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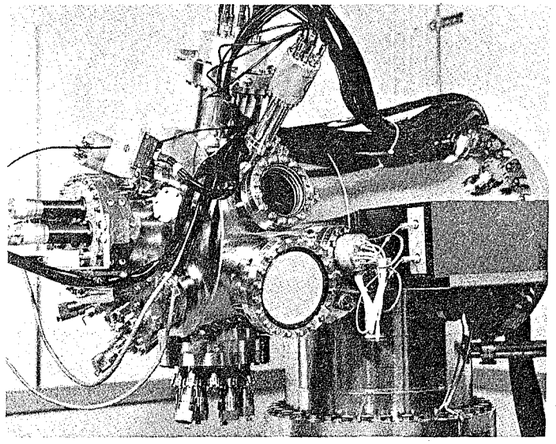
THE METALLURGICAL SOCIETY OF AIME

THE NORTHERN CALIFORNIA METALLURGICAL SECTION

FOUNDED 1871



THE

NORTHERN CALIFORNIA

METALLURGICAL SECTION

OF AIME

PRESENTS

THE SEVENTH ANNUAL

ELECTRONIC MATERIALS SYMPOSIUM

A One-Day Symposium on Electronic Materials
Featuring Outstanding Authorities
in Their Respective Fields

CABANA HYATT HOUSE

4290 EL CAMINO REAL

PALO ALTO, CA 94306

TUESDAY

March 27, 1979

7:30 A.M.

PROGRAM

Tuesday, March 27, 1979

Cabana Hyatt House

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7:30 Registration

MORNING SESSION (Circus Maximus Central)

Session Chairman: Dr. Vincent Marrello
IBM Corporation
San Jose, California

8:30 Welcoming Remarks and Introduction
R. Clark Keezer
Exxon Enterprises Inc.
Sunnyvale, California

8:40 "Brave New World of VLSI"
Professor Carver A. Mead
California Institute of Technology
Pasadena, California

9:30 "Advanced Memory Device Processing"
Dr. Willard L. Kauffman
Intel Corporation
Santa Clara, California

10:20 COFFEE BREAK

10:50 "High Density Magnetic Bubble Devices"
Dr. Laurence L. Rosier
IBM Corporation
San Jose, California

11:45 LUNCHEON (Circus Maximus North)

12:20 Ross N. Tucker Memorial Award Presentation to Clifford Drawley, Department of Electrical Engineering, University of California, Berkeley, California

12:30 "Dimensional Perspectives"
Tom Gates
Radio Station KCBS
Sunnyvale, California

AFTERNOON SESSION (Circus Maximus Central)

Session Chairman: Dr. Sree Harsha
California State University
San Jose, California

1:30 "High Resolution Patterning for Integrated Circuits"
Professor R. Fabian Pease
Stanford University
Stanford, California

2:15 "Laser Annealing of Si and GaAs"
Dr. Harold J. Leamy
Bell Laboratories
Murray Hill, New Jersey

3:00 COFFEE BREAK

3:30 "Plasma Assisted Etching"
Dr. John W. Coburn and Dr. Harold Winters
IBM Corporation
San Jose, California

4:15 "MBE - Focus on the Future?"
Dr. Raymond Dingle
Bell Laboratories
Murray Hill, New Jersey

5:00 HOSTED COCKTAIL PARTY

Cabana Hyatt House (Circus Maximus North)

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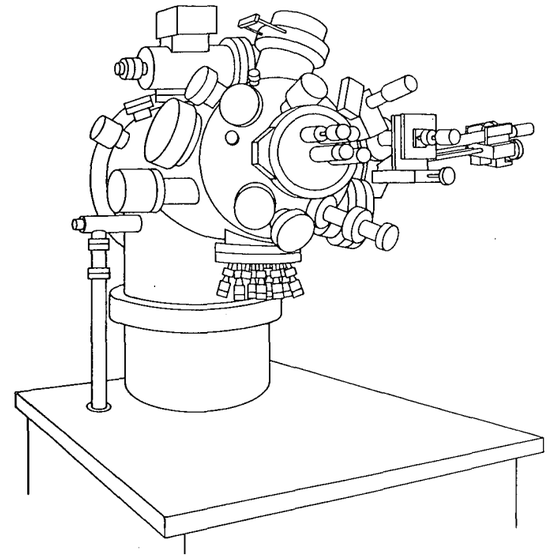
VENDORS SHOW (Circus Maximus South)

8:00 - 5:00 Vendors Exhibits



GENERAL INFORMATION

1. The registration fee for the symposium covers admission to symposium sessions, extended abstracts of symposium presentations, luncheon, a vendor's exhibit, and portion of a hosted cocktail hour following the symposium. Physical limitations require that attendance be limited to the first 350 registrants.

2. Costs for the symposium have been kept to a minimum to encourage attendance. A surcharge will be required from those who do not preregister by Tuesday, March 13, 1979 because of added costs for arrangements after that date. To reserve your place at the symposium and luncheon, we urge you to register early by mail, using the form provided. No refunds of registration fees will be made after Tuesday, March 13, 1979.

3. During the symposium, the fifth annual Ross N. Tucker Memorial Award will be presented to Clifford Drowley, Department of Electrical Engineering, University of California, Berkeley, for his work on developing materials for solid state solar energy devices.

4. We are honored to have Tom Gates as our luncheon Speaker. His topic will be "Dimensional Perspectives".

5. A feature of this symposium will be a vendor's exhibit. Information displays on new materials, processing equipment and analytical instruments will be presented by manufacturing representatives.

6. A hosted cocktail party will follow the final symposium presentation, providing an opportunity for informal discussions with symposium speakers and guests.

7. Registration material and extended abstracts of the symposium presentation will be available at the symposium. The opening session will begin promptly at 8:30 a.m.

8. Further questions regarding the symposium should be directed to R. Clark Keezer, Exxon Enterprises Inc., 257 Humboldt Court, Sunnyvale, Ca. 94086. Telephone: (408) 745-7350.

ABOUT THE SPEAKERS

DR. JOHN W. COBURN received the BASc and MASc degrees in Engineering Physics from the University of British Columbia in 1956 and 1958 respectively and his Ph.D. degree in Electrical Engineering from the University of Minnesota in 1966. Following a two year post-doctoral fellowship at Simon Fraser University in Physics, he joined the IBM Research Laboratory in San Jose in 1968 where he has been interested in the physics and chemistry of glow discharges and their interaction with solid surfaces.

DR. RAYMOND DINGLE received his Ph.D. in 1965 from the University of Western Australia. Before coming to Bell Laboratories in 1966, he taught Solid State Chemistry at the University of Copenhagen. Although Dr. Dingle is well known for his work on the electronic and spectroscopic properties of solids, his most recent achievements have been in molecular beam epitaxy, quantum effects in ultra-thin semiconductor hetero-structures and the investigation of submicron engineering.

MR. THOMAS M. GATES is a graduate of Washington State University. He is well known for his "Stargazer" program on Radio Station KCBS. For the past ten years he has been Director of the Foothill Community College Space Science Center and Electronics Museum. He is Past President of the International Planetarium Society and served as scientist on the 1967 Solar Eclipse expedition. From 1963 to 1967 he directed the Morrison Planetarium in San Francisco and taught astronomy at San Francisco State University. He is also well known as a writer and speaker on UFO's and is the writer and narrator on the Astronomical Society's production, "The Night Sky".

MR. WILLARD L. KAUFFMAN is Director of Component Production at the Intel Corporation and has contributed to all aspects of modern semiconductor device and IC development and production techniques. Before coming to Intel in 1971, he was with the Fairchild Corporation for five years and with the Bell Telephone Laboratories for over six years. Willard received the B.S.E. and M.S. degrees from Lehigh University in 1959 and 1961.

DR. H.J. LEAMY of Bell Laboratories in Murray Hill, New Jersey, received formal training as a metallurgist at the Univeristy of Missouri and Iowa State University, and was granted the Ph.D. degree by the latter university in 1967. He pursued interests in metallic alloy phase stability and mechanical properties at the Max Planck Institute in Stuttgart until 1969, when he joined Bell Laboratories. His research interests have included crystal growth theory, statistical mechanics of surfaces, hard-magnetic materials, metallic glasses, ferromagnetic thin films, and most recently, seminconductor materials and processing.

DR. CARVER A. MEAD received his B.S. degree in 1956, his M.S. degree in 1957, and his Ph.D. degree also in 1957 from the California Institute of Technology. He has been a member of the faculty of that institution since 1957.

His research has contributed to the understanding of tunneling in solids, current flow mechanisms in thin dielectric films, metal-semiconductor barriers, band energies in semi-conductors, and electronic processes in insulators. He has proposed and demonstrated the operation of a number of new solid state electronic devices and holds several U.S. patents. He has developed the structured approach to LSI design, and has helped introduce the subject into the curricula of a number of major universities. He is a Fellow of the Americal Physical Society and a member of Sigma Xi.

DR. FABIAN PEASE received his B.A. in Natural Sciences in 1960 and his M.A. and Ph.D. in Electrical Engineering from Cambridge University in 1964; his doctoral research included the design, construction and use of a high resolution scanning electron microscope. After spending one year as a research fellow at Trinity College, Cambridge, he joined the faculty at the University of California, Berkeley and continued research on scanning microscopy. In 1967 he joined Bell Telephone Laboratories where he first worked on the digital encoding of television signals and then on electron beam and X-ray lithography. In 1978 he joined the faculty of Stanford University. He is a co-author on the first paper on electron-beam annealing (accepted for publication by Applied Physics Letters).

DR. LAURENCE L. ROSIER received his B.S. degree in 1959 and his M.S. degree in 1961 in Electrical Engineering from the University of New Mexico. In 1961 he joined the IBM Corporation in Poughkeepsie, New York, where he worked on the development of semiconductor devices. In 1966 he received an IBM Resident Study Fellowship for graduate study at the University of Illinois and received a Ph.D. degree in Physics in 1969. He joined the IBM Thomas J. Watson Research Center in 1969 and worked on magnetic bubble devices. In 1973 he transferred to the San Jose Research Laboratory where he is presently manager of the Advanced Storage Technology Department. Dr. Rosier is a member of the American Physical Society and the Institute for Electrical and Electronic Engineering.

DR. HAROLD WINTERS received his B.S. degree in Physics from Whitworth College in 1958 and his Ph.D. from Washington State University in Physics in 1962. He has been on the staff at the IBM Research Laboratory in San Jose since receiving his degree. He has published approximately 40 technical papers in the fields of surface science, electron physics, vacuum science, thin film science, and plasma science and also holds a number of patents related to this research.

REGISTRATION FORM

1979 Seventh Annual AIME Electronic Materials Symposium

Name _____ Title _____

Organization _____

Mailing Address _____

City _____ State _____ Zip Code _____

Registration Fee:

	Payment Received on or Before March 13, 1979	Payment Received After March 13, 1979
( ) AIME Member	$20.00	$30.00
( ) Non-member	$25.00	$35.00
( ) Full-Time Registered Student	$ 7.50	$17.50

Make checks payable to: "No. Cal. Met. Section, AIME", and send with the above information to: R. Clark Keezer, Exxon Enterprises Inc., 257 Humboldt Court, Sunnyvale, Ca. 94086. Do not send Purchase Orders. Others may register by supplying the information requested above and sending it with the registration fee.

PLEASE SHARE THIS INFORMATION WITH YOUR COLLEAGUES WHO MAY WISH TO ATTEND THE SYMPOSIUM.