to the U.S. and was appointed Professor of Electrical Engineering at the University of Colorado, becoming Coordinator of the M.S. Interdisciplinary Program in Telecommunications until his retirement in 1986. He is currently a Professor Emeritus of the College of Engineering and Applied Science at the University of Colorado at Boulder.

He has received two IEE (England) Premium Awards, and in 1963, the IEEE Microwave Prize and the W. G. Baker Award for his pioneering paper on singular integral equation methods of analyzing waveguide structures. In 1967 the University of Colorado awarded him an honorary D.Sc degree, and in 1981 he became a Fulbright Scholar, lecturing in Austria, Turkey, and Yugoslavia. He has researched and taught at the Ecole Nationale des Télécommunications in France in 1981 and 1990, the University of Auckland in New Zealand in 1987, and at the Max-Planck Institut für Mathematik in Germany in 1991, where he completed his latest book on the polylogarithm function, a mathematical interest he has pursued throughout his adult life.

He has participated in local chapter activities of the IEEE, and also nationally at MTT symposia and various IEEE subcommittees. He is a member of the U.S. National Committee of URSI, a Chartered Electrical Engineer (England), and a Fellow of the British Interplanetary Society. He has reviewed technical papers for a number of journals, and is a consultant to both British and U.S. companies. In 1987 he was invited to give the IEE (New Zealand) National Prestige lecture on the topic of Education, a subject on which he has written a number of articles, particularly as it pertains to the teaching of science and mathematics.

Mr. Lewin holds 40 patents and has written nearly 200 technical publications, including 10 research books on waveguides, mathematics, and telecommunications, some of which he co-authored or edited.



**THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.**

**Microwave Theory and Techniques Society  
1993 Microwave Career Award**

presented to

**Professor Leonard Lewin**

For a Career of Meritorious  
Achievement and Outstanding  
Contributions to the Field of  
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June, 1993

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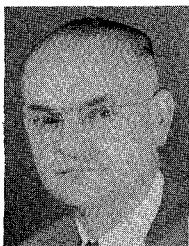
### Pioneer Award

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. It recognizes important technical contributions that have had a continuing impact on the practice of microwave engineering, for a period exceeding two decades.

In 1993, we have two winners: Claud Cleeton, retired Associate Director of the Naval Research Laboratory, and C. Lester Hogan, retired President and Chief Executive Officer of Fairchild Camera and Instrument.

Dr. Cleeton is cited "For Pioneering Contributions to Microwave Spectroscopy." His notebook is now in the Smithsonian National Museum of American History, Washington, DC, Accession 1984.0408. Some of the fundamental work was published in a paper entitled "Electromagnetic Waves of 1.1 cm Wavelength and Absorption Spectrum of Ammonia, *Phys. Rev.*, vol. 45, pp. 234-237, Feb. 1934.

Dr. Hogan is cited "For Pioneering the Application of Ferrites to Microwave Devices." His paper, "The Ferromagnetic Faraday Effect at Microwave Frequencies and its Applications," *Bell System Technical Journal*, vol. 31, pp. 1-31, Jan. 1952, is the seminal paper publication on ferrite devices. The Pioneer Award consists of a plaque and \$1000.



**Claud E. Cleeton** (F'55-LF'75) was born in December 11, 1907 in Schuyler County, MO. He received the B.S. degree in education from Northeast Missouri State Teachers College in 1928, the M.S. degree in physics from the University of Missouri in 1930, and the Ph.D. degree in physics from the University of Michigan in 1935. His Ph.D. thesis at the University of Michigan was "1.1 cm waves and the Absorption Spectrum of Ammonia."

For five years he was an Instructor in Physics at the Junior College in Moberly, MO, the Teachers College in Kirksville, MO and the University of Michigan. He joined the U.S. Naval Research Laboratory in Washington, D.C. in 1936, where he held various positions in the field of Electronics until retiring in 1969 as Associate Director of Research in Electronics.

He is a member of the American Physical Society and Sigma Xi. He received numerous awards among which was the President's Certificate of Merit from President Truman in 1946 and the Navy's Distinguished Civilian Service Award in 1969.

He was granted a dozen patents in electronics and after retirement published two books, *The Art of Independent Investing*, Prentice-Hall, and *Strategies for the Options Trader*, Wiley. In recent years he has written and marketed computer programs.



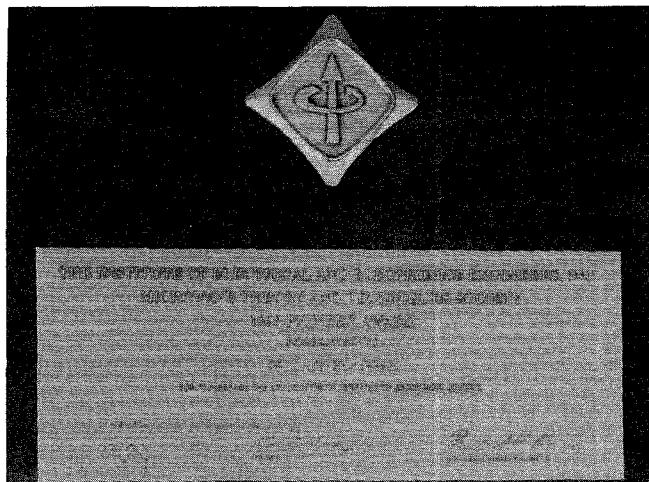
in August 1950.

**C. Lester Hogan** was born in Great Falls, MT. He received the B.S. degree in chemical engineering at Montana State University in 1942. After working in the Research Laboratories of Anaconda Copper Mining Company for several months, he joined the U.S. Navy. He was inducted as an Ensign in 1943 and was placed on inactive duty in June of 1946. His experience in the Navy, all related to the Acoustic Torpedo, led him to get his Ph.D. in physics at Lehigh University, Bethlehem, PA in 1950. He joined Bell Labs

In November 1950, he successfully demonstrated the microwave gyrorator, circulator, and isolator with the help of at least a dozen people at Bell Labs who became very excited about the possibility of such a device. Without their help, encouragement, and support these devices could not have been demonstrated so rapidly. The invention received a great deal of attention throughout the world, and, as a result, he joined Harvard University as an Associate Professor in Applied Physics in 1953. In 1954 he was promoted to Gordon McKay Professor of Applied Physics. From 1958 to 1968, he served as General Manager of the Motorola Semiconductor Products Division, and during that period, became Executive Vice President of the parent Company and a member of the Board of Directors. From 1968 to 1974 he was with Fairchild Camera & Instrument Corporation as President and Chief Executive Officer.

He has received many awards during his career. They include the Frederick Phillips Gold Medal from IEEE in 1976. In 1977 he was elected to membership in the National Academy of Engineering. In 1978 he was elected an Honorary Fellow of the IEE (London), and at the present time is the only American holding this award. In 1979 he received the Medal of Achievement from the American Electronics Association. In addition, he has served on many Advisory Councils in Electrical Engineering and Computer Sciences such as MIT (1974-1985), University of California at Berkeley (1968 to the present), Princeton University (1957-1968), Lehigh University (1965-1971), Stanford University (1977-1987), and Oak Ridge National Labs (1978-1982). In addition, he has served on approximately a dozen Corporate Boards of Directors, and has served on many local and national foundations.

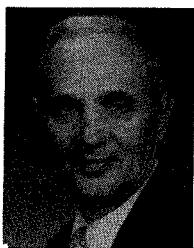
Dr. Hogan has received Honorary degrees from Montana State University, Lehigh University, Worcester Polytechnic, and Harvard University. In addition, he has received the Berkeley Citation from the University of California at Berkeley.



### Microwave Application Award

The Microwave Application Award is presented periodically to individuals 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 1993 recipients of the award are Irving Reingold and John Carter, formerly of the U.S. Army Laboratory Command, Electronics Technology and Devices Laboratory, Fort Monmouth, NJ. The award citation reads: "For Gas Discharge and Ferrite Duplexer Applications to Military Radar." The Microwave award consists of a certificate and \$1000.



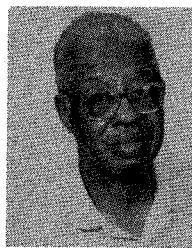
**Irving Reingold** (F'75-LF'91) received the B.S. degree and the Engineer's degree from the Newark College of Engineering (now the New Jersey Institute of Technology) in 1942 and 1949, respectively.

In 1945 he was with the U.S. Army Electronics Research and Development Command, Fort Monmouth, NJ, where his interests covered a wide spectrum of technologies, including radar systems, microwave tubes and associated transmitter devices, display-related development, techniques and applications, and high-energy pulsers for directed energy weapons. He was also Director of the Beam, Plasma, and Devices Division of the Laboratory, and in March 1985 worked on special assignments for the Laboratory Director and Deputy Director. He retired in March 1985 as Deputy Director of the Electronics Technology and Devices Laboratory (ETDL). From March 1985 to June 1989 he was with the Southeastern Center for Electrical Engineering (SCEEE), a support service contractor to ETDL, as an Adjunct Professor and Consultant.

He is and was active on many government, Institute of Electrical and Electronic Engineers (IEEE), and Society for Information Display (SID) committees. He was the Army Deputy member of the Advisory Group on Electron Devices (AGED), was a member of the Sponsors Advisory Committee for the SID-IEEE-AGED Biennial Display Research Conference, was a member of the Administrative Committee of the IEEE Press Editorial Board. He was the 1985-1990 Chairman of the IEEE NJ Coast Selection Honors and Awards Committee.

He is a licensed Professional Engineer in the State of New Jersey, a Fellow of the Society for Information Display, and a member of Sigma Xi. He was the recipient of the 1962 U.S. Army Electronics Research and Development Leadership Award and the 1978 Frances Rice Darne Memorial Award presented by the SID. In 1985 he was the recipient of the Department of the Army Commander's Award and Medal of Meritorious Civilian Service, the Office of the Under Secretary of Defense for Research and Development Citation for Service on the Advisory Group on Electron Devices, and the IEEE Region 1 Award for Electrical Engineering Management. In 1988 he received the Beatrice Winner Memorial Award presented by the SID, and in 1990 he received the IEEE Professional Achievement Award. In 1990, Mr. Reingold was invited to become a member of the MIT Electromagnetic Academy for a five-year term. He is listed in *Who's Who in the East*, and *American Men and Women of Science*, *Who's Who in Technology Today*, *Leaders in Electronics*, and *Who's Who in Aviation and Aerospace*, U.S. Edition. He is presently a member of the New Jersey Institute of Technology Project CAP (Career Advancement Plan) Workforce 2000 Action Council.

Mr. Reingold has been published extensively, and is the holder or co-holder of a dozen patents.



**John L. Carter** received the B.S. degree in physics from West Virginia State University, Morgantown, and has performed graduate studies at New York University and Monmouth College.

From 1949 to 1965, he was Project Engineer for the U.S. Army Electronics Technology and Devices Laboratory and predecessor organizations specializing in gaseous electronics and solid-state physics, and from 1965 to 1987 he was Project Manager for research and development for new concepts and devices for power conditioning and radar transmitters. Since 1987 he has been Consultant to the U.S. Army Electronics Technology and Devices Laboratory, Fort Monmouth, NJ, in high-power electronics and applications. He has over forty years experience in the development of high-power components for power conditioning systems and high-power microwave transmitters. These include gas discharge devices, ferrite devices, and optical and microwave transmitters. He has also worked extensively in the areas of high-power microwave effects, pulse generators, and X-ray generators.

Mr. Carter has over 50 professional publications and holds over 25 patents.



## MICROWAVE THEORY AND TECHNIQUES SOCIETY

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

### 1993 Microwave Application Award

presented to

**John L. Carter**

For Gas Discharge and Ferrite Duplexer  
Applications to Military Radar.



June, 1993

Peter Glieben  
President, MTT-S

Richard H. Kress  
Awards Chairman, MTT-S



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June, 1993

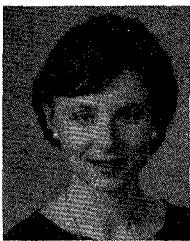
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### Microwave Prize

The Microwave Prize is awarded annually to the author or authors of a paper published in the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES or any other IEEE journal which is judged to be the most significant contribution in the field of interest of the Society in the calendar year preceding that in which the selection is made. The award consists of a certificate, \$1000 (to be divided equally among multiple authors), and a feature publication in the MTT-S TRANSACTIONS.

The 1993 Microwave Prize was awarded to Z. P. Popovic, R. M. Weikle II, Moonil Kim, and D. B. Rutherford for their paper "A 100-MESFET Planar Grid Oscillator," which appeared in the February 1993 issue of IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES (vol. 39, no. 2, pp. 193-199).



**Zoya Basta Popović** was born in Belgrade, Yugoslavia, in 1962. She received the Dipl. Ing. degree in electrical engineering from the University of Belgrade, Yugoslavia in 1985. Her Diploma thesis was the recipient of the City of Belgrade October Award. She received the M.S. and Ph.D. degrees from Caltech, Pasadena, CA, in 1986 and 1990, respectively. During her graduate studies, she worked on *W*-band thin, film antennas on thick dielectric substrates. Her Ph.D. thesis was in the area of spatial power combining from the microwave and millimeter-wave frequency region.

In August 1990, she joined the faculty at the University of Colorado, Boulder as Assistant Professor in Electrical Engineering. She teaches courses in the areas of electromagnetics, microwave, and optics, and is in charge of the microwave laboratory. She has developed an undergraduate microwave laboratory course, as well as a graduate-level laboratory course in active microstrip circuit design. Her current research is in the microwave and integrated optics areas. Specific research topics in which she is involved include quasi-optical active and millimeter-wave circuits, with emphasis on design of large scale oscillator power-combiners and studying modulation, injection-locking, and nonlinear properties of these devices. Her other current research interests are in the areas of active antennas, coplanar waveguide circuit modeling, high-efficiency microwave and millimeter-wave amplifier design, optical control of microwave circuits, electrooptic sampling of microwave circuits, and efficient polymeric high speed integrated electrooptic devices and circuits.

Dr. Popović is a member of IEEE MTT, and was elected a member of Commission D of URSI in 1991. She is currently serving as Chairman for the IEEE Boulder/Denver Joint MTT/AP/GRS Chapter. In 1992, she received the Junior Faculty Development Award from the University of Colorado.

frequency solid-state devices, millimeter-wave integrated circuits, and quasi-optical components and techniques.

Dr. Weikle is a member of Phi Beta Kappa, Tau Beta Pi, and the American Physical Society.



## MICROWAVE THEORY AND TECHNIQUES SOCIETY

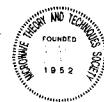
THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

### 1993 Microwave Prize

presented to

**R.M. Weikle II**

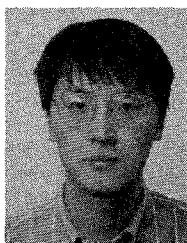
For a significant contribution to the field of endeavor of the IEEE MTT Society in the paper entitled "A 100-MESFET Planar Grid Oscillator" published in the IEEE Transactions on Microwave Theory and Techniques, Volume MTT-39, No 2, pp. 193-199, February 1991.



June, 1993

*Peter Bradburn*

*Richard H. Kraus*



Korea.

**Moonil Kim** (S'91) was born in Seoul, Korea, on March 14, 1965. He received the B.S. degree from the Illinois Institute of Technology in 1987, and the M.S. and Ph.D. degrees from the California Institute of Technology in 1988 and 1992, respectively. As a member of the MMIC group at Caltech, he worked on quasi-optical millimeter-wave power-combining components such as monolithic/hybrid grid oscillators and beam-steering arrays.

Since 1992 he has been with Gold Star, Seoul,



## MICROWAVE THEORY AND TECHNIQUES SOCIETY

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

### 1993 Microwave Prize

presented to

**Dr. Z. Basta - Popovic**

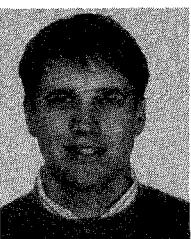
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June, 1993

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President, MTT-S

*Richard H. Kraus*  
Awards Chairman, MTT-S



**Robert M. Weikle II** (M'91) was born in Tacoma, WA on February 13, 1963. He received the B.S. degree in electrical engineering and physics from Rice University, Houston, TX in 1986. In September 1986, he joined the microwave and millimeter-wave IC research group at the California Institute of Technology. He received the M.S. and Ph.D. degrees, both in electrical engineering, from Caltech in 1987 and 1992, respectively. His doctoral research was in the area of quasi-optical planar arrays and their application to large-scale microwave and millimeter-wave power combining. From January to December 1992, he was a member of the Department of Applied Electron Physics at Chalmers University of Technology in Göteborg, Sweden. At Chalmers, he researched and helped develop millimeter-wave HEMT amplifiers and quasi-optical resistive mixers. In addition, he investigated frequency conversion using hot electron effects in thin superconducting films. In January 1993, he joined the faculty at the University of Virginia, Charlottesville, VA, where he is now an Assistant Professor of Electrical Engineering. His research interests include the development of high-fre-



June, 1993



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**David R. Rutledge** (F'93) received the B.A. degree in mathematics from Williams College, Williamstown, MA, in 1973, the M.A. degree in electrical sciences from Cambridge University, Cambridge, England, in 1975, and the Ph.D. degree in electrical engineering from the University of California at Berkeley in 1980.

In 1974 he built medical instruments at Vicks Medical Engineering Ltd., Basingstoke, Hampshire, England. From 1975 to 1976, he designed microwave data-link systems as an Aerosystems

Engineer at General Dynamics Corporation, Fort Worth, TX. In 1980 he joined the faculty at the California Institute of Technology, Pasadena, CA, where he is now Professor of Electrical Engineering. He was a visiting scientist at CSIRO, New South Wales, Australia, in the summer of 1985, and at the Research Institute for Electrical Communication, Tohoku University, Sendai, Japan, in the spring and summer of 1988. He has been a consultant for the Aerospace Corporation, Litton, the Army Night Vision Laboratory, United Technologies, and TRW. His research is in developing microwave and millimeter-wave integrated circuits and applications, and in software for computer-aided design and measurement.

He is co-author with Scott Wedge and Richard Compton of the software CAD program, *Puff*, which has over 10 000 users worldwide. His research group at Caltech developed several key ideas in integrated-circuit antennas, including lens-coupled antennas for focal-plane arrays, anisotropic etching for fabricating horns, and membrane technology for suspending metal antennas. In addition, his group first demonstrated many active grid components, including phase shifters, oscillators, mixers, and amplifiers.

Dr. Rutledge is a winner of the NSF Presidential Young Investigator Award and the Japan Society for the Promotion of Science Fellowship.

The first recipient of the Distinguished Educator Award is Arthur A. Oliner. Dr. Oliner is, of course, a world-renowned scientist. He had many Ph.D. students from the U.S. and the Far East who became well-known scientists, educators, and managers. If we named any here, we would have to make subjective judgments about their stature and probably miss some. I decided, therefore, to omit this long list. However, I would like to cite a portion of a letter from one of Dr. Oliner's Ph.D. students, since it characterizes him so well:

"You have a gift of insight into the heart of a problem, and the ability to make simple models which represent the important features. Your patience, attention to detail, and genuine interest in your students are outstanding. You are able to understand and to communicate in ways that few people can. You are one of the few people I know who knows how to converse, to listen with attention and appreciation, and then respond in a kind and thoughtful manner."

I am continually impressed by your dedication to whatever you take on, always striving to give your best, and always expecting the best from those who work with you. . . . I am a better, more useful man today for having known you."

Quite a few of the postdoctoral students he worked with from the Far East, also rose to prominent positions in both industry and universities. That long list includes B. Ouchi, T. Nakahara, Y. Konishi, and N. Kurauchi from industry, and K. Suetake, S. Nishida, and J. Nishizawa from universities.

Dr. Oliner has been, and still is, an active participant in MTT-S Adcom. We are privileged to have people like him in our MTT Society, and I know that Fred Rosenbaum would give him his vote.



June, 1993

Peter B. Rutledge  
President, MTT-S

Richard H. Knerr  
Awards Chairman, MTT-S

### Distinguished Educator Award

This first Distinguished Educator Award was presented by Dr. Knerr, a close friend of Dr. Fred Rosenbaum, in the presence of Mrs. Carol Rosenbaum, wife of the late Dr. Rosenbaum, and their daughter Ellen.)

The creation of this award was inspired by the untimely death of Dr. F. J. Rosenbaum (1937-1992), an outstanding teacher of microwave science and a dedicated MTT-S ADCOM Member/Contributor.

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, who considered teaching a high calling and demonstrated his dedication to MTT-S through tireless service. The award consists of a plaque and \$1000.

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. The candidate shall also have an outstanding record of research contributions, documented in archival publications. The candidate shall have a record of many years of service to MTT-S.



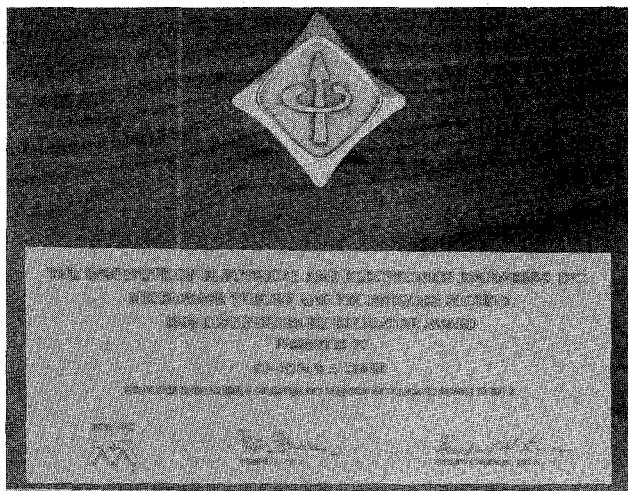
**Arthur A. Oliner** (M'47-SM'52-F'61-LF'87) was born in Shanghai, China, on March 5, 1921. He received the B.A. degree from Brooklyn College, Brooklyn, NY, and the Ph.D. degree from Cornell University, Ithaca, NY, both in physics, in 1941 and 1946, respectively.

He joined the Microwave Research Institute of the Polytechnic Institute of Brooklyn, NY, in 1946, and was made Professor in 1957. From 1966 to 1971, he was Head of the Electrophysics Department; he then became Head of the combined Department of Electrical Engineering and Electrophysics from 1971 through 1974. He was also the Director of the Microwave Research Institute from 1967 to 1981. During the summer of 1964, he was a Walker-Ames Visiting Professor at the University of Washington, Seattle, and during the 1965 to 1966 academic year he was on sabbatical leave at the Ecole Normale Supérieure, Paris, France, under a Guggenheim Fellowship. During the summer of 1973, he was a Visiting Professor at the Catholic University, Rio de Janeiro, Brazil. In the spring of 1978 he was a Visiting Research Scholar at the Tokyo Institute of Technology, Japan. In the spring of 1980 he was a Visiting Professor at the Huazhong (Central China) Institute of Technology, Wuhan, China, and in the fall of 1982 he was a Visiting Professor at the "La Sapienza" University of Rome, Rome, Italy.

His research has covered a wide variety of topics in the microwave field, including network representations of microwave structures, precision mea-

surement methods, guided-wave theory with stress on surface and leaky waves, traveling-wave antennas, plasmas, periodic structure theory, and phased arrays. His interests have also included waveguides for surface acoustic waves and integrated optics and, more recently, novel leaky-wave antennas for millimeter waves and leakage effects in millimeter-wave integrated circuits. He is the author of more than 180 papers and the co-author or co-editor of three books. He served on the Editorial Boards of the journal *Electronic Letters* (published by the British IEE) and the volume series *Advances in Microwaves* (Academic Press). He is also a former Chairman of a National Academy of Sciences Advisory Panel to the National Bureau of Standards (now NIST). He has been a consultant to industry since 1952, for IBM, Raytheon, Boeing, Hughes, AIL, Kaiser Aluminum, Rockwell, MIT Lincoln Lab, CBS Labs., etc. He was a founder of Merrimac Industries and has been on its Board of Directors since 1962.

Dr. Oliner is a Fellow of the AAAS and the British IEE, and he is a member of the National Academy of Engineering. He has received prizes for two of his papers: the IEEE Microwave Prize in 1967 and the Institution Premium, the highest award of the British IEE, in 1964. He was named an Outstanding Educator of America in 1973, and in 1974 he received a Sigma Xi Citation for Distinguished Research. He was President of the IEEE MTT Society, its first National Lecturer, a member of the IEEE Publication Board, and General Chairman of three symposia. In 1982, he received the IEEE Microwave Career Award, and he is one of the six living Honorary Life Members of the MTT Society. In 1984, he was a recipient of the IEEE Centennial Medal, and in 1988 a special retrospective session was held in his honor at the International Microwave Symposium. He is a member of several Commissions of the International Union of Radio Science (URSI), a past U.S. Chairman of Commissions 1 (now A) and D, and a member of the U.S. National Committee of URSI. In 1990, he received the URSI van der Pol Gold Medal, which is awarded triennially, for his contributions to guided-wave theory.



**MICROWAVE THEORY  
AND TECHNIQUES SOCIETY**  
THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

**1993 Distinguished Educator Award**

presented to

**Dr. Arthur A. Oliner**

For an Exemplary Career in Education and Research  
and Dedicated Service to MTT-S.



Peter Bradburn  
President, MTT-S

Richard H. Kuehr  
Awards Chairman, MTT-S

June, 1993

**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.

This year's honoree is Dr. Stephen F. Adam, who served MTT-S and IEEE in various 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.

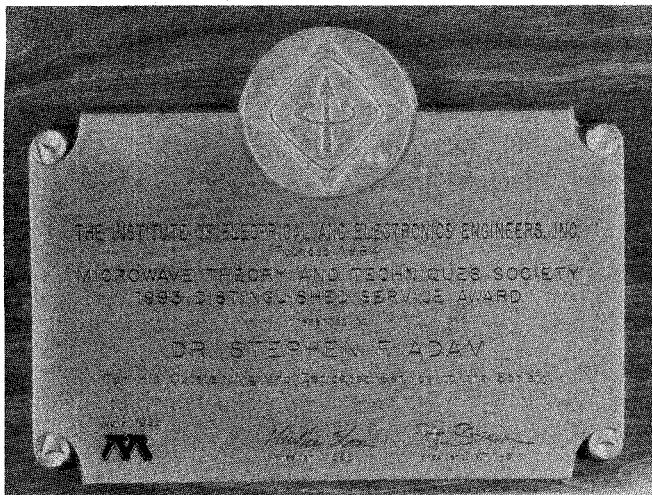


**Stephen F. Adam** (F'81) was born in Hungary. He received the B.S. and M.S. degrees in mechanical engineering, and the M.S. and Ph.D. degrees in electrical engineering in 1951, 1952, and 1965, respectively. He also holds Teachers Life Credentials in the State of California since 1961.

He was an employee of Hewlett Packard Company for 27 years. He is President, CEO of Adam Microwave Consulting, Inc., since its founding, in 1984. He has held various R&D and engineering management positions. His last assignment was the Principal Engineer of the Microwave and Communications Instruments Product Group.

He is the 1980 President of the Microwave Theory and Techniques Society, and Administrative Committee member (1973-1983). He has held various committee's member- and chairmanships within the MTT Society, including: Standards Coordinating Committee, member (1964-1970), Chairman (1970-1978), member of symposia Technical Program Committee (1971-present), Technical Program Committee Chairman (1975 Symposium), General Chairman of 1984 Symposium, Special Issue of Transactions Editor 1975 and 1978, Vice-president, Chairman of Long Range Planning Committee 1979, member of Awards Committees in various years, and Division IV representative to the Transnational Relations Committee (1981-1985). In 1983/84 he was Distinguished Microwave Lecturer. He is Technical Committee Chairman of MTT-11, Microwave Measurements (1988-present); member of Past-Presidents Council, Advisor to MTT-S Presidents (1981-present), member of the MTT-S TRANSACTIONS Editorial Review Committee, Member of the MTT-S LETTERS JOURNAL Editorial Review Board. He is Administrative Committee member of Instrumentation Measurement Society (1990-present), Awards Chairman (1987-present), Division II delegate to the Awards and Recognition Committee of the Technical Activities Board (1988-present), member of the Fellow Award Selection Committee (1991-1993), Board of Directors of (IMTC) Instrumentation and Measurement Technical Conference, General Chairman of 1990 IMTC, member of the Morris E. Leeds Award Committee (1981-1987), Chairman (1983-1985), Executive Committee member of CPEM (Conference on Precision Electromagnetic Measurements) (1977-1980), recipient of several awards, Centennial Medalist, Secretariat (U.S. Delegate) of the International Electrotechnical Commission (IEC) IEC-TC66-WG5 Technical Committee 66/Working Group #5 (1968-1972), member of the Joint Industry Research Committee for the Standardization of Miniature Precision Coaxial Connectors (JIRCSMPCC) sponsored by the Department of Commerce (1968-1972), member of the Association of Old Crows (AOC) since 1978.

Dr. Adam is the author of numerous technical articles, and of the textbook, *Microwave Theory and Applications* (Prentice-Hall, 1969).



**James E. Degenford** (S'59-M'64-SM'85-F'86) was born in Bloomington, IL, on June 11, 1938. He received the B.S., M.S., and Ph.D. degrees in electrical engineering from the University of Illinois, Urbana, in 1960, 1961, and 1964, respectively. His work as a graduate student and Research Associate at the University of Illinois was in the fields of millimeter and submillimeter wave transmission systems and detection techniques.

In 1965, he joined the Westinghouse Electric Corporation, Baltimore, MD, where he is currently a Senior Advisory Engineer in the GaAs Technology Laboratory working in the areas of Microwave and Millimeter Wave Monolithic Integrated Circuits.

He has been an active member of the Microwave Theory and Techniques Society, service first as chairman of the Baltimore AP/MTT chapter in 1974. In 1975, he joined the AdCom, of MTT-S as Secretary and became an elected member in 1976. He served as Business Editor for the MTT's TRANSACTIONS from 1976-1979 and Finance Chairman from 1979-1984. In 1986 he served as Finance Chairman of the International Microwave Symposium held in Baltimore.

Dr. Degenford is a Registered Professional Engineer in the State of Maryland and is also a member of Tau Beta Pi and Sigma Xi. He has over 35 publications and five patents in the microwave field.



### Microwave Theory and Techniques Society 1993 Distinguished Service Award

presented to

**Dr. Stephen F. Adam**

For His Outstanding and Dedicated  
Service to the Society.



June, 1993

Peter Staecker  
President, MTT-S

Reinhard H. Knecht  
Awards Chairman, MTT-S



### MICROWAVE THEORY AND TECHNIQUES SOCIETY

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

#### *N. Walter Cox Award*

*Presented to*

**Dr. J. E. Degenford**

*For Exemplary Service  
Given in a Spirit of Selfless  
Dedication and Cooperation*



June, 1993

Peter Staecker  
President, MTT-S

Reinhard H. Knecht  
Awards Chairman, MTT-S

### *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.

This year's recipient is James E. Degenford of Westinghouse Electric Corporation. He has served nine years on ADCOM, most of them as our treasurer. In his quiet and efficient way, he did a tremendous amount of work and is best described by one of his colleagues as "one of the finest individuals I know!" The award consists of a plaque. The citation reads: "For Exemplary Service, Given in a Spirit of Selfless Dedication and Cooperation."

### *New IEEE Fellows*

Twelve MTT-S members who were evaluated by our Society, were elected to the grade of Fellow, effective January 1, 1993. The grade of Fellow is conferred in recognition of unusual professional distinction. It is awarded at the initiation of the IEEE Board of Directors after a rigorous nomination and 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 mentioned are honored by evaluation to the grade of Fellow of the IEEE.

Ted Saad, representing IEEE, introduced the following new fellows, who elected to receive their certificates at the 1993 IMS.

**Fritz A. Arndt** "For contributions to the field-theory analysis utilized in the design of passive microwave and millimeter-wave components."

**Les Besser** "For contributions to computer-aided microwave circuit design."

**Zvi Galani** "For leadership in the development of low-noise microwave signal generation techniques for missile and radar systems."

**William E. Hord** "For contributions to microwave ferrite phase control components and their application to electronically scanned phased array antenna systems."

**Ferdo Ivanek** "For contributions to the development of fundamental-frequency/microwave oscillators and amplifiers, and their application in analog and digital radio relay systems."

**Stephen A. Maas** "For contributions to the computer-aided analysis of microwave mixers and millimeter-wave circular waveguides."

**David B. Ruttledge** "For leadership in the theory, development, and application of integrated antennas in the millimeter-wave and terahertz regimes."

**Vijai K. Tripathi** "For contributions to microwave and millimeter-wave circuits and to coupled transmission-line techniques."