## IEEE

# NEWSLETTER



## SONICS & ULTRASONICS GROUP

NUMBER 42 - JUNE 1976

EDITOR: Dr. E. P. Papadakis Ford Motor Company Manufacturing Development Ctr. 24500 Glendale Avenue Detroit, MI 48239 (313) 533–1035 Ext. 333

# MEETINGS, PAST AND وردق FUTURE

by. B. R. McAvoy, Meetings Chairman

This year Cliff Jones will step down as Meetings Charinan after a decade of service to G-SU in this capacity. He has surrendered to me a file which stacks about three feet high. A glance in the folder marked "Ultrasonics Engineering Meeting, Dec. 4-6, 1963" shows an airlines ticket folder (Northwest Orient) to Washington, DC, a 1962 Ultrasonics Symposium Program (Columbia University-New York City) and a 1963 program for the meeting held at the Marriott Motor Hotel, Twin Bridges. In 1962 the registration fee was \$3 and a banquet ticket went for \$5. The following year registration went to \$7 and the banquet cost \$8 establishing the trend. In 1967 (Vancouver, B.C.) Session Chairmen wore elegant red ribbons proclaiming their function and in 1969 the nucleus of the Proceedings was formed with the publication of extended abstracts. I mention these few things to show that the files are very comprehensive and that Cliff Jones did a job as Meetings Chairman that sets a rigorous standard.

What does the Meeting Chairman do? As an ex-officio member of the G-SU Administration Committee, he determines, with other members, where future meetings will be held and is charged with the nomination of General Chairman and Program Chairman for these meetings. He and his committee are the initial contact for establishing facilities and accommodations and provide continuity from one year to the next. We are now working on 1981: where will the meeting be held and who will serve to organize it?

Meeting plans for the next three years are summarized below:

1976 Washington, DC -- Anapolis Hilton General Chairman, L. Whicker Program Chairman, Paul Carr

1977 Phoenix, Arizona -- Towne House General Chairman, I. Kaufman Program Chairman, F. Hickernel

1978 Philadelphia, PA General Chairman, Fred Welsh

## PRESIDENT'S REPORT

"1975 WAS A VERY GOOD YEAR." I made that prediction last spring in this column, and now I am in the fortunate position of being able to state that it has indeed come true. Compared to some other IEEE Groups and Societies, we are in an excellent financial position. Our Transactions has been issued on a bimonthly basis for the past year, and this has helped reduce the turnaround time for the publication of articles from one year to six months. (I must add, however, that most of the credit for this reduction of turnaround time goes to our Transactions Editor, Steve Wanuga.) Another excellent and well-attended Ultrasonics Symposium was held this past September in Los Angeles. Finally, our membership has shown a small, but steady, increase.

We have also made an effort to expand our coverage of topics that are of interest to our members. In particular, a special issue of the Transactions on Ultrasonic Non-Destructive Evaluation is in preparation and we have joined the IEEE Council on Ocean Engineering because of our interest in underwater sound. We can anticipate even more activity in these areas during the coming year.

Serving as President of the AdCom has been a very gratifying and instructive experience for me. I have particularly enjoyed my association with the other members of AdCom and I am sincerely grateful for the excellent support and friendship they have continually provided. I look forward to many years of continued association with them. Finally, I wish the new President Lew Claiborne, and the other AdCom officers another "very good year."

Al Bahr

## ULTRASONICS SYMPOSIUM

## 1976

The 1976 Ultrasonics Symposium which is the major activity of our Group will be held at the Annapolis-Hilton Inn in Annapolis, Maryland on September 29--October 1, 1976. All group members and workers in the field are urged to participate through attending the meeting and presenting papers. Papers are sought on all areas of interest in Sonics and Ultrasonics. The deadline for submission of abstracts has been set as late as possible on June 24, 1976. Abstracts in the proper format should be sent to Technical Program Committee Chairman, Dr. Paul H. Carr at the RADC Deputy for Electronic Technology, Stop 30/ETEM, Hanscom AFB, Bedford, MA 01/31 (Telephone: 617/861-2527).

Attendees are encouraged to bring their wives and families also. Annapolis is a unique city located on the Severn River and the Chesapeake Bay. It is the location of the U.S.Naval Academy and forms an important part of our Nation's history. The setting is ideal at the time of our Nation's Bicentennial. In addition to the many historic sites in Annapolis, both Washington and Baltimore are within a 45-minute drive of Annapolis. Hotel space in Annapolis is limited. Make your reservations now. Complete information on hotels will be included with the first Call for Papers which will be mailed in mid-February. Questions concerning conference facilities should be directed to The Conference General Chairman, Dr.Lawrence R. Whicker, Code 5250, Naval Research Laboratory, Washington, D.C. 20375 (Tel: (202) 767-3312))

### 1977

The 1977 Ultrasonics Symposium is scheduled to be held at Del Webb's Towne House Hotel in Phoenix, Arizona on October 26-28, 1977. The weather in Phoenix during the end of October is generally very pleasant; so that those participants so inclined can take the opportunity to combine business with pleasure by taking part not only in the Symposium, but also in outdoor sports or the interesting sight-seeing opportunities that Arizona has to offer. For example, visitors who have not been to Arizona before will probably wish to visit the Grand Canyon, 225 miles from Phoenix, with easy access by private car, plane, or bus tours. And the more hardy may wish to take a mule ride or hike into the Canyon, or even camp on the bottom. (Permits to camp are required and should be requested from Park Service, Grand Canyon National Park. For late October, such permits should be requested about half a year ahead of the time of usage.)

Besides its natural attractions, Arizona, and particularly the Phoenix area, now offers the choice of a number of good restaurants. And nearby Scottsdale, with its many interesting shops, is usually a must for the ladies. Other attractions in the Phoenix area are Grady Gammage Menorial Auditorium at Arizona State University in Tempe, the last major work of Frank Lloyd Wright, and Taliesin West, the western home of the famous school of architecture founded by Mr. Wright, located in the desert very close to Phoenix.

The Towne House, which is located near the center of Phoenix but not in the immediate downtown area, has a record of being the successful headquarters for a number of recent IEEE Symposia.

General Co-Chairmen for the 1977 Ultrasonics Symposium are Dr. Irving Kaufman, of Arizona State University, Tempe, and Dr. Fred S. Hickernell, of Motorola G.E.D., Scottsdale. Dr. Murray D. Sirkis, also of Arizona State University, is Local Arrangements Chairman. Other members of the Symposium Committee will be announced in the near future.

# SYMPOSIUM PROCEEDINGS

The Ultrasonic Symposium Proceedings of the Conference, this time held in Los Angeles, September 22-24, 1975, was as successful as the previous year. The level of participation was slightly lower than that of 1974. Once again many letters were received expressing appreciation for the rapid publication and distribution of most of the talks given in Los Angeles. This time, due to my unfortunate illness, most of the work was done on my behalf by Bruce R. McAvoy, to whom I am grateful for a job well done. I feel sure that this volume will be as useful to all concerned as were the previous volumes.

Due to lack of cooperation of a few authors and to financial considerations, two changes will be necessary in the future. These are: firstly, payment for extra page charges must be made by check at the time the manuscript is submitted and secondly, if payment is not received at that time, the "extra" pages will not be published. This is unfortunately necessary due to the lengthy and costly process of collection by IEEE Headquarters.

#### J. de Klerk, Chairman Publications Committee

NOTE: I would like to express my appreciation to all those who sent "get well" cards to me at the hospital after I suffered a heart attack. I was very disappointed that my illness prevented me from attending the Los Angeles Meeting. However, I am pleased to be back at work after successful open heart surgery and a relatively short convalescence. I returned to work about the middle of January, just two months after the operation and now, as the cardiologist predicted, I feel at least 10 years

## **MEMBERSHIP**

During 1975, membership continued to grow. This is summarized by the table below. The 8% increase in membership

#### GSU MEMBERSHIP STATISTICS

DATE	STUDENT	HIGHER GRADES	AFFILS	TOTAL
12/31/74	209	1381	18	1608
11/30/75	222	1512	15	1749
Change	+6%	+9%	-20%	+8%

indicates the continued health of our group.

Through the efforts of Dick Stern and his associates, several new members joined both the IEEE and GSU at the Ultrasonics Symposium: 3 new IEEE only members, 15 new IEEE & GSU members, and 5 existing IEEE members extending their membership to GSU. Included were some old and some new faces, and both are certainly welcome.

An important part of the group activities is the annual Ultrasonics Symposium, and traditionally non-members have played an important role as attendees and authors. To facilitate mailing Symposium announcements, the non-members mailing list is presently being revised and placed on the IEEE computer so that it will be available in the same form as the members list. The criteria for an active non-member is attendance at any of the last 3 Symposia or co-authorship at the last Symposium. Any additions not satisfying these criteria should be brought to the attention of Bruce Thompson, Science Center, Rockwell International, P.O. Box 1085, Thousand Oaks, CA 91360.

## 1976 GSU ADCOM

Dr. Robert Adler Research Department Zenith Radio Corporation 6001 West Dickens Avenue Chicago, Illinois 60639 312/745-4854

Dr. A. J. Bahr Stanford Research Institute 333 Ravenswood Avenue Menlo Park, California 94025 415/326-6200 x 4631

Mr. D. W. Baker Center for Bioengineering BB 1025 HSB RK-15 University of Washington Seattle, Washington 98195 206/543-0960

Dr. P. H. Carr
AFCRL, L. C. Hanscom Field
Bedford, Massachusetts 01730
617/861-2527

Dr. L. T. Claiborne
Texas Instruments Inc.
Dallas, Texas 75222
214/238-2426

Dr. J. deKlerk
Westinghouse Research Lab
Beulah Road
Pittsburgh, Pennsylvania 15235
412/256-3595

Dr. N. F. Foster Bell Laboratories Holmdel, New Jersey 07733 201/949-6209

Dr. F. S. Hickernell
Motorola Government Electronics
Division
8201 East McDowell Road
Scottsdale, Arizona 85252
602/949-2923

Dr. M. G. Holland
Raytheon Research Division
28 Seyon Street
Waltham, Massachusetts 02154
617/899-8400 x 2466

Dr. L. W. Kessler
Sonoscan, Inc.
752 Foster Avenue
Bensenville, Illinois 60106
312/766-8795

Dr. G. S. Kino

Microwave Laboratory

Stanford University

Stanford, California 94305

415/497-0205

321 0749 - Home

Dr. E. G. H. Lean IBM Watson Research Center P. O. Box 218 Yorktown Heights, New York 10598 914/945-2311

Mr. L. Lynnworth Panametrics, Inc. 221 Crescent Street Waltham, Massachusetts 02154 617/899-2719

Dr. J. E. May Bell Labs 1600 Osgood Street North Andover, Massachusetts 01854 617/681-6025

Dr. B. R. McAvoy Westinghouse Research Labs Beulah Road Pittsburgh, Pennsylvania 15235 415/256-7267, 3595

Dr. D. McSherry Digicon 3701 Kirby Drive Houston, Texas 77006 713/526-5611

Dr. T. R. Meeker Bell Laboratories 555 Union Boulevard Allentown, Pennsylvania 18103 215/439-6838

Dr. W. D. O'Brien, Jr.
Bioacoustics Research Lab
University of Illinois
Urbana, Illinois 61801
4 217/333-2407 or
217/333-1640

Dr. E. P. Papadakis Ford Motor Company Manufacturing Development Center 24500 Glendale Avenue Detroit, Michigan 48239 313/533-1035 x 333

Dr. W. J. Spencer Sandia Laboratory Albuquerque, New Mexico 87115 505/264-7221

Professor R. Stern
Department of Engineering
University of California at
Los Angeles
Los Angeles, California 90025
213/825-2036

Dr. R. B. Thompson

Rockwell International

P. O. Box 1085

Thousand Oaks, California 91360

805/498-4545 x 158

Dr. F. L. Thurstone
Duke University
Biomedical Engineering Division
Durham, North Carolina 27706
919/684-6185

Professor C. S. Tsai
Carneigie-Mellon University
Department of Electrical Engineering
Schenley Park
Pittsburgh, Pennsylvania 15213
412/621-2600 x 621

Dr. H. van de Vaart Sperry Research Center المرابع 100 North Road المرابع 100 North Road 100 Sudbury, Massachusetts 01776 617/369-4000 x 309

Dr. S. Wanuga
General Electric
Electronics Lab
Room 135
Electronics Park
Syracuse, New York 13201
315/456-2027

Dr. R. C. Williamson MIT Lincoln Labs Room D-331 P. O. Box 73 Lexington, Massachusetts 02173 617/862-5500

10) All Loud Moiser Levy letter regarding 414 963 4475
To send - Andy Slobodnik

Buto

OTHERS

1976 Ultrasonic Symposium Dr. L. R. Whicker Naval Research Lab Code 5250 Washington, D. C. 20375 202/767-3312

1977 Ultrasonics Symposium
Dr. F. S. Hickernell
Motorola Government Electronics
Division
8201 East McDowell Road
Scottsdale, Arizona 85252
606/949-2923

1978 Ultrasonics Smyposium Dr. F. S. Welsh Bell Telephone Labs Allentown, Pennsylvania 18101 21,5/439-7978

Division IV Director
Mr. R. A. Rivers
Aircom, Inc.
Main Street
Union, New Hampshire 03887
603/473-2323

Dr. P. H. Carr AFCRL, L. C. Hanscom Field Bedford, Massachusetts 01730 617/861-2527

Professor I. Kaufmann Arizona State University Electrical Engineering Department Tempe, Arizona 85281 602/965-3694

Dr. R. M. Emberson, IEEE Director of Technical Service IEEE Headquarters 345 East 47th Street New York, New York 10017 212/644-7889, 7892

### FELLOWS COMMITTEE

Last year, the members of the Fellow Committee of the Sonics and Ultrasonic Group were; Gordon Kino, Stanford University chairman), Robert Adler, Zenith, Ernest Stern. Lincoln Laboratories, and Donald Thompson, North American Rockwell.

The function of this committee is to rank candidates whose names have been submitted to the IEEE to become Fellows of the IEEE, because of their outstanding contributions to ultrasonics.

Melvin G. Holland was made an IEEE Fellow this year for his contributions to the field of surface and bulk acoustic wave devices and technology.

We shall be considering new nominations for IEEE Fellows this year. Readers are reminded that these nominations must be received at IEEE Headquarters before April 15, 1976, and should have support by the local group in the area where the candidate works before that date.

## 1976 GSU ADCOM ELECTION

Three new members have been elected to the Administrative Committee of the Group, each for the three-year term 1976 through 1978. Those elected are

Lawrence C. Lynnworth Diana H. McSherry Richard C. Williamson

We offer our congratulations to this group and we wish to thank the other nominees who ran for office:

Thomas A. Bristol Moises Levy G. Timothy Pearman

Clearly, any of the six nominees would have made contributions to the AdCom, and we are sure that those elected will maintain the high standards of the G-SU.

Nominating Committee

M. G. Holland, Chairman

L. T. Claiborne

F. J. Fry

M. B. Schulz F. S. Welsh

## MEETINGS OF INTEREST

Ultrasound, Laser, Ultraviolet and Microwaves: Biophysical Basis, Hazards and Applications in Medicine and Industry

> Massachusetts Institute of Technology, Cambridge, Mass July 12 - 16, 1976

The course will emphasize practical considerations in safe and effective use of these modalities in Medical and Industrial practice, e.g. methods and instrumentation for power measurement, calibration, dosimetry, compliance with Federal and State regulations, etc.

For further information, please contact:

Director of Summer Sessions Room E19-356, M.I.T. Cambridge, Mass 02139

ACOUSTICAL IMAGING AND HOLOGRAPHY SEVENTH INTERNATIONAL SYMPOSIUM

AUGUST 30 - SEPTEMBER 1, 1976 CHICAGO, ILLINOIS U.S.A.

#### ANNOUNCE EIT

This three may symposium will serve as a forum for uniting all aspects of ultrasonic visualization. Papers will be presented on new techniques, theories, devices, applications and practical achievements for producing images by means of ultrasonic energy. Examples of topics covered are pulse echo and continuous wave imaging techniques, acoustic lens systems, shadow imaging, acoustical holography and reconstruction, real time and slow time techniques, computer aided reconstruction, image enhancement and tomography.

This year's symposium will focus on common aspects of imaging systems applicable over a broad frequency range from kilohertz to gigahertz and a broad application range from medicine, non-destructive testing, microscopy, underwater viewing and seismic mapping.

Previous co-sponsorship of this series of conferences has included the Office of Naval Research, IEEE Group on Sonics and Ultrasonics, Acoustical Society of America, McDonnell Douglas Corporation, Stanford Research Institute, University of California at Santa Barbara and Naval Undersea Center.

#### CALL FOR PAPERS

Abstracts of candidate papers should be in the hands of the chairman prior to the deadline, May 14, 1976. Submit 10 copies, plus the original, 200 word maximum. For details on abstract preparation and for further information, contact the chairman:

DR. LAWRENCE W. KESSLER SONOSCAN, INC. 752 FOSTER AVENUE BENSENVILLE, ILLINOIS 60106

Proceedings: Authors will be invited to submit written versions of their papers for publication in Volume 7, of the book series entitled "Acoustical Holography" by Plenum Press.

### 1976

## **ULTRASONICS SYMPOSIUM**



#### IEEE GROUP ON SONICS AND ULTRASONICS



#### SEPTEMBER 29 - OCTOBER 1, 1976

### Annapolis Hilton Inn, Annapolis, Md.

CONTRIBUTED PAPERS, on new discoveries, recent advances, new devices, new techniques, and applications in all areas of sonics and ultrasonics are requested.

INVITED PAPERS, will be presented during the regular sessions but will be arranged to allow the symposium participants to hear as many papers as possible.

POSTER SESSIONS, similar to those held at the 1975 Ultrasonics Symposium will be held again. In these sessions a meeting room is filled with bulletin boards on which presenters place graphs, diagrams, data, pictures, or text to illustrate the main points of their presentation. Visitors to the sessions can either wander through or go directly to the papers that interest them. (A good description of poster sessions can be found in Science, June 28, 1974).

DEADLINE--June 24, 1976. This deadline has been set as late as possible to insure that the Symposium will serve as a forum for the most current work.

ABSTRACTS. (Original and 16 copies) should be submitted to the Chairman of the Technical Program Committee, Dr. Paul H. Carr. Instructions for preparation are given on the following pages.

> Dr. Paul H. Carr RADC Deputy for Electronic Technology Hanscom AFB -- Stop 30/ETEM Bedford, MA 01731

Telephone:617/861-2527

HOTEL ARRANGEMENTS. Annapolis is a unique city located on the Severn River and the Chesapeake Bay. It is the location of the U. S. Naval Academy and forms an important part of our nation's history. The setting is ideal at the time of our nation's Bicentennial. However, hotel space is limited and there are other activities underway. Please make your reservations as soon as possible. Blocks of rooms have been arranged at the 5 major establishments listed below. When making reservations, please mention Ultrasonics Symposium.

1. Annapolis-Hilton Inn Annapolis, Maryland 21401 (RESERVATION DEADLINE: Sept. 15, 1976)

Double \$34.00 + TAX

Comment: All meeting functions will be held at the Annapolis-Hilton. All rooms are over-size, delux quality containing 2 double beds. Attendees are strongly encouraged to share a room with a colleague so that a maximum number of symposium attendees can stay here

2. Annapolis-Holiday Inn Route U.S. 50 & MD 450 Annapolis, Maryland 21401 (RESERVATION DEADLINE: Sept. 1, 1976) Tel: (301) 268-5031

RATES

Comment: This motel is approx. 15 minutes by bus from Annapolis Hilton. A complimentary bus service between this motel & Annapolis-Hilton will be provided morning, late afternoon & evening.

3. Thrift lnn, Annapolis 2542 Riva Road (Rt. U.S. 50 & MD 450) Annapolis, Maryland 21401

(RESERVATION DEADLINE: Sept. 1, 1976) Tel: (301) 263-0800

Single \$ 9.50+TAX Double \$15.50+TAX

Comment: Bus service as indicated above. This is a new motel with budget rates -- food service is at adjacent Holiday Inn.

4. Annapolis Howard Johnson's Annapolis, MD 21404

(RESERVATION DEADLINE: Sept. 1, 1976) Tel: (301) 757-1600

Single \$15.00 + TAX Double \$23.00 + TAX

Comment: About 15 min. from Annapolis-Hilton Inn. Bus services as indicated above.

5. Maryland Inn (RESERVATION DEADLINE: Sept. 1, 1976) Annapolis, MD 21401 Tel: (301) 263-2641

Single \$15.50-\$19.50 + TAX Double \$19.50-\$24.50+TAX

Comment: This is a small, older hotel which is in walking distance of the Annapolis-Hilton. Persons desiring reservations should speak with Ms. Bednarsky of Ms. Parrack.

6. Other motels near the Howard Johnson's include the following: (Complimentary bus service can be provided here also)
Annapolis Terrace Motel
Rt. 50
Rt. 50

Annapolis, MD 21404 Tel: (301) 757-3030

Annapolis, MD 21404 Tel: (301) 757-2222

7. For additional information contact Dr. Lawrence R. Whicker, General Chairman, 1976 Ultrasonics Symposium, Code 5250, Naval Research Laboratory, Washington, D.C. 20375 Telephone: (202) 767-3312.

## TECHNOLOGY IN THE WORLD

QUARLES ASKS SUPPORT FOR ENVIRONMENTAL GROUPS, CHANGES IN

John R. Quarles, Jr., Environmental Protection Agency Deputy Administrator, today told the National Council on Philanthropy that "it is essential that the major environmental groups continue to receive adequate financial support" from foundations and other philanthropic groups.

Quarles called for changes in the tax laws to support environmental groups and their efforts to lobby the Congress.

"Everyone knows," Quarles said, "that legislation is not passed in a vacuum. No one questions the right of business and industry to lobby Congress."

"Congress needs to hear both sides of the story before acting on important environmental legislation," he said. "To encourage one side to tell its story and not the other is not only unfair, it is unwise. It enables the group with superior resources, but not necessarily superior logic, to exercise a disproportionate influence on public policy. To enact legislation which is truly in the "public interest," Congress must hear from all segments of that public--not just the business section."

"Up to now," Quarles said, "most environmental groups--at least those that depend on tax exempt contributions--have not been able to directly lobby Congress. This is a result of the vay the nation's tax laws are written. Under Section 501 (c) of the Internal Revenue Code, no private tax-exempt organization can devote a significant portion of Its Income to lobbying activities. If they do, the groups run the risk of losing their tax exempt status, and thus their major source of income. What this means is that a substantial number of large, important conservation organizations are unable to effectively present their views to Congress. This is why the environmental movement can support so few full time lobbyists. Only those groups which do not seek tax exempt status are permitted to lobby. Unfortunately these are few and far between. To understand just how great the disparity between industry and the environmental groups is, consider the following:

"In Washington, D.C. industry and trade associations maintain well over 100 lobbyists to devote some or all of their time to environmental issues. The number of full time lobbyists maintained by the environmental groups is perhaps 10-15."

"What is surprising," Quarles said, "and what must be changed, is the additional tax treak given to industry. Under Section 162 of the Internal Revenue Code, a business is permitted to deduct many of the costs associated with lobbying activities. This means that, in the case of large corporations, Uncle Sam, is, in effect, footing almost half the bill for corporate lobbying activities. The top corporate tax rate is 48%—that means that every dollar which is spent for lobbying activities only "costs" the corporation 52 cents since if that same dollar were taxable income, the corporation would only get to keep 52 cents of it. The other 48 cents would go to Uncle Sam. Thus, the government in effect subsidizes corporate lobbying activities by permitting their cost to be deducted from corporate income which in turn reduces total corporate taxes. In short, the tax laws merely aggravate any already overwhelming imbalance."

"Private non-profit organizations which have an interest in public policy issues should be permitted to devote a certain percentage of their budgets to legitimate legislative activities without running the risk of losing their tax exempt status," Quarles said, "this is only fair if corporations and trade associations are permitted to deduct their lobbying expenses."

#### LIBERTY BELL MOVE MONITORED

#### BY SPACE AGE TECHNOLOGY

PHILADELPHIA, PA., Dec. 29 -- Space age technology was used here today to protect the 223-year old Liberty Bell as it started its bicentennial move

A sophisticated electronic early warning system, developed by the Dunegan/Endevco Division of Becton, Dickinson and Company, monitored the historic bell for any widening of its famous crack as it was lowered into a concrete bed.

The 2,080 pour Liberty Bell will be moved on New Year's Eve from Independence hill to new quarters nearby where it can be viewed by millions of people in 1976.

The monitoring system, called acoustic emission, consists of a transducer the size of a nickel connected with electronic equipment. The super-sensitive listening device detects stress waves in the ultrasonic frequency range caused by microscropic changes in the metal that otherwise would be undetected. A signal of the potential failure is then given in sufficient time to make adjustments.

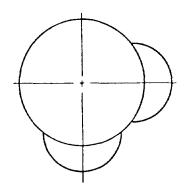
Dunegan's system was installed and operated today by Harold L. Dunegan, an international authority on acoustic emission, and Dr. Adrian Pollock, research director of Dunegan/Endevco and a British citizen. They worked under the direction of Dr. Karl E. Dorschu, manager of metallurgy and ceramics, The Franklin Institute, who is in charge of the materials aspects of the Liberty Bell moving project.

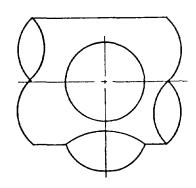
Dunegan/Endevco's acoustic emission system is applicable in testing bridges, offshore oil rigs, mines, power plants, wind silos and airplane wings and landing gear -- as well as venerable bells.

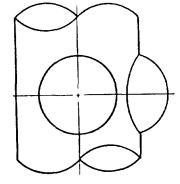
Becton, Dickinson is an international manufacturer of medical, laboratory and industrial safety products.



#### INTERCEPTED COMMUNICATIONS DEPARTMENT







#### REQUEST FOR PROPOSAL

PROPOSALS ARE BEING
SOLICITED FOR THE
STUDY OF VIBRATIONS
OF COMPLIANT HEMISPHERES
BONDED TO RIGID CYLINDERS.
ADDRESS REPLIES TO MIDEAST
RESTAURANTEURS ASSOCIATION
BEFORE 3 AM ANY NICHT.

## IFFE GENERAL NEWS

#### PROPOSALS SOLICITED

#### **FOR**

#### PROCEEDINGS REVIEW PAPERS

The FROCEEDINGS OF THE IEEE is continuing a policy, adopted in early 1975, of encouraging prospective authors to submit advance descriptions of proposed tutorial-review papers. The purpose of this policy is to stimulate the preparation of these nighly important papers by providing a means for an author to obtain an indication of likely publication before he invests the large amount of time and effort required to write a manuscript.

The paper particularly appropriate for the PROCEEDINGS is one on a subject of wide interest that contains a strong tuterial introduction, surveys the state-of-the-art of the field rather than specific research results, is self-contained because of its inclusion of relevant background information, and concludes with an extensive bibliography for those who wish to delve into the topic more deeply. The body of the paper treats the subject in depth, including the necessary mathematics and physics, and at whatever length is required. It contains substantially more tutorial and background information, and is usually longer, than a TRANSACTIONS paper.

Prospective authors of such tutorial-review papers are urged to submit proposals to the PROCEEDINGS Editor (345 East 47 Street, New York, N.Y. 10017). Each proposal should contain an outline of the contents of the proposed manuscript, a short description of the current interest in the field of the paper, and a brief summary of the author's relationship to the field and his qualification for writing the paper. The proposal will be reviewed with the help of the PROCEEDINGS Editorial Board; if received favorably, the author will then be encouraged to write the paper. The manuscript must subsequently undergo technical review, but there will be a definite predisposition to publish it, assuming it meets technical and literary standards. Further details may be found in an editorial in the December 1974 PROCEEDINGS (page 1619).

The papers published as a result of the program complement, but are separate from, the invited review papers that have been a major feature of the PROCEEDINGS for some years.

# STANDARDS BOARD CHAIRMAN



...........William R. Kruesi has been appointed Chairman of the IEEE Standards Board for 1976. He succeeds Joseph L. Koepfinger, who chaired the Standards Board in 1974 and 1975. Mr Kruesi, who has been a member of the Institute of Electrical and Electronics Engineers since 1943, has served on the IEEE Standards Board for the last four years and has served as Chairman of IEEE Standards Coordinating Committee 18 (National Electrical Code) from 1973 to 1975.

Presently, Mr Kruesi is Consultant-Standards on the Corporate Executive Staff of the General Electric Company. His entire professional career has been with GE since he received the BSEE degree from Union College in 1942. He has been a development engineer on airborne radar systems, Manager, Aerospace Motor and Generator Engineering (1948-1962), and Manager-Engineering, Distribution Protective Equipment Department (1965-1971).

In addition to his active standards work within IEEE, Mr Kruesi is a member of the Engineering Standards and Safety Board of the Association of Home Appliances Manufacturers (AHAM), Consumer Standards Committee F15 of the American Society for Testing and Materials (ASTM), Federal Product Regulation Committee of the National Electrical Manufacturers Association (NEMA), and Chairman of its OSHA Subcommittee. He served as Chairman of the Engineering Department of the Electronic Industries Association (1974–1975) and is now a member of its Executive Committee.

A registered professional engineer, Mr Kruesi has been a Senior Member of IEEE since 1952.

# TECHNICAL ACTIVITIES UPDATE by Robert D. Briskman



The purpose of this letter is to share with you some of the various events and actions which have occurred during the first few months of my tenure as Vice Precident - Technical Activities. When elected to this position last December, I stated an intent to keep the Society, Group and Council Presidents fully informed of Institute activities and to solicit their views and the views of their members on significant issues. Your views on matters discussed in this letter, as well as any others, would consequently be appreciated.

The first matter is organization, both of the Institute and of TAB (Technical Activities Board comprising the 33 Societies, Groups and Councils, the Standards Board, Technical Committees, etc.) The Institute's Long Range Planning Committee has recomtly completed a 3-year study of IEEE organization and has recommended significant changes at the Board of Director and Executive Committee levels. It would not be possible for me to cover these recommendations in this letter, but the full study report has been sent to each Society, Group and Council President and a summary will appear in Spectrum. The question of TAB organization is easier to address. I find there is no definition of responsibilities/duties between TAB, its operating committee (TAB OpCom) and its seven members on the Board of Directors, often called Divisional Directors. Society/Group/Council Presidents and Committee Chairmen) report directly to me, making for non-optimum efficiency of performance. A TAB Addioc Committee under John Zaborszky are jointly studying this matter and, hopefully, will have some constructive recommendations by this summer. We hope these recommendations will also be consonant with any changes in the structure of TAB made desirable through an Institute reorganization.

The second natter deals with a reduction in Institute paid staff which was effected in January due to fiscal pressures, and a reorganization of the Staff which was initiated at that time. The major effects on TAB are in the area of Headquarter's services and in Standards operations. Dick Emberson's technical service staff responsibilities are being expanded to provide services to regional and educational activities. The provision of common support to technical, regional and educational elements by a single staff organizational area will hopefully permit a similar level of TAB service to that previously provided, but with fewer required staff. During this time period, our excellent staff Director of Standards, Sava Sherr, resigned to accept a position as Deputy Managing Director of the American National Standards Institute. Bill Kruesi, our Standards Board Chairman, is making every effort to prevent a discontinuity in our Standards operations. We also immediately formed a Search Committee which recommended that Ivan Easton be brought aboard to direct the Standard. Board staff. Ivan was Chairman of the Committee which in 1969 provided the blueprint for our current efforts in Standards. I am pleased to report that Ivan is currently hard at work in Headquarters.

The last item is the matter of finances which has consumed a large amount of time. The initial allocation to TAB of general Institute funds in the 1976 Budget was lower than that provided in 1975. With the help of the other Directors, we were able to have the 1976 Budget revised to provide the same level of support as was provided in 1975. Nowever, due to inflation, our operating costs may well be higher in 1976 so economical management of TAB operations will be mandatory. The details of the 1976 Budget and related material have been provided to your President and Treasurer.

There are several other matters which cannot be reported due to space limitations. I expect these will be conveyed to you by your Officers. My next letter will deal with certain new activities we are undertaking which should interest you and deserve your support. My sincere thanks to the large number of you who have been so helpful to TAB, the Institute and to me during these initial, somewhat heetic months of my tenure. Your assistance and support have been deeply appreciated.

The INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS, Inc. 445 Hoes Lane Piscataway, N.J. 08854

"POSTMASTER: IF UNDELIVERABLE, DO NOT RETURN."

Non Profit Org. U.S. Postage PAID IEEE Permit #52

5226295 SM F S HICKERNELL 5012 E WELDON PHOENIX

20N \*\*\* APR16 AZ 85018