## NEWSLETTER

## SONICS \& ULTRASONICS GROUP

Dr. John E. May, Editor
Bell Telephone Laboratories

In the mailed ballot held early this spring the new members of the AdCom elected to serve for three-year terms ending in 1971 were Dr. Norman F. Foster, Mr. Stanley E. Jacke and Mr. Ernest Stern. Pictures and biographical sketches follow.

The new members replace the following members whose terms of office expired December 31, 1968:

> Dr. W. L. Nyborg
> Dr. P. L. Smith
> Dr. D. L. White

The remaining members of the AdCom and terms of office are:

| Dr. D. I. Bolef | $1966-69$ |
| :--- | :--- | :--- |
| Dr. R. W. Damon | $1966-69$ |
| Dr. E. P. Papadakis | $1966-69$ |
| Dr. B. A. Auld | $1967-70$ |
| Dr. R. W. Moss | $1967-70$ |
| Dr. E. K. Sittig | $1967-70$ |

## Dr. Norman F. Foster

Dr. Foster is presently a supervisor in the Sonic Device Department of Bell Telephone Laboratories, Allentown, Pa.

A native of Bristol, England, Dr. Foster received the B.S. degree in chemistry (1954) and the Ph.D. In physical chemistry (1957) from the University of Bristol.

After two years with the National Research Council in Canada, he joined Bell Laboratories in January 1960. His first work at Bell Laboratories was on electrodiffusion of alkali ions in crystalline quartz at elevated temperatures. Early in 1962 he turned to piezoelectric semiconductor ultrasonic transducer work and studied cadmium sulphide diffusion layer transducers. Since the spring of 1963 he has specialized in exploratory development of evaporated and sputtered thin film uitrasonic transducers and is the author of several technical articles in this field.

Dr. Foster is a member of the Institute of Electrical and Electronics Engineers and of the American Physical Society.


## Ernest Stern

Mr. Stern is currently leading a research effort at Lincoln Laboratory for the realization of microsound components and circuits. He joined Lincoln Laboratory in May, 1964 to work on remanent ferrite devices for phased arrays. From 1962 to 1964 was Director of Research at Microwave Chemicals Laboratory. Prior to that he worked at Sperry Gyroscope Company (1955-1958) and General Electric Company (1958-1962) on non-1inear ferrite phenomena and on ferrite devices. He received his BS degree from Columbia University in 1953, and attended the Cornell gradiate school from 1953-1955.

He is the author of many puclished papers dealing with various aspects of ferrite device design, and has several patents in his name. Currently he is a member of the Program Committees for the 1968 NEREM Conference, the 1969 IEEE Convention, and the 1969 Microwave Theory and Techniques Conference.

Mr. Stern is a Senior Member of the IEEE, and a member of Sigma Pi Sigms, RESA, and AAAS.

## Sittig Elected Chairman

## of AdCom

The Chairman of the G-SU AdCom for the 1969 year is Dr. Erhard Sittig, Bell Telephone Laboratories, Murray Hill, N.J. Vice-Chairman for the year is Dr. E. P. Papadakis, Parametrics, Waltham, Mass. These elections were held at the AdCom meeting on September $4,1968$.

## 1968 IEEE Ultrasonics

## Symposium

Attendance at the 1968 Symposium held at the Statler Hilton Hotel, New York City, reached an all time high of 424 persons. This Symposium arranged by a committee under the chairmanship of Dr. F. M. Smits, Bell Telephore Laboratories, Murray Hill, New Jersey, earned a profit about $\$ 800$ and therefore was both a technical and a financial success.

## Plans Well Advanced

 for 1969 IEEE
## Ultrasonics Symposium

General Chairman Dr. Dan Bolef announces that arrangements are nearly completed for the 1969 Symposium to be held on September 24-26 at the Chase Park Plaza Hotel, St. Louis, Missouri. The Symposium Committee includes:

| General Chairman, Publicity, and Treasurer | Prof. D. I. Bolef |
| :---: | :---: |
|  | Dept. of Physics |
|  | Washington University |
|  | St. Louis, Missouri 63130 |
| Program Committee | Dr. C. K. Jones |
|  | Westinghouse Electric Corp. |
|  | Research \& Development Center |
|  | Churchill Borough |
|  | Pittsburgh, Pa. 15235 |
| Local Arrangements | Prof. F. J. Rosenbaum |
|  | Dept. of Elec. Engrg. |
|  | Washington University |
|  | St. Louls, Missouri 63130 |
|  | Prof. R. K. Sundfors |
|  | Dept. of Physies |
|  | Washington University |
|  | St. Louis, M1ssouri 63130 |

In addition to the Technical Program a Social Hour is planned for Wedresday evening, September 24 th at 6:00 p.m.

Program Chairman Dr. C. K. Jones has announced the completion of the Program consisting of 16 invited ard approximately 90 contributed papers arranged into 12 sessions.

A partial listing of invited speakers for 1969 IEEE Ultrasonics Symposium includes:
H. S. Bennett

National Bureau of Standards
E. G. Lean \& C. C. Tseng I.B.M. Watson Research Center
H. Matthews Sperry Rand
D.S. Cannell and G.B. Benedek M.I.T.
D. Maydan and D.A. Sealer Bell Telephone Laboratories

## J. Eveleth

B. H. Schofield

Teledyne Materials Research
J. Collins and T. M. Reeder

Autonetics Division of
North American Aviation
D. A. Pinnow

Bell Telephone Laboratories
G. Atkinson

University of Maryland
F. L. Thurstone

Duke University
P. Pohlmanm

Laboratorium fur Ultraschalı
R. W. Moss

Boeing Scientific Research Laboratories
M. Levy

University of California
Los Angeles
B. Langenecker

Naval Weapons Center
China Lake
B. T. Cross

Automation Ind.
"Ultrasonic Studies in Heisenberg Paramagnets"
"Nonlinear Effects ir
Surface Acoustic Waves"
"Surface Magretoelastic
Waves" Waves"
"Brillouin Scattering in Xenon Near the Critical Point"
"Acousto-optic Modulators with Nanosecond Risetime Capability"
"The State of the Art in Ultrasonic Delay Lines"
"Acoustic Emission Development and Current State-ofthe Art"
"Active Surface Acoustic Wave Delay Lines"
"Acousto-optic Materiais and Light Deflection Devices"
"Low Frequency Abscrption in Water"
"Acoustical Imaging of Biological Specimens"
"Producing of Fine Particles by Various Ultrasonic Means"
"Ultrasonic Propagation Near Critical Point Transformations"
"Ultrasonic Relaxation Processes in the Spin Spiral Phase of the Magnetic Rare Earths"
"Metal Deformation in
Macrosonic Fields"
"Schlieren Techniques for Nondestructive Testing'
"Monolithic Crystal Filters"


## September 4-9, 1969

Ferroelectricity Symposium, Kycto, Japan
September 8-12, 1969
European Microwave Conference, cosponsored by IEEE, IEE and IRE, London, England.

Information: Conference Dept. IEE, Savoy Place, London WC2, England.

## September 10-12, 1969

1969 Microelectronics Symposium, cosponsored by the IEEE $\mathrm{G}-\mathrm{MLT}$ and the St . Louis Section in cocperation with G-ED, G-CI and G-PMP, Colony Motor Hotel, Clayton (St. Louis County), Mo.

September 16-19, 1969
3rd Annual Conference on Solid State Devices, Univ. of Exeter, Devon., England.

## September 23-25, 1969

Industrial Ultrasonics Conference, cosponsored by the IERE, IEE, Inst. of Phys. \& Phys. Soc. and the IEEE United Kingdom \& Republic of Ireland Section, Loughborough, Leicestersiure, England.

Further details: IERE, 8/9 Bedford Square, London WCl, England.

September 25-27, 1969
Lasers and Opto-electronics IERE, Southampton.
Details: IERE, 8 Bedford Square
October 1-4, 1969
Acoustoelectric Phenomena in Semiconductors, Aviemore, Scotland. Information about the conference is available from Prof. N. I. Meyer, Physics Dept., the Technical University of Denmark, Lundtofte, Lyngby, Denmark, and Dr. E.G.S. Paige, Royal Radar Establishment, St. Andrews Road, Great Malvern, Worcs.

October 29-31. 1969
1969 International Electron Devices Meeting sponsored by IEEE G-ED Sheraton Park Hotel, Washington, D.C.

## November 4-7, 1969

Acoustical Society of America, El Cortez Hotel, San Diego, Calif. Meeting Chaimman, Dr. R. W. Young, Nav Undersea Research and Development Center, San Diego, Calif. 92132.

## November 4-5, 1969

Conference on Interaction of Light with Sound. (Part of above meeting.)

## November 17-18, 1969

Developments in Laser Technology, cosponsored by the Institute of Optics, University of Rochester and the Society for Photo-Optical Instrumentation Engineers, Flagship Hotel, Rochester, N.Y.

Further information: H, F. Sander, Exec. Secretary, SPIE, 216 Avenida del Norte, Redonodo Beach, California 90277.

## December 8-10, 1969

Intemational Symposium on Circuit Theory, sponsored by the IEEE ( $G-C T$ ), Mark Hopkins Hotel, San Francisco, California.

## February 18-20, 1970

International Solid State Circuits Conference, Sheraton Hotel and Uriv. of Pennsylvania, Philadelphia, Pa. Program Chairman, Mr. L. D. Wechsler, General Electric Co., Electronics Park, Building \#3, Syracuse, N.Y. 13201. Deadline for abstracts, 0ct. 17, 1969.

## March 23-26, 1970

IEEE International Convertion and Exhibition, Coliseum and New York Hilton, New York, N.Y. For Program Information, IEEE Headquarters, 345 E. 47 th St., New York, N.Y. 10017.

## April 21-24, 1970

Intermag Conference, Statler Hilton Hotel, Washington, D.C. Program Chairman, Dr. Daniel S. Shull, Jr., Bell Telephone Laboratories, Inc., 3300 Lexington Road, S.E., Winston Salem, N.C. 27lO2. Deadline for abstracts, March 7, 1970.

## May 4-5, 1970

IECI-IEEE Transducer Conference, National Bureau of Standards, Gaithersburg, Maryland. Program Chairman, Dr. Robert B. Spooner, IMPAC Instrument Service, 201 East Carson Street, Pittsburgh, Penna. 15219. Deadine for abstracts, November 1, 1969.

## May 11-14, 1970

IEEE International Microwave Symposium, Newporter Inn, Newport Beach, Calif. Program Chairman, Dr. Ray Duhamel, Granger Associates.

## May 19-21, 1970

1969 Conference on Signal Processing Methods for Radio Telephony, London, England.

Information: IEE Conference Department, The Institution of Electrical Engineers, Savoy Place, London WC2, England.

## September 21-24, 1970

International Conference on Engineering in the Ocean, Panama City, Florida. Program Chairman, C. B. Koesy, Code P750, Naval Ship Research and Development Laboratory, Panama City, Florida 32401. Deadine for abstracts, March 3, 1970.





## Program for "Ultrasonics for Industry"

## Conference in London Announced



The annual exhibition and conference "Ultrasonics for Industry" sponsored by Iliffe, Exhibitions Ltd. will be held October 7-8 at St. Ermin's Hotel, London, England. Additional information may be obtained from the sponsor at Dorset House, Stamford Street, London SEl. The program is as follows:

## Session 1: Materials Evaluation

M. F. Markham

National Physical Laboratory
Teddington, Middlesex
G. Curtis

Nondestructive Testing Centre UKAEA Harwell
Didcot, Berkshire
B. S. Hockenhull and
R. G. Hacking

The College of Aeronautics Cranfield, Bedfordshire
W. R. Davis

The British Ceramic Research Association
Penkhull, Stoke-on-Trent
R. Lewis

Stewart \& Lloyds Ltd.
Corby, Northamptonshire.
"The NPL Ultrasonic Tank: Its Uses in Polymer and Fibre Composite Testing"
"Harwell Equipment for Materials Evaluation by Ultrasonics
"Fatigue Testing of Engineering Materials at Ultrasonic Frequencies"
"Determination of Elastic Constants of Ceramics by Ultrasonic Resonant Frequency Methods"
"Automatic Ultrasonic Inspection of Steel Tubes"

Session 2: Medical and Biophysical
C. N. Smyth
R. C. Gosling

Guy's Hospital Medical School London, S.E.l.
A. D. Christie

Department of Medical Physics University of Aberdeen
C. R. Hill

Institute of Cancer Research
Sutton, Surrey.
M. Ayad

Physics Department
Imperial College
London, S.W.7.

## Session 3: Electronics Applications

W. Willis
Mullard Research Laboratories

Mullard Research
Redhill, Surrey.
J. J. Clementson
I.C.I. Mond Division Runcorn, Cheshire.
J. Perkins

Kerry Ultrasonics Ltd.
Hitchin, Hertfordshire.
I. Filinn

Mullard Research Laboratories Redhill, Surrey.
"Acoustic Surface Waves"
"Ultrasonic Cleaning with Fluorocarbon Solvents/ Water Systems"
"Ultrasonic Microbonding Equipment"
"Testing Piezoelectric Ceramies for Power TransCeramics for Fower Trans-
ducer Applications"

Session 4: Non-Destructive Testing
D. H. Turner
entral Electricity Generating Board
"An Ultrasonic Bracelet London, E.C.l.
D. Sproule "An U1trasonic Imaging Videoson System for Flaw-Detection"
Elgin Cresent
London, W. 11.
E. E. Aldridge "Ultrasonic Holography as

Electronies \& Applied Physics

## Division

AERE
Harwell, Didcot, Berkshire. Probe Device for Inspection of Tube Butt Welds a Possible NDT Tool
"Recent Progress in Medical Ultrasonics"
'Transcutaneous Measurement of Flow Velocities in Blood by Ultrasonics"
"Sensitivity and Resolution in Ultrasonic Scanning Apparatus"
"Biophysical Effects of Cavitation in an Ultrasonic Beam at $1 \mathrm{MHz}{ }^{\prime \prime}$
"The Haemolysis of Blood by Ultrasound"

## Plans Formulated

## for 1970 Symposium

The 1970 IEEE Ultrasonics Symposium will be held at the Jack Tar Hotel, San Francisco, California, Oct. 21-23. General Chairman will be Dr. A. J. Bahr, Stanford Research Institute, Palo Altc, California. Program Chairman will be Dr. W. J.. Spencer, Bell Telephone Labs., Allentown, Fa .

Transactions
on

## Microwave Theory

and

Techniques

## Plans Issue

## on

## Microwave Acoustics

A special issue of the IEEE Transactions on M1crowave Theory and Techniques is planned for publication in late 1969. Papers were requested from G-SU members at an earlier date. The G-SU AdCom has completed special arrangements to have copies of this issue sent to all G-SU members.

## TC-TR Chairman's

## Report

Dr. W. J. Spencer, TC-TR Chairman, has reported that the full TC-TR Committee has approved a draft version of the Piezomagnetism Standard which has been prepared by the Subcommittee on Piezomagnetism. The TC-TR cosponsored a "Symposium on Applications of Ferroelectrics" held at Catholic University, October 10-11, 1968, and a session on the definition of piezoelectric coupling factors at the 1968 Ultrasonics Symposium. The Committee is currently preparing material for presentation at the June 1970 meeting of the International Electrotechnical Committee to be held in Washingtion, D.C. Dr. Spencer has announced the formation of a new Subcommittee on Delay Lines. This Committee has met and is presently formulating a iist of definitions appropriate to the delay line field. Members of this Committee are:

Dr. J. E. May, Chairman
Bell Telephone Laboratories, Inc.
555 Union Boulevard
Allentown, Pennsylvania 18103
Dr. A. J. Bahr
Stanford Research Institute
333 Ravenswood Avenue
Menlo Park, California 94025
Dr. J. H. Collins
Autonetics Division
Rockwell Corporation
P. O. Box 4173

3370 E. Miraloma Ave.
Anaheim, California 92803
Mr. J. H. Eveleth
Dr. N. F. Foster
Bell Telephone Laboratories, Inc.
555 Union Boulevard
Allentown, Pa. 18103
Mr. T. J. Geoghagen
Microsonics
60 Winter Street
Weymouth, Mass.
Mr. I. Miller
Corning Glass Works
Bradford, Pa.
Dr. F. A. Olson
Teledyne, Inc.
Microwave Electronics Dept.
3165 Porter Drive
Palo Alto, California 94306
Dr. Ernest Stern
M.I.T.

Lincoin Laboratory
Lexington, Massachusetts 02173
Dr. S. W. Tehon
General Electric Co.
Electronics Park
Syracuse, N. Y.
Mr. Frank Yoerg
Digital Devices
Syosset, L.I., New York

## IEEE Reorganizes Technical Activities

## D. L. White, TAB Representative

The structure of the IEEE is being reorganized in an effort to give greater emphasis to technical activities. It is hoped that Technical Groups (such as the G-SU) will have a larger voice in IEEE affairs. In a reorganization plan currently under consideration, the 31 Technical Groups would be divided into 7 divisions. Each division will elect a director who will sit on the IEEE board of directors. The G-SU would be in the
Electroscience division, along with Antennas \& Propagation, Circuit Theory, Electron Devices, Microwave Theory and Techniques and Magnetics.

The new structure should offer further advantages to the individual Groups. Cooperation between Groups and with outside societies will be more flexible.

Since these changes emphasize the technical aspects of IEEE, the G-SU is expected to benefit.

## Obituary Notice

Professor Egon A. Hiedemann
Members of the G-SU were saddened by the death early this year of Professor E. A. Hiedemanr, professor of physics at the Michigan State University, East Lansing, Michigan. Professor Hiedemann's contributions to the teaching of physics and to the field of elasto-optic interactions are legend. He had served for many years on the G-SU Editorial Board as Associate Editor for Measuring Techniques.

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