Panel Sessions

Panel Session 1—Recent Advances in Microwave & Millimeter-Wave Superconductor Applications

Date: Tuesday, June 13, 1989, 12:10 p.m. to 1:45 p.m.

Location: Convention Center—California Room

Sponsor: MTT-18 Microwave Superconductor Applications

Organizers: Jerry Fiedziuszko, Ford Aerospace, Space System Div.

Chairman: Arnold Silver, TRW

Panelists: R. Snyder, RS Microwave Co.
A Williams, COMSAT Laboratories
E. Belohoubek, David Sarnoff Research Center
R. Simon, TRW
M. Kobayashi, National Laboratory for High Energy Physics, Japan

Abstract:

What are the implications of high T_c superconductivity for microwave engineers? After initial hype, are we really in the position to use these materials in microwave hardware? How long do we have to wait?

A group of experts on this highly publicized subject will try to answer these important questions. The panelists will address such issues as system aspects, measurement techniques and latest results, dielectric substrates for high T_c superconductor thin films, and microwave filter realizations. Another highlight is the presentation describing recent superconductivity developments in Japan.

After the speaker's comments, the panel will be open for questions from the audience.

Panel Session 2—Heterojunction Devices, Circuits and Reliability

Date: Tuesday, June 13, 1989, 7:30 p.m. to 9:30 p.m.

Location: Hyatt Regency—Regency Rooms B & C

Sponsor: MTT-6 Microwave and Millimeter-Wave Integrated Circuits
MTT-7 Microwave and Millimeter-Wave Devices

Organizers: F. Sullivan, Raytheon Company, Missile Systems Division
D. Hornbuckle, Hewlett Packard Co.
J. Kuno, Hughes Aircraft Co.

Chairman: Frank Sullivan, Raytheon Company, Missile Systems Division

Panelists: Wallace T. Anderson, Naval Research Laboratories
Larry E. Larson, Hughes Aircraft Co.
J. Aydin Higgins, Rockwell International Corp.
Rolf P. Jaeger, Hewlett Packard Co.
Burhan Bayraktaroglu, Texas Instruments, Inc.
Michael Kim, TRW

Abstract:

The discussion will focus on device technology, circuit applications, and the reliability projections of the various structure types. The panel will cover both HEMT and HBT devices. Key topics of discussion will include state-of-the-art device and circuit performance, performance comparison between HEMTs, pseudomorphic HEMTs and HBTs, progress in increasing RF power levels, optimum material and contact composition, thermal and electronic limitations, and associated reliability.

Panel Sessions

Panel Session 3—Microwave Education: Present Status and Future Trends

Date: Tuesday, June 13, 1989, 7:30 p.m. to 9:30 p.m.

Location: Hyatt Regency—Regency Rooms D, E, F

Sponsor: MTT-S Education Committee

Organizers: Fazal Ali, Pacific Monolithics
George Vendelin, Vendelin Engineering

Co-Chairmen: Fazal Ali, Pacific Monolithics
George Vendelin, Vendelin Engineering

Panelists: Fred Rosenbaum, Washington University in St. Louis
Robert McKintosh, University of Massachusetts
Robert Trew, North Carolina State
K.C. Gupta, University of Colorado
T. Itoh, University of Texas
G. Matthaei, U. C. Santa Barbara
D. Pavlidis, University of Michigan
Steve Schwarz, U. C. Berkeley
V.K. Tripathi, Oregon State University
K.K. Agarwal, MTT Education Committee
L. Besser, Besser Associates
Tim Healy, Santa Clara University

Abstract:

The objective of this panel session is to review the present status of microwave education in the U.S. and discuss future trends. This focused session will help the microwave community to become aware of the number of universities involved in microwave research, their present activities and their future plans to keep up with the emerging technologies. Speakers from universities will share their course curriculum, research activities and funding support with the audience. Members of the MTT-S Education Committee will talk about the participation of MTT-S in helping the universities and students.

Panel Sessions

Panel Session 4—Entrepreneurship and the Engineer

Date: Wednesday, June 14, 1989, 12:10 p.m. to 1:45 p.m.

Location: Convention Center—Pacific Room

Sponsor: Professional Activities Council for Engineers

Organizers: Dr. Louis Medgyesi-Mitschang, McDonnell Douglas Research Labs
Dr. Robert A. Moore, Westinghouse Defense and Electronics Center

Moderator: Clark E. Johnson, Consultant, IEEE Fellow in the Office of Congressman George Brown, member of Science and Technology Subcommittee

Panelists: Dr. David B. Leeson, CEO, California Microwave, Inc.
Dr. Charles R. Boyd, CEO, Microwave Applications Group, Inc.
Dr. Yalcin Ayasli, Vice-President, Hittite Microwave Corporation
Robert Hanisee, President, Seidler AMDEC Securities Venture Capital Firm

Abstract:

The recent world-wide growth of technology has been dramatic. This is particularly true in the areas of electrical engineering, electronics, computers, telecommunications, and microwaves. This explosive rate of innovation provides unique opportunities for entrepreneurial engineers.

The panel will discuss the opportunities of engineers as entrepreneurs. Each speaker will provide a first-hand perspective on timely topics such as:

- Characteristics/motivations of a successful entrepreneur
- Business side of entrepreneurship
- Government policy; entrepreneurship versus U.S. competitiveness
- Entrepreneurship in large or small organizations
- Rewards/headaches of being an entrepreneur-CEO

After the speakers' presentations, the panel will be open for questions from the audience.

Panel Sessions

Panel Session 5—Microwave Hardware Descriptive Language (MHDL)

Date: Wednesday, June 14, 1989, 12:10 p.m. to 1:45 p.m.

Location: Convention Center—California Room

Sponsor: MTT-1 Computer Aided Design

Organizer: Arvind K. Sharma, TRW/ESG

Moderator: B.S. Perlman, U. S. Army ERADCOM

Panelists: B. Cohen, Dartmouth College
A. Gilman, Intermetrics
M. Mlinar, TRW
D. Rhodes, DSRC
J. Schoen, Mitre

Abstract:

An analog hardware descriptive language (AHDL) provides a language notation capable of design and description of analog circuits. In a manner similar to the VHSIC hardware descriptive language (VHDL), which is extensively used for digital circuits, it is intended to provide a description of physical design, electrical behavior, logical structure, logical behavior as well as system annotation information for complex analog circuits. In view of this, the objective of this panel session is to improve the understanding of the practice of analog circuit design, and to establish guidelines for a hardware descriptive language. The speakers will present their views on possible approaches and functional forms. They will also focus on microwave hardware descriptive language (MHDL) and discuss its potential usefulness for microwave circuit designs. The input from microwave engineers, through audience participation, will facilitate CAD tool writers and university researchers to develop appropriate implementation plans.

Panel Session 6—MMIC Design Approaches for Low-Cost High-Volume Application

Date: Thursday, June 15, 1989, 12:10 p.m. to 1:45 p.m.

Location: Convention Center—Pacific Room

Sponsor: MTT-6 Technical Committee

Organizers: Gailon Brehm, Texas Instruments, Inc.
Fazal Ali, Pacific Monoilithics

Moderator: Gailon Brehm, Texas Instruments, Inc.

Panelists: Marty Jones, Texas Instruments, Inc.
Raymond Pengelly, Tachonics
Fazal Ali, Pacific Monolithics
John Selin, Raytheon
Takashi Ohira, NTT

Abstract:

Rapid advances in GaAs MMIC design and fabrication technology during the past several years have produced significant improvements in circuit performance and reproducibility. Widespread insertion of this technology into systems will require the achievement of low manufacturing cost and high RF yield. The purpose of this panel session is to address the impact of monolithic circuit design tools on manufacturing cost and on the yield to RF specification for realistic manufacturing variances.

Panel Sessions

Panel Session 7—Improving Time to Market

Date: Thursday, June 15, 1989, 12:10 p.m. to 1:45 p.m.

Location: Convention Center—California Room

Sponsor: MTT-12 Microwave and Millimeter-Wave Packaging

Organizer: Bert Berson, Berson & Associates

Chairman: Bert Berson, Berson & Associates

Panelists: Dr. Jack Moore, PRTM
"Improving Time to Market: What Companies are Doing"

Len Lea, Assistant Vice President, Marketing, Cal Eastern Labs
"Product Development—The Marketing Department Viewpoint. The Reality vs. R & D Forecast"

Dr. Robert E. Goldwasser, Vice President, R & D, Alpha Industries
"Why Are They Always Picking On Us?"

Bill Lawson, Director of Manufacturing, HP MWT Division
"Is Manufacturing the Scapegoat?"

Dr. Richard A. Mollicone, Director, Corporate Business Development, ESL
"The Systems Viewpoint"

Dr. Alan Sherman, Stanford University
"Letting Go of the Baby!"

Abstract:

The Microwave Industry has matured a great deal over the last few years, and with it significant improvements in operations and control have been made. Movement of technology and products from the R & D Laboratory to the marketplace has continued to be a too-slow and too-painful process. Schedules slip repeatedly causing difficulties for the manufacturer, and perhaps more so for the customer. In this panel, leading industry experts will explore ways to improve Time to Market of technology and products.