Plans for 1968 IEEE Ultrasions Symposium Nearly Completed

With the selection and arrangement of the Technical Program, plans are nearly completed for the 1968 Ultrasions Symposium to be held at the Statler-Hilton Hotel, New York City, September 25-27, 1968. The Chairman for the 1968 Symposium are:

Dr. F. M. Smits, General Chairman
Dr. R. W. Damon, Technical Program Chairman
Mr. W. F. Konig, Local Arrangements Chairman
Dr. John E. May, Jr., Publicity Chairman

Hotel reservations should be made directly with the Statler-Hilton Hotel mentioning the Ultrasions Symposium. In addition to the Technical Program, a social hour is planned for Wednesday evening, September 25th at 6:00 p.m.

The Technical Program Committee has arranged a program of 14 sessions which includes 18 invited and 94 contributed papers as follows:

**Wednesday Morning**

A. Surface Waves
   B. Resonators

**Wednesday Afternoon**

C. Signal Processing and Surface Wave Devices
   D. Liquids and Gases

**Thursday Morning**

E. Bragg Scattering, Deflectors, Measurement Techniques
   F. Metals

**Thursday Afternoon**

G. Attenuation
   H. Holograms, Imaging and Visualization

**Thursday Evening**

I. Transducer Evaluation
   J. Ultrasions in Medicine

**Friday Morning**

K. Material Testing and Processing
   L. Transducers and Delay Lines

**Friday Afternoon**

M. Phase Transitions and Magnetic Materials
   N. Acoustoelectric Effects

The invited papers include the following:

E. A. Auld, J. H. Collins and H. J. Shaw, "Surface Wave Transducers"
D. E. Armstrong, "Surface Wave Transducers for Delay Application in the Low Microwave Frequency Range"
E. Stern, "Microsound Components, Circuits and Applications"
T. A. Litovitz, "Laser and Ultrasions Spectroscopy in Liquids"
C. Elbaum, "Ultrasions Attenuation in Solids-Intrinsic and Extrinsic Mechanisms"
R. B. Smith and B. B. Brenden, "Refinements and Variations in Liquid Surface and Scanned Ultrasions Holography"
M. Gottlieb, M. Garbuny and C. K. Jones, "Ultrasions Propagation in Magnetically Induced Structures in Superconductors"
K. Walther, "Anisotropy of Magneto-Acoustic Attenuation and Deformation Potential in Bismuth"
W. D. Wallace, "A Resume of Recent Work on Direct Generation of Ultrasions in Metals"
T. R. Meeker, "Methods of Evaluating Piezoelectric Transducers"
A. J. Bahr, "Electrical Measurement Techniques for Obtaining the Electromechanical Coupling Factors of Thin Film Piezoelectric Transducers"
H. F. Tiersten, "The Relation of Electromechanical Coupling Factors to the Fundamental Material Constants for Thickness Vibrating Piezoelectric Plates"
A. Sokollu, "Problems of Ultrasions Energy Transmission in Ocular Tissue"
C. W. Gerland, "Ultrasions Investigations of Phase Transitions"
J. T. McElroy, "Characterization of Ultrasions Transducers for Nondestructive Testing"
H. L. Dunegan, "Ultrasions Acoustic Emission from Materials"
A. H. Meitzler and E. K. Sittig, "Characterization of Piezoelectric Transducers Used in Ultrasions Devices Operating above 0.1 GHz"

Abstracts of the Symposium papers will be published in the January 1969 issue of G-SU Transactions.
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 Electrosience 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. Hiedemann, 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.
AD COM

D. L. White Elected Chairman

New officers for 1968 elected at the Annual Meeting of the Ad Com held at Vancouver October 5, 1967, are:

Dr. D. L. White, Chairman
Dr. R. W. Damon, Vice-Chairman

In the mail ballot held last fall, the membership elected to the Ad Com the following new members who will serve for three year terms ending in 1970:

Dr. Robert W. Moss
Boeing Scientific Research Laboratories
Seattle, Washington

ROBERT W. MOSS was born on February 1, 1928, at Spokane, Washington. He received his B.A. degree in physics from the University of Washington, Department of Physiology and Biophysics; research scientist performing research in magnetism at Lockheed Research Laboratory, Palo Alto; and member of research staff performing research in Acoustics and the Mossbauer Effect at Boeing Scientific Research Laboratories, Solid State Physics Laboratory.

His employment has included sales and engineering at United Air Lines; member of staff performing research in ultrasonic blood flow measurement at University of Washington, San Jose State University, and Stanford University.

In addition to the POGU, Moss is a member of the American Physical Society, Phi Beta Kappa, and the Acoustic Emission Working Group. He has twice served as a member of the Ultrasonic Symposium Program Committee, and was General Chairman of the 1967 Symposium.

New Members Elected to Ad Com

Dr. Bertram A. Auld
Physics Dept.
Stanford University
Palo Alto, Calif.

BERTRAM A. AULD was born on November 8, 1922, in Wei-Hai-Wei, China. He received the B.S. degree in electrical engineering from the University of British Columbia, Vancouver, B.C., Canada, in 1946.

From 1946 to 1948 he was employed by the National Research Council, Ottawa, Canada. In 1949 he received the M.S. degree, and in 1953, the Ph.D. degree in electrical engineering from Stanford University, Stanford, California. During the following year he worked at the Stanford Microwave Laboratory on VHF and UHF antennas. From 1953 to 1955 he was employed by Electrical and Musical Industries, Ltd., Hayes, Middlesex, England, where he worked on the stagger-tuning of multicylinder klystrons. From 1955 to 1958 he taught applied electromagnetic theory and supervised graduate student research at the University of British Columbia. In 1958 he joined the Microwave Laboratory, W. W. Hansen Laboratories of Physics, Stanford Univ., where he is currently a research physicist. During the year 1963-64 he was a Visiting Fellow at Bell Telephone Laboratories, Murray Hill, New Jersey.

His research activities are concerned with the interaction of electromagnetic fields with matter. Upon joining the staff of the Microwave Laboratory he worked on the application of nonlinear analysis to microwave ferrite problems, primarily with regard to parametric instabilities, harmonic generation, nonlinear resonance and shock wave propagation. In more recent years he has become concerned with microwave acoustics and has worked extensively in the field of magnetoacoustic and electroacoustic interactions.
Dr. Erhard K. Sittig  
Bell Telephone Laboratories  
Murray Hill, N. J.

ERHARD K. SITTIG (M '62) was born in Königsberg, Germany, on June 3, 1928. He received the Diploma of the Imperial College, London, England, in electrical engineering in 1954; the Diploma in physics from the University of Tübingen, Germany, in 1955; and the degree of Doctor der Naturwissenschaften from the Technische Hochschule Stuttgart, Germany, in 1959.

From 1955 to 1959 he held a position as Instructor at the Physics Department of the Technische Hochschule Stuttgart. From 1959 to 1961 he was Assistant Research Physicist at the Physics Department of the University of California, Los Angeles. During these years he worked on various aspects of sound propagation in solids and fluids. Between 1961 and 1963 he was involved in the development of ultrasonic power transducers as Senior Physicist of the Durasonic Division of Duracoat Bearing Company, Palo Alto, California. In 1963 he joined Bell Telephone Laboratories, Inc., at Murray Hill, New Jersey, where he is at present supervisor of a group developing ultrasonic devices and photodetectors.

Dr. Sittig is a member of the Acoustical Society of America, IEEE, and the German Physical Society.

The new members replace the following members whose terms of office expired December 31, 1967:

- Dr. R. T. Beyer
- Mr. J. K. Rowen
- Dr. J. J. G. McCue

The remaining members of the Ad Com and terms of office are:

- Dr. W. L. Nyborg  '65-'68
- Dr. P. L. Smith  '65-'68
- Dr. B. J. Bolef  '66-'69
- Dr. E. F. Papadakis  '66-'69

1967 IEEE Ultrasonics Symposium  
Well Attended

General Chairman of the 1967 Ultrasonics Symposium, Dr. Robert M. Moss, reports that the meeting in Vancouver on October 4-6, 1967, drew a total attendance of 276. It is interesting to note that 93 of these were G-SU members whereas 183 of the attendees were non-members. Program Chairman Dr. E. A. Auld reported that of the 97 contributed abstracts submitted 87 were accepted. The program included 19 invited papers. The general opinion of those attending was that the meeting was very well organized, was held in extremely interesting and comfortable accommodations and that the technical content continued at the high level established in previous Ultrasonics Symposia. Abstracts of the papers given were included in the G-SU Transactions, Vol. 15, No. 1, January 1968.
September 3-6, 1968

September 12-13, 1968
Solid State Sensors and Transducers Conference, Loew's Royal Hotel, Minneapolis, Minnesota. Program Chairman, Dr. M. M. Atalla, Hewlett-Packard, 301 Page Mill Road, Palo Alto, California 94304.

September 25-27, 1968
1968 IEEE Ultrasonics Symposium, Statler Hilton Hotel, New York City. Program Chairman, Dr. Richard Pomon, Sperry Rand Research Laboratory, Sudbury, Massachusetts.

October 23-25, 1968

November 19-22, 1968

February 19-21, 1969

March 24-27, 1969
IEEE International Convention, Coliseum and New York Hilton Hotel, New York City.

April 8-11, 1969

April 15-18, 1969
1969 International Magnetics Conference (Intermag), Amsterdam, Netherlands. Executive Secretary, Dr. Th. Holtwijk, Philips Research Laboratories, Eindhoven, The Netherlands.

April 20 - May 2, 1969

May 5-8, 1969
1969 IEEE S-WTT International Microwave Symposium, Dallas, Texas. Program Chairman, Dr. J. B. Horton, Texas Instruments, Inc., MS-905, P. O. Box 5012, Dallas, Texas 75222. Deadline January 3, 1969.

May 26-28, 1969

July 20-25, 1969
8th International Conference of Medical and Biological Engineering and 22nd Annual Conference on Engineering in Medicine and Biology, Palmer House, Chicago, Illinois. Program Chairman, Dr. Lawrence Stark, P. O. Box 1969, Evanston, Illinois 60204. Deadline for Request of Author Kit October 1, 1965.
During 1966, the Standards Committee ST-14 voted to attach itself to the Group on Instrumentation and Measurements (GIM). This decision was based principally on the recent work of the Committee on short term frequency stability and VHF measurements. Since much of the earlier work and some proposed future work on piezoelectric, piezomagnetic, and ferroelectric materials was closer associated with the charter of the Group on Sonics and Ultrasonics (G-SU), a new technical committee to be called the TechniCal Committee on Transducers and Resonators (TC-TR), was formed under the G-SU. Dr. Hans Jaffe served as the chairman and organizer at the 1967 Spring IEEE meeting in New York.

An ad hoc committee composed of H. Jaffe, A. R. Chi, J. H. Armstrong, D. L. Hammond, E. Hafer and W. J. Spencer met in Atlantic City in April and proposed the subcommittee structure for the TC-TR and also outlined the areas of mutual interest with the Technical Committee on Time and Frequency (TC-TF) which is sponsored by the GIM. This reorganization resulted in three subcommittees: Piezoelectric Crystals, Piezoelectric Ceramics, and Piezomagnetics; with chairmen and members as shown below. The Subcommittee on Piezoelectric Crystals serves jointly in the TC-TF and TC-TR. In July, Dr. Jaffe resigned as Chairman of the Committee and the G-SU Chairman, J. H. Rowen, appointed W. J. Spencer as the new Technical Committee Chairman.

The Committee is currently concerned with revising and expanding existing standards in Piezoelectric Crystals and with nomenclature in Piezomagnetism. The current charter of the committee provides for wider interest than standards work alone. This could include special sessions at the annual Sonics and Ultrasonics meetings, review articles in the journals, and other areas of technical interest in the field of transducers and resonators.

Anyone interested in current work in the areas covered by existing Subcommittees should contact the appropriate Subcommittee Chairman; or if interested in creating new areas that fall within the charter of the TC-TR, he should contact Chairman Spencer.

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Session on High Power Ultrasonics at IEEE International Convention

A session highlighting the technology and applications of high power ultrasonics in industrial processing was organized for the G-SU sponsored session at the 1968 IEEE International Convention by S. E. Jacke. The program was as follows:

1. "Sonic Power's Future in Industry," Robert C. McMaster and Charles C. Libby, Ohio State University, Columbus, Ohio
3. "The Design and Application of High Power Sonic Transducers," Mrs. Hildegarde Minchenko and William White, Ohio State University, Columbus, Ohio
6. "Ultrasonic Focusing Systems Applied to Power Ultrasonics," Matthew J. Golis, Ohio State University, Columbus, Ohio

G-SU Transaction goes Quarterly - Doubles in Size

Beginning in 1967, the G-SU Transactions have been published on a quarterly basis. Thanks to the efforts of our Editor in Chief, Dr. Oscar E. Mattiart and his staff of Associate Editors the time for processing papers has been greatly reduced and the prospective author can judge approximately when his article is to appear. Compared with an average of 100 pages in the 1964-1966 period, the total number of pages (230) in 1968 will have more than doubled, as can be seen in the graph below.

This distribution by field of the papers included in the 1964-1968 period is as follows:

- Biological and Medical Applications: 2
- Delay Lines and Filters: 8
- Industrial Applications: 12
- Measuring Techniques: 8
- Transducers: 23
- Resonator Theory and Applications: 10
- Solid-State (Semiconductor) Phenomena and Devices: 22
- Underwater Sound: 8
- Acousto-optics: 9

Obituary Notice

Dr. William J. Fry

Dr. William J. Fry, Biophysics Research Lab, University of Illinois, died suddenly and unexpectedly on July 21, 1968. Dr. Fry was one of the Charter Members of the G-SU Adcom, served as Chairman of the Papers Review Board for a number of years and has most recently been Associate Editor for Biological and Medical Applications.