

The 1982 IEEE MTT-S International Microwave Symposium

DAVID N. MCQUIDDY, JR., MEMBER, IEEE

THE 1982 International Microwave Symposium, associated workshops, one day symposium on Microwave and Millimeter-Wave Monolithic Circuits, and exhibition were held at the Hyatt Regency Hotel, Dallas, TX, during the week of June 13 through June 19, 1982. As has been the case during the past few years, the symposium and related events were well attended. Officially, 1267 people registered for the symposium with an additional 51 people registering for the workshops only. The one day symposium on Microwave and Millimeter-Wave Monolithic Circuits drew 447 registrants, all but 30 of whom also registered for the International Microwave Symposium. Workshops registration was 257. Exhibitors and exhibits only registration totaled 2105. Including exhibitors, it was estimated that approximately 3300 Microwave people were at the Hyatt Regency during the week.

The symposium activities began on Sunday afternoon, June 13, with the opening of the registration booths and concluded on Saturday afternoon with the completion of the workshop on "Automatic RF Techniques." The regular contributed papers were presented in four parallel sessions conducted from Tuesday through Thursday afternoon. There were two panel sessions on both Tuesday and Thursday evening. One workshop was held on Monday prior to the official Symposium opening and two were held on Friday. The main Symposium sessions and panels were scheduled to provide continuity with the Microwave and Millimeter-Wave Monolithic Circuits Symposium that was held on Friday. The Awards Banquet was held on Wednesday evening.

The symposium officially opened with a welcome by the AdCom President, Richard Sparks, and the Steering Committee Chairman, Dave McQuiddy. The Keynote Session followed with three presentations that supported the symposium theme, "Thirty Years of Microwaves." Mr. Theodore S. Saad, President of Sage Laboratories, reviewed microwave technology advancement during the past thirty years. In a companion paper, Dr. Huang Hung-Chia, Vice President of the Shanghai Institute of Science and Technology and Chairman of the Society of Microwaves, Chinese Institute of Electronics, People's Republic of China, reported on "Thirty Years of Microwaves in China." The third presentation was prepared by Dr. Leo Young, Director of Research and Technical Information, Office of the Undersecretary of Defense for Research and Engineering, and addressed the future of microwaves in the years to



Ted Saad addresses opening session.



Dave McQuiddy addressing banquet.

come. Dr. Young was unable to attend and his paper was presented by Dr. Lawrence R. Whicker of the Naval Research Laboratory. This opening session was followed by well-attended technical sessions. Substantial audiences were noted at the Opening Session, the GaAs FET Amplifier session, the High Power Techniques session, the Nonlinear



Head table with (left to right) Mrs. Ellowitz, Arthur Oliner, Mrs Oliner, Dr. Huang Hung-Chia, Mrs. Sparks, Richard Sparks, and Dave McQuiddy.



MTT AdCom President, Richard Sparks, addressing banquet.



"Riders in the Sky" entertaining at banquet.

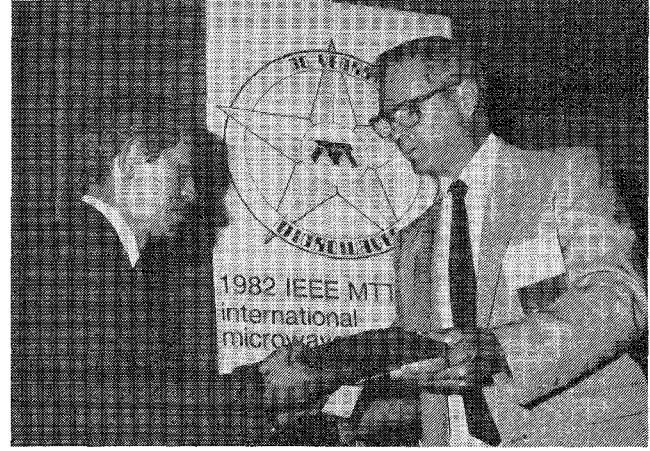


Arthur Oliner accepting the Microwave Career Award from Richard Sparks.

Applications of GaAs FETs session, and the Microwave Measurements session.

The Awards Banquet provided an opportunity to relax, enjoy a marvelous dinner of Beef Wellington, and honor those of our profession selected for recognition. Additionally, the contributions of the MTT-S AdCom past-presidents were recognized by reading their names in the order of their service. Of the 29 past presidents, 15 were present at the banquet. The evening was concluded with entertainment provided by the talented group *Riders In The Sky*. They combined the beautiful harmony of western swing with old cowboy ballads and innovative comedy sketches.

The banquet attendees (approximately 525) listened attentively as Arthur Oliner's and Akio Matsumoto's career accomplishments were described by Richard Sparks. They were both recipients of the Microwave Career Award. Dr. Matsumoto was unable to attend the banquet due to an illness in the family and Risaburo Sato accepted the award on his behalf. The Microwave Applications Award was presented to Charles R. Boyd, Jr., for "Advancing the State-of-the-Art of Microwave Ferrite Devices and the Application of these Devices to Ferrite Control Elements." The Microwave Prize was presented to Kumikatsu



Risaburo Sato receiving the Microwave Career Award for Akio Matsumoto.

Kobayashi, Yoshiaki Nemoto, and Risaburo Sato for their paper, "Kuroda's Identity for Mixed Lumped and Distributed Circuits and Their Application to Nonuniform Transmission Lines" (vol. MTT-29, no. 2). Fred Rosenbaum was awarded the Past President's Pin and Ferdo Ivanek received a plaque in recognition of his service as National



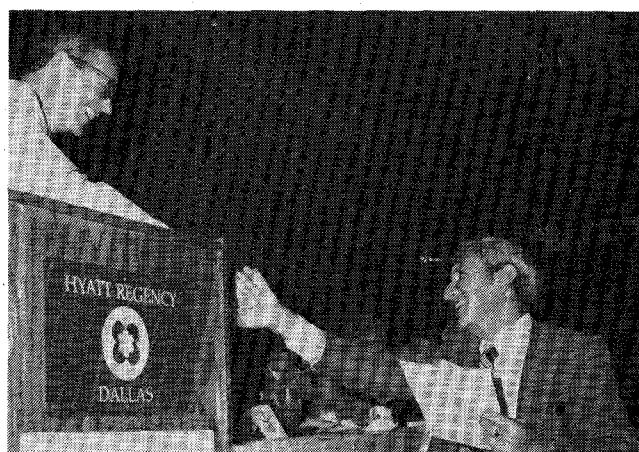
Charles Boyd, Jr. accepting the Microwave Applications Award.



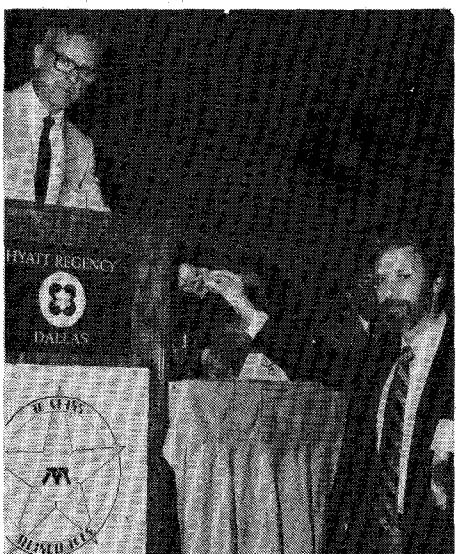
Ferdo Ivanek receiving his plaque for serving as National Lecturer.



Risaburo Sato, Yoshiaki Nemoto, and Kumikatsu Kobayashi receiving the Microwave Prize.

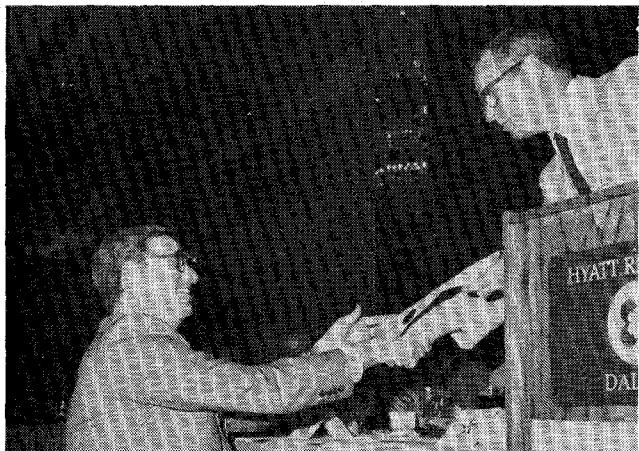


Al Clavin receives Certificate of Recognition for his work as General Chairman for 1981 Symposium.



Fred Rosenbaum receiving his Past President's pin.

Lecturer. Al Clavin was presented a Certificate of Recognition for his outstanding performance as General Chairman for the 1981 Symposium. Don Parker received a Certificate



Don Parker receiving Certificate of Recognition for his work as Technical Program Chairman for 1981 Symposium.

of Recognition for his work as Technical Program Chairman for the 1981 Symposium. Robert Puttre was recognized for originating the MTT logo with a Certificate of Recognition. The Central Illinois Chapter and the India Chapter received Special Membership Recognition for



Robert Puttre receiving Certificate of Recognition for originating the MTT logo.



Ken Button receives Fellow Certificate from Kiyo Tomiyasu.



Ed Nienke accepts Special Membership Recognition on behalf of the Central Illinois Chapter.



Charles Rucker receives Fellow Certificate.



Dr. D. N. Singh accepts Special Membership Recognition on behalf of the India Chapter.

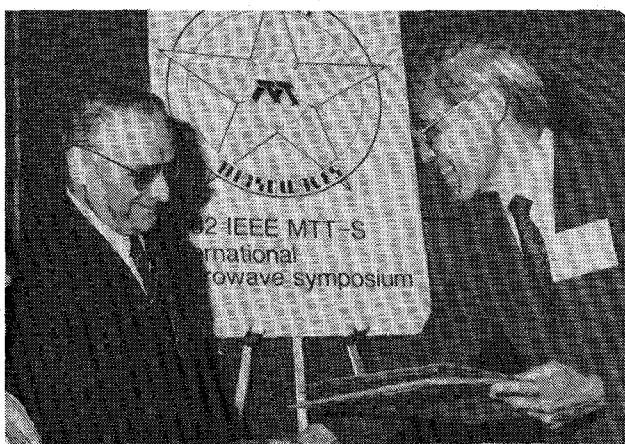


Don Parker receives Fellow Certificate.

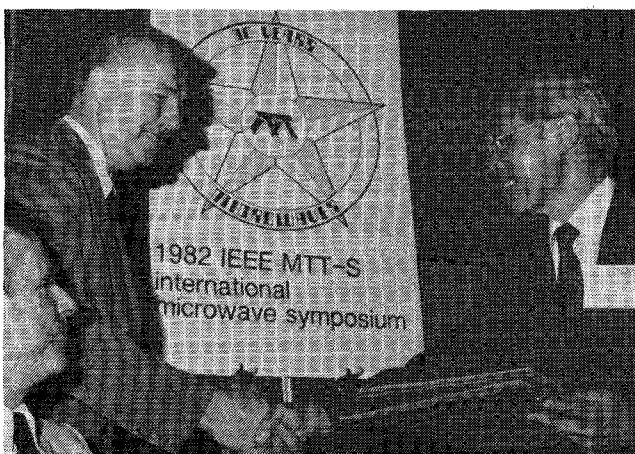
membership growth. Kiyo Tomiyasu, Chairman of IEEE Technical Activities Board Award and Recognition Committee, presented Fellow Certificates to seven MTT members that have been elevated to the grade of Fellow of the IEEE. They were Ken Button, Charles Rucker, Don Parker, Tatsuo Itoh, Jim Gewartowski, Walt Gelnovatch, and Samuel Hopfer.



Tatsuo Itoh receives Fellow Certificate.



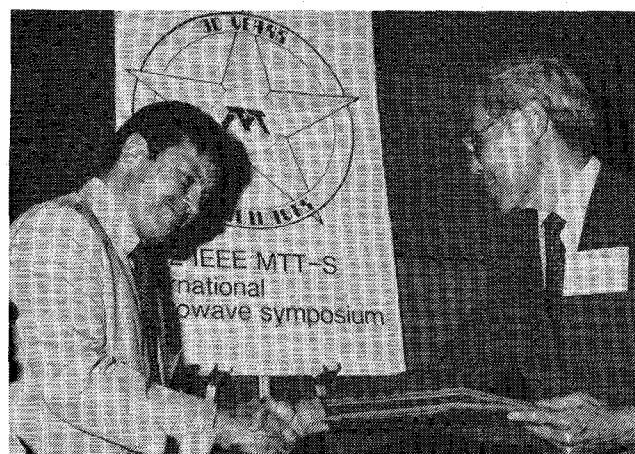
Samuel Hopfer receives Fellow Certificate.



Jim Gewartowski receives Fellow Certificate.



A view of the Historical Exhibit.



Walt Gelnovatch receives Fellow Certificate.



Bill Mumford assembling his filter for the Historical Exhibit.

The Historical Exhibit was prominently featured in keeping with the Symposium theme, being located in Cascade B Ballroom in close proximity to the technical meeting rooms. The exhibit was open to the public and no attendance log was maintained to encourage easy access. Ted Saad as the historical curator of AdCom supplied the majority of the approximately 160 items on display. John Wassel and Ben Hallford as the local chairmen were re-

sponsible for organizing and coordinating the exhibit room and for soliciting local contributions. Two videotapes were run continuously during the show and featured the first GCA radar and the MERA radar, the first solid-state phased array. An impressive display of early radar developments in England was furnished by Terry Oxley. The focal point of the exhibit was an engineer's desk furnished with calculating aids, reference books, and everyday test



The "Operations Center" as the Symposium draws to a close.

equipment which served to emphasize the impressive advances which the microwave profession has attained over the last thirty years.

This year's symposium exhibition was the largest MTT-S has had with 198 booths occupied by 172 exhibitors. This represents greater than 25 percent increase from the previous year. With this large exhibition and the exhibits only registration of over 2100 people, our large hotel was stressed to capacity. The 30000 square feet of meeting rooms and 35000 square feet of exhibit space were fully occupied.

Specific details on the workshops and panel sessions are as follows.

- 1) Workshop on "Medical Applications of Electromagnetic Energy"—1 day—organized by G. Kantor and J. G. Short (attendance 29).
- 2) Workshop on "Advances in Optical Communications"—1 day—organized by J. K. Butler (attendance 66).
- 3) Workshop on "Automatic RF Techniques"—2 days—organized by R. Dolbec and E. Stevens (attendance 162).
- 4) Panel Session on "Application of Microwave and Millimeter-Wave Low Noise Techniques," organized by J. J. Taub.
- 5) Panel Session on "Monolithic Versus Miniature Hybrid MICs," organized by E. F. Belohoubek.
- 6) Panel Session on "Monolithic Millimeter-Wave Integrated Circuits," organized by D. Hornbuckle and D. W. Maki.
- 7) Panel Session on "Technology Applications for Microwave Landing Systems," organized by S. Everett.

TECHNICAL SESSIONS

Thanks to the diligent efforts of the eighty-six participating members of the Technical Program Committee, 170 contributed and invited papers were selected for presentation at the Symposium. These papers were presented in eighteen "full-length" sessions and seven shorter "half-length" sessions. The papers came from seventeen countries, acknowledging the international flavor of the symposium.

Technical program sessions and session chairmen are listed below.

<i>Session A:</i>	Opening Session —chaired by S. L. March.
<i>Session B:</i>	Low Noise Techniques —chaired by J. J. Taub.
<i>Session C:</i>	Microwave Mixers —chaired by G. R. Basawapatna.
<i>Session D:</i>	Microwave Acoustics: Devices and Applications —chaired by T. Lukaszek.
<i>Session E:</i>	High Power Techniques —chaired by H. Goldie.
<i>Session F:</i>	Magnetostatic Waves: Devices and Applications —chaired by R. S. Kagiwada.
<i>Session G:</i>	Radiometers —chaired by J. W. Dees.
<i>Session H:</i>	Optical and Microwave Techniques for Guided Wave Structures —chaired by A. A. Oliner.
<i>Session I:</i>	Two Terminal Devices and Combining Techniques —chaired by C. T. Rucker.
<i>Session J:</i>	GaAs FET Amplifiers —chaired by H. Q. Tserng.
<i>Session K:</i>	Phased Array Techniques —chaired by L. R. Whicker.
<i>Session L:</i>	Millimeter-Wave Integrated Circuits —chaired by J. B. Knorr.
<i>Session M:</i>	Microwave Systems Applications —chaired by J. B. Horton.
<i>Session N:</i>	Ferrite Applications —chaired by J. E. Raue.
<i>Session O:</i>	Nonlinear Applications of GaAs FET's —chaired by R. A. Pucel.
<i>Session P:</i>	Microwave Field Theory —chaired by C. M. Krowne.
<i>Session Q:</i>	Automated Microwave Measurements —chaired by G. F. Engen.
<i>Session R:</i>	Microwave Measurements —chaired by H. G. Oltman, Jr.
<i>Session S:</i>	Millimeter-Wave Solid-State Devices —chaired by J. C. Wiltse.
<i>Session T:</i>	Filters and Multiplexers —chaired by A. E. Williams.
<i>Session U:</i>	Microwave Integrated Circuits —chaired by C. Buntschuh.
<i>Session V:</i>	Microwave Biological Effects —chaired by A. Rosen.
<i>Session W:</i>	Computer-Aided Design —chaired by S. F. Adam.
<i>Session X:</i>	GaAs Monolithic Circuits —chaired by D. W. Maki.

Session Y: Solid-State Millimeter-Wave Sources

—chaired by H. J. Kuno.

Session Z: Filters and Passive Networks

—chaired by R. Levy.

DIGEST

The 600-page *Digest* was edited by Max Beasley. It can be ordered by IEEE Catalog No. 82CH1705-3 from the Institute of Electrical and Electronics Engineers, Inc., Publication Order Department, 445 Hoes Lane, Piscataway, NJ 08854.

ACKNOWLEDGMENT

The 1982 Symposium was in the planning stages for more than four years. During that time, many volunteer workers contributed untold hours to complete the tasks that accompany a symposium of this magnitude. Their enthusiasm and devotion is reflected in the final results. A number of local companies supported the efforts required without waiver, and this is greatly appreciated. The convention staff of the Hyatt Regency responded to every need in a timely and courteous manner. Ted Saad was a big help with the Historical Exhibit, an area that received special emphasis due to the historical theme of the symposium. Horizon House and Howard Ellowitz organized and managed the exhibition in a very professional manner.

Following is a list of the participants and their employers.

1982 SYMPOSIUM STEERING COMMITTEE

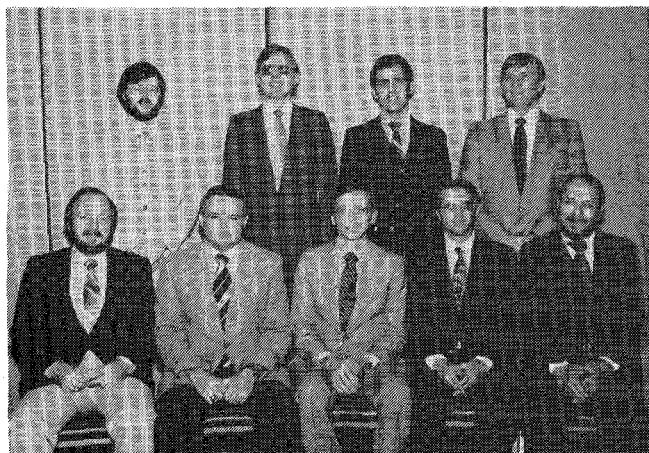
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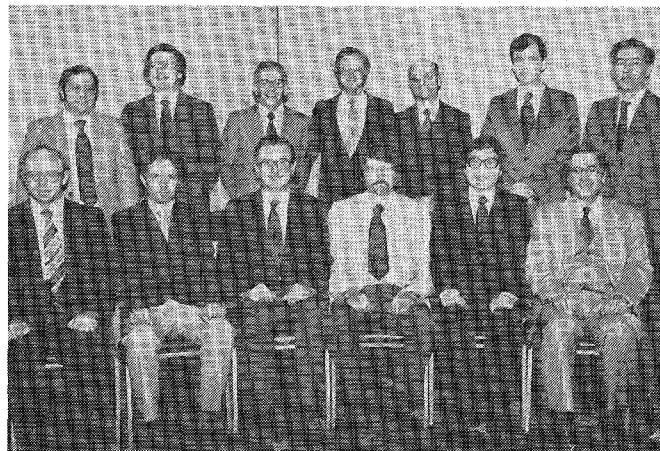
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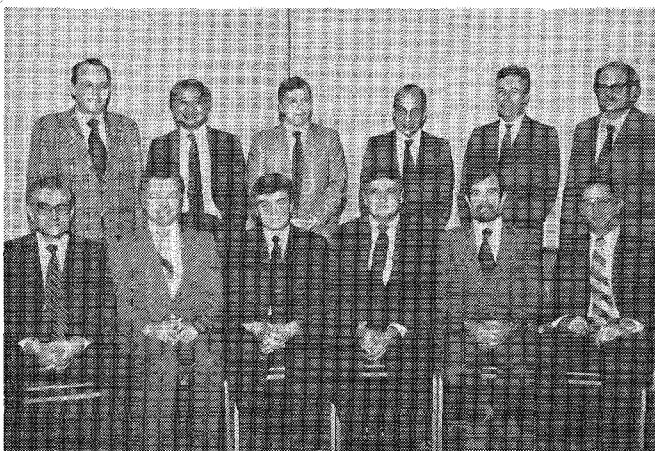
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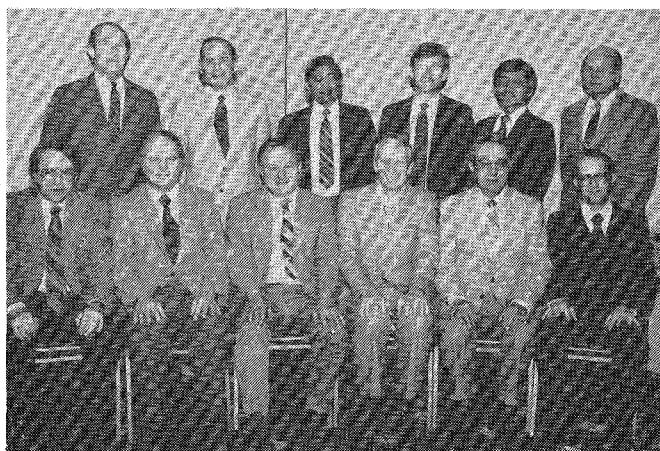
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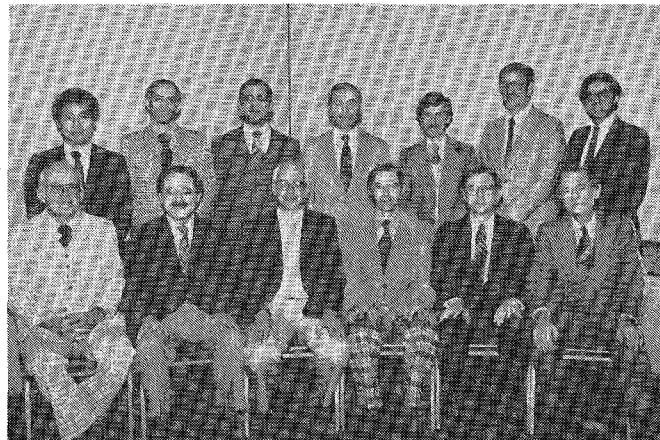
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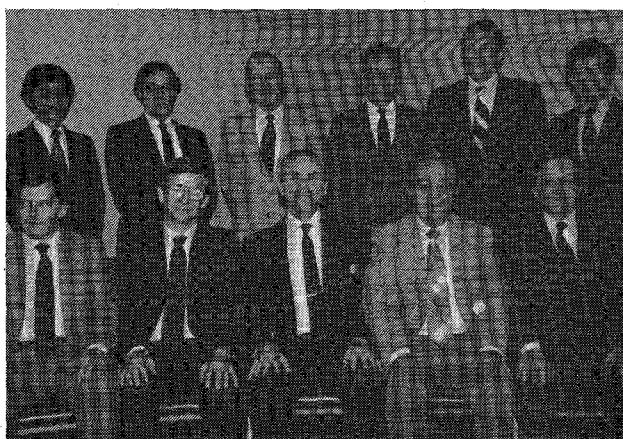
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	A. A. Oliner
	T. S. Saad
	K. Tomiyasu

1982 MTT-S Awards

H. SOBOL, FELLOW, IEEE

AT THE annual Symposium Banquet, MTT-S President Richard A. Sparks presented the following Society Awards:

Microwave Career Awards—Arthur A. Oliner
Akio Matsumoto

Microwave Prize—Kunikatsu Kobayashi
Yoshiaki Nemoto
Risaburo Sato

Microwave Applications—Charles R. Boyd, Jr.

The above awards which were first announced in October, 1981 are denoted as the 1982 Awards. This represents a change from the past when the awards were identified by the year of election, rather than the year of presentation as they are now.

President Sparks also announced the election of Leo Young as an Honorary Life Member of MTT-S, presented

the Past President's Pin to Fred Rosenbaum, the National Lecturer Award to Ferdo Ivanek, and Certificates of Recognition to Alvin Clavin and Don Parker for their leadership of the 1981 MTT-S Symposium, and to Robert E. Puttré for originating the MTT-S logo.

Kiyo Tomiyasu on behalf of the IEEE presented eight Fellow Certificates.

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. Two Career Awards were presented in 1982, to Dr. Arthur A. Oliner and to Dr. Akio Matsumoto, in recognition of their extensive contributions to the field.