

# 1983 MTT-S Awards

DON PARKER, FELLOW, IEEE

THE FOLLOWING AWARDS were presented at the Annual Symposium Banquet by MTT-S President, Charles T. Rucker:

Microwave Career Award—Marion E. Hines

Microwave Prize—Kazuhiko Honjo

Yoichiro Takayama

Microwave Application Award—Les Besser

Distinguished Service Award—Theodore S. Saad.

Although these awards were first announced in October 1982, they are designated as the 1983 Awards inasmuch as that is the year they are presented to the recipients.

The Distinguished Service Award is a new award having only been approved by the IEEE in April of this year. The award is to recognize those who have made significant contributions and outstanding service to the Microwave Theory and Techniques Society over many years. The award will be considered every year but need not be given every year.

President Rucker presented the National Lecturer's Plaque to Joseph A. Giordmaine and the Past President's pin to Richard A. Sparks. Certificates of Recognition were given to Reinhard Knerr, Past Editor of the TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES (1980-1982) and to David N. McQuiddy, Steven March, and Jerome K. Butler for their leadership in the 1982 MTT-S Symposium. G. P. Rodrique, Vice-President IEEE Publication Activities, presented three Fellow Certificates to members of the Society. Four former members of AdCom were presented Certificates of Recognition by President Rucker for their various contributions while members of AdCom. These members were Hal Sobol, Bert Berson, Jerry Aukland, and Ganesh Bawasapatna.

## MTT SOCIETY AWARDS

### Microwave Career Award

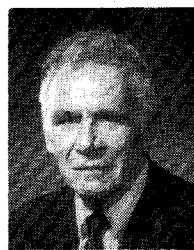
The Microwave Career Award is presented aperiodically to an individual for a career of meritorious achievement and outstanding technical contributions in the field of Microwave Theory and Techniques. The 1983 Career Award was presented to Marion E. Hines in recognition of his extensive contributions to the field over the past nearly 40 years.

After serving in the U.S. Air Force as a weather officer during World War II, Mr. Hines began his microwave career in 1946 at Bell Telephone Laboratories. In 1960 he joined Microwave Associates, Inc. He is currently Vice-President and Chief Scientist for the M/A-COM Corporate Technology Center.

Mr. Hines' contributions have resulted in over 50 technical papers and oral presentations and he holds over 40 patents. He was made a Fellow of the IEEE in 1968. He received a "Best Paper" award from the ISSCC in 1967. He has received the Microwave Prize twice, first for his 1971 paper on Ferrite Propagation and again as a co-author in 1978 for a paper on Phase-Locked Amplification. In 1976 he received the J. J. Ebers Award of the IEEE Electron Device Society and in 1983 he was awarded the IEEE Lamme Medal.

Mr. Hines has worked in areas of microwave tubes, solid-state power generation devices, and stripline propagation using ferrite. He has made contributions to beam focusing, amplification theory, and practical tube development. With H. E. Elder in 1957, he demonstrated the first negative-resistance varactor parametric amplifier. With his co-workers at Microwave Associates, he established many of the fundamental principals of varactor harmonic generation and developed practical microwave power sources using these principals. He has made important contributions to the theory and practical implementation of microwave power switching and phase shifting using semiconductor diodes. He was a pioneer in developing theoretical understanding of IMPATT and Gunn-effect diodes. His contributions include small signal impedance theory, small signal noise theory, large signal noise, instabilities, and intermodulation and nonlinear effects in oscillators and power amplifiers. Mr. Hines' current work is on CAD techniques for microwave network synthesis and equalization and on IMPATT diode power amplification and combining.

His Career Award Citation reads, "For a career of meritorious achievement and outstanding technical contribution in the field of microwave theory and techniques." Mr. Hines received a check for \$1000, a plaque, and a certificate. Further biographical information on Mr. Hines and a copy of his plaque and certificate follow.



Marion E. Hines (S'46-A'47-M'50-SM'60-F'68) was born on November 30, 1918, in Bellingham, WA. He received the B.S. degree in applied physics in 1940 from the California Institute of Technology. He joined the U.S. Army Air Force in 1940 and served as a weather officer throughout the war. He returned to Cal Tech and received the M.S. degree in electrical engineering in 1946. Further part-time graduate study in physics was done in 1947-1948 at Columbia University.

From 1946 to 1960, he was a member of the Technical Staff at Bell Telephone Laboratories. In 1960 he joined Microwave Associates, Inc. At present, he is Vice-President and Chief Scientist for the M/A-COM Corporate Technology Center.



**Microwave Theory and Techniques Society  
1983 Microwave Career Award  
to**

**Marion E. Hines**

for a career of meritorious achievement and outstanding technical contribution in the field of microwave theory and techniques.



June 2, 1983

MICROWAVE THEORY  
AND TECHNIQUES

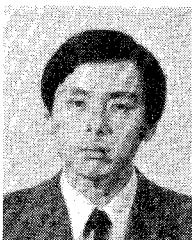


June 2, 1983

**Microwave Prize**

The Microwave Prize is awarded annually for the paper making the most significant contribution in the field of interest to the Society among those published in an IEEE publication during the year ending June 30th. The 1983 Microwave Prize was awarded for the paper "GaAs FET Ultra Broad-Band Amplifiers for GBit/s Data Rate Systems," IEEE TRANSACTIONS MICROWAVE THEORY AND TECHNIQUES, vol. MTT-29, pp. 629-636, July 1981.

The authors Kazuhiko Honjo and Yoichiro Takayama each received a certificate and a check for \$150. A biography of each author and a copy of the certificate follow.



**Kazuhiko Honjo** (M'82) was born in Saitama, Japan, on October 28, 1951. He received the B.E. degree from the University of Electrocommunications, Tokyo, Japan, and the M.E. degree from the Tokyo Institute of Technology, Tokyo, Japan, both in electrical engineering, in 1974 and 1976, respectively.

He joined the Central Research Laboratories, Nippon Electric Co., Ltd., Kawasaki, Japan, in 1976. He has been engaged in the research and development of TRAPATT oscillators, high-power GaAs FET amplifiers, and ultra-broad-band GaAs FET amplifiers, and is presently concerned with GaAs Monolithic IC's.

Mr. Honjo is a member of the Institute of Electronics and Communications Engineers of Japan.



**Yoichiro Takayama** (M'72) was born in Kanagawa, Japan, on January 3, 1942. He received the B.E., M.E., and Dr. Eng. degrees from Osaka University, Osaka, in 1965, 1967, and 1973, respectively.

He joined the Nippon Electric Co., Ltd., Kawasaki, Japan, in 1967 and is now Research Manager of the Ultra High Speed Device Research Laboratory, Microelectronics Research Laboratories. He has been engaged in the research and development of microwave solid-state oscillators, amplifiers, modulators, and sensors. He is now leading the GaAs IC and FET research group.

Dr. Takayama is a member of the Institute of Electronics and Communication Engineers of Japan.



**Microwave Theory and Techniques Society  
1983 Microwave Prize**

**to**  
**Kazuhiko Honjo**

for a significant contribution in the field of endeavor of the IEEE MTT Society in the paper, co-authored by Yoichiro Takayama, entitled "GaAs FET Ultrabroad-band Amplifiers for GBit/s Data Rate Systems," published in the IEEE Transactions on Microwave Theory and Techniques, Volume MTT-29, Number 7, July 1981.

MICROWAVE THEORY  
AND TECHNIQUES



**Microwave Theory and Techniques Society  
1983 Microwave Prize**

**to**  
**Yoichiro Takayama**

for a significant contribution in the field of endeavor of the IEEE MTT Society in the paper, co-authored by Kazuhiko Honjo, entitled "GaAs FET Ultrabroad-band Amplifiers for GBit/s Data Rate Systems," published in the IEEE Transactions on Microwave Theory and Techniques, Volume MTT-29, Number 7, July 1981.

MICROWAVE THEORY  
AND TECHNIQUES



**Microwave Applications Award**

The Microwave Applications Award is presented aperiodically to an individual for an outstanding application of microwave theory and techniques. Les Besser was named the recipient of the 1983 Microwave Application Award for the development and application of COMPACT, a micro-

wave design program. Mr. Besser received a certificate and a check for \$300. A brief biography and a copy of the certificate follow.



**Les Besser** (S'64-M'66-SM'75) received the B.S. degree from the University of Colorado and the M.S.E.E. degree from the University of Santa Clara. While at the University of Colorado he was awarded the "Outstanding Engineering Student" title.

He joined the Hewlett-Packard Company in 1966. He became a member of the Microwave Division of Fairchild Systems in 1970. Between 1972 and 1976, he directed the microcircuit design and development at Farinon Electric. Mr.

Besser founded Compact Engineering in 1976. In 1980, his firm merged with Communications Satellite Corporation to form the foundation of Comsat General Integrated Systems. Mr. Besser became senior vice-president and COO of the Palo Alto operation. He stepped down from that position in 1982 and presently is a consultant with CGIS.

He has published over 50 papers and articles on modern computer-aided circuit design and was a contributing author to two books. He is the author of two general purpose microwave circuit optimization programs, SPEEDY and COMPACT.

Mr. Besser is a member of Sigma Tau, Tau Beta Pi, and Eta Kappa Nu honorary societies. He was listed in the "Who's Who Among Students in American Colleges and Universities" and "Who's Who in the West".



**Theodore Saad** (S'41-A'45-SM'54-F'65) graduated from M.I.T. in 1941. He spent four years at the M.I.T. Radiation Laboratory as a Research Associate, four years at the Submarine Signal Company, four years at Microwave Development Laboratories as Submarine Signal Company, four years at Microwave Development Laboratories as Vice-President and Chief Engineer, and a year at Sylvania. In early 1955, Mr. Saad became co-founder, President, and Chairman of the Board of Sage Laboratories, Inc., which positions he still holds. In 1958, Mr. Saad was a co-founder of Horizon House Microwave, Inc., which publishes the *Microwave Journal*. He was also a co-founder of Artech House, which publishes technical books. He is presently a consulting editor of the *Microwave Journal*. His main efforts have been in the design and development of passive microwave components. For this work, he has obtained 16 patents.

Mr. Saad is an active member of the IEEE and is presently Chairman of the Public Information Committee and a member of the Electro Board. He was Electro Board Chairman in 1980. For four years he was a member of the National Academy of Sciences Panel, advisory to the Radio Standards Engineering Division of the Institute for Basic Standards of the National Bureau of Standards. He was Chairman in 1969 and 1970. He was Chairman of the Board of the South Middlesex Area Chamber of Commerce of Massachusetts in 1977 and 1978. He is a member of the Board of the Commonwealth Gas Company of Massachusetts. He was Chairman and is presently Vice Chairman of the Board of Family Health Plan of Massachusetts.



THE INSTITUTE OF  
ELECTRICAL AND  
ELECTRONICS  
ENGINEERS, INC.

### Microwave Theory and Techniques Society 1983 Microwave Application Award

to

**Les Besser**

for development and application of  
COMPACT, a Microwave Design Program.



June 2, 1983

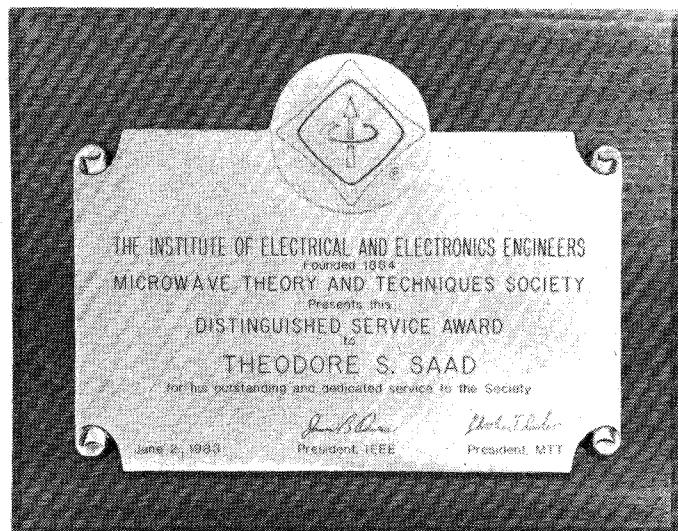
MICROWAVE THEORY  
AND TECHNIQUES



### Distinguished Service Award

The first recipient of this new IEEE Award is Theodore S. Saad, for his outstanding and dedicated service to the Society. He has contributed to the Society for 30 years, beginning in 1953 when he first became a member of the Administrative Committee. He has been Editor of the IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, Editor of the Newsletter, and Vice-Chairman and Chairman of the Administrative Committee. He was National Lecturer in 1972 and was made an Honorary Life Member of MTT-S in 1973. Mr. Saad is the MTT-S Historian and Curator of its historical collection.

Mr. Saad received a plaque. A brief biography and a copy of his plaque and certificate follow.



THE INSTITUTE OF  
ELECTRICAL AND  
ELECTRONICS  
ENGINEERS, INC.

### Microwave Theory and Techniques Society Presents this

### Distinguished Service Award to

**Theodore S. Saad**

for his outstanding and dedicated  
service to the Society.



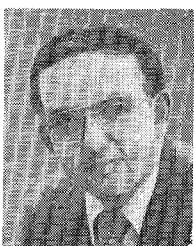
June 2, 1983

MICROWAVE THEORY  
AND TECHNIQUES



### National Lecturer

The IEEE MTT-S National Lecturer is selected annually by AdCom to present a lecture to MTT-S chapters on a subject of important and current interest to members. The National Lecturer must be an individual who has made significant contributions in the field of his talk. The 1983 National Lecturer was Dr. Joseph Giordmaine. The title of his lecture is "Integrated Optics." At this point in time, Dr. Giordmaine has presented his talk 19 times. A brief biography and photograph of his plaque follow.

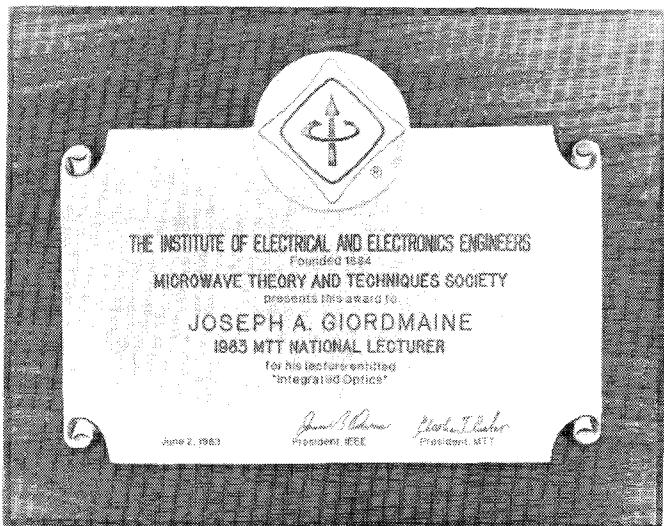


**Joseph A. Giordmaine** (SM'70-F'78) received the Ph.D. in physics from Columbia University, New York, NY, taught for two years at the same university, and joined Bell Telephone Laboratories as a Member of the Technical Staff in 1961.

His research has been on lasers, quantum electronics, and nonlinear optics. His contributions to the field include the optical parametric oscillator and the introduction of new optical correlation techniques. At Bell Laboratories, he has been the Head of the Solid State Spectroscopy Research Department and Director of the Chemical Physics Research Laboratory. He is currently Director of the Solid State Electronics Research Laboratory.

He has been a member of the IEEE Joint Council on Quantum Electronics since 1974 and has been involved with numerous International Quantum Electronics Conferences including Chairman of the Program Committee (1974) and General Chairman (1978). He has also served the Conference on Laser Engineering and Applications in various capacities.

Dr. Giordmaine is a Fellow of the American Physical Society, the Optical Society of America, and the New York Academy of Sciences. He is also a member of the European Physical Society, the American Astronomical Society, and Sigma Xi.



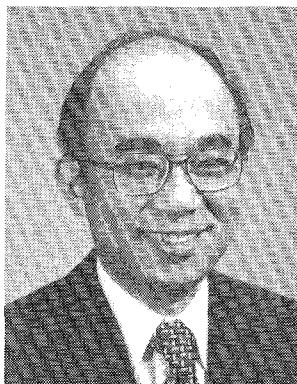
### IEEE Fellows

The Board of Directors of the IEEE in 1982 has elected 130 distinguished Senior Members to the grade of Fellow of the Institute of Electrical and Electronic Engineers. Of these, six were recommended by the Microwave Theory and Techniques Society, and five are members.

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 to a person of outstanding and extraordinary qualifications and experience who has made important individual 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; this last year, of 345 Senior Members nominated 130 were honored by elevation to the prestigious grade of Fellow.

The following members of MTT-S were elected Fellows of IEEE and chose to have their Fellow Certificates presented during the 1983 Symposium.



Hatsaki Fukui  
Bell Telephone Laboratories

For contributions to the understanding and design of low-noise microwave transistors and transistor amplifiers.



H. George Oltman, Jr.  
Hughes Aircraft Company

For contributions to antenna, microwave, and measurements technology.



Robert J. Wenzel  
Wenzel/Erlinger Associates

For contributions to the theory and synthesis of microwave filters and multiplexer networks.

The following members of IEEE were elected as Fellows with the support of MTT-S.

**John A. Copeland**, Sangamo Weston, Inc. For contributions to the development of optically coupled semiconductor logic circuits.

**Takanori Okoshi**, Department of Electrical Engineering, University of Tokyo. For contributions to lightwave and

microwave engineering and, in particular, for the development of techniques for the analysis and synthesis of propagation in multimode fibers. Member, MTT-S.

**P. Peet Sylvester**, McGill University. For contributions to the development of finite element methods and their application to electromagnetic-field problems. Member, MTT-S.

# 1982 MTT Symposium Digest

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### TECHNICAL SESSIONS Wednesday Morning, 1 June 1983

#### WELCOME GRAND BALLROOM

8:30 Steering Committee Chairman  
Harlan Howe  
M/A-Com, Inc., Burlington, MA

8:40 MTT Society Administrative Committee President  
Charles T. Rucker  
Georgia Institute of Technology, Atlanta, GA

8:50 Technical Program Committee Chairman  
Ralph Levy  
Microwave Development Labs, Inc., Natick, MA

#### SESSION A

#### GRAND BALLROOM

##### Joint Session with Monolithic Symposium MONOLITHIC AMPLIFIERS

Chairman: R. Decker  
Lehigh University, Lehigh, PA

A1 BROADBAND MONOLITHIC LOW NOISE FEEDBACK AMPLIFIERS  
P.N. Rigby, J.R. Suffolk, R.S. Pengelly  
Plessey Research (Caswell) Ltd, Caswell, England

A2 2-6 GHz MONOLITHIC MICROWAVE AMPLIFIER  
W.O. Camp, Jr., S. Tiwari, D. Parsons  
IBM Federal Systems Divisions, Owego, N.Y.

A3 WIDEBAND, HIGH GAIN, SMALL SIZE MONOLITHIC  
GaAs FET AMPLIFIERS  
V. Pauker, M. Binet  
Laboratoires d'Electronique et de Physique Appliquee,  
Limeil-Brevannes (France)

A4 12 GHz-BAND, LOW NOISE GaAs MONOLITHIC AMPLIFIERS  
T. Itoh, T. Sugiura, T. Tsuji, K. Honjo, Y. Takayama  
Nippon Electric Co. Ltd., Kanagawa, Japan

A5 GaAs MONOLITHIC MICs FOR DIRECT BROADCAST  
SATELLITE RECEIVERS  
S. Hori, K. Kamei, K. Shibata, M. Tatematsu, K. Mishima, S. Okano  
Toshiba Corp., Kawasaki, Japan

A6 MINIATURISATION OF A BAND-X MONOLITHIC GaAs AMPLIFIER  
P. Dueme, M. LeBrun, P.R. Jay, C. Rumelhard  
Thompson-CSF/LCR, Orsay, France

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	S.K. Chaudhuri University of Waterloo, Waterloo, Ontario, Canada	83
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10:40	Qian Jing-ren China University of Science and Technology Hefei, Anhui, China	
	Zhuang Wei-chen Xian Institute of Radio Technology Xian, Shanxi, China	89
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11:00	MULTI-COUPLED SECTIONS M. Makimoto, S. Yamashita Matsushita Research Institute Tokyo, Inc. Kawasaki, Japan	92