SYMPOSIUM HIGHLIGHTS

"Systems" is the dominant topic that has shaped the Symposium. It is exciting to see the years of work on solid-state microwave oscillators and on microwave integrated circuits come together in radar for civilian use such as in automobiles. It is also exciting to see that present systems interest in phased array radar has increased activity in the design of solid-state phase shifters. There are two sessions on systems, two sessions on ferrite devices, two on solid-state oscillators, and one each on acoustics, CADAR, MIC, filters, diode control, and transmission lines.
Two almost sharply contrasting themes seem to dominate this issue of the Newsletter. Foremost is the upcoming 1971 G-MTT Symposium. This meeting is the highlight of the year for microwave activities and the Symposium this year offers an excellent technical program plus the opportunity to exchange new ideas and opinions with other members of the Microwave community. This issue contains a four-page special feature on the Symposium. The second theme spread through the articles is one of impending curtailment of group activities because of lack of operating funds. Sy Okwit, in his Chairmans Viewpoint points out the possible reduction of page allocation for the Transactions. Work on the Scholarship program has been tabled by ADCOM for the present, and other programs such as the W.W. Hansen Award have been slowed considerably by lack of allocated funds from IEEE. This brings the Group face to face with the task of finding new sources for funds. We can sell Group activities through our Symposium activities and through the Transactions. We can also campaign for new members. For the most part, this work is well under way at present, and it is a matter of working harder and selling harder to increase the incoming revenue. But what about new sources of income? Should the Group enter into new business ventures? Traditionally, the Group has maintained a policy of strictly high level technical environment in the Transactions and at the annual Symposium. I believe this is the strong feature of the Group and is one of the desirable traits we all want to keep. But what about this financial problem? Can additional funds be obtained by having exhibits at the annual symposium? Would symposium exhibits be a new business venture that offer the industry a chance to centrally locate microwave products in a strictly microwave atmosphere? This has been a problem in the past at other symposia.

The Group ADCOM is considering ways of obtaining additional funding. One of these is exhibits at the Chicago Symposium in 1972. The ADCOM would very much like to get options from members about exhibits at the symposium. The Newsletter is the logical place to air your opinions and I will welcome your letters for the Letters to the Editor feature of the Newsletter.

As many of you are already aware, the Institute is facing severe fiscal problems this year. The changing national priorities and its effect on the economic climate of our industry has had an eroding effect on the Institute's budget which in turn has filtered its way down into the Groups.

This year finds MTT in the disappointing position of having to consume the modest cash surplus that we have worked hard to build up over the past several years. In fact, we will probably go beyond the surplus and into a deficit position. Your AdCom has always worked diligently to assure fiscal responsibility but the sudden, unexpected burdens resulting from decreased financial support from the Institute precluded a smooth curbing of Group activities.

The largest single expenditure in our budget is the publication of our Transactions. It was planned, that for the year 1971, the Transactions would publish 1,200 - 1,250 pages. The financial crisis, which was first made known to the AdCom early this year, has forced the Institute to limit our publication to about 1,000 pages. This has placed the MTT Editor in an embarrassing situation since many plans and commitments have already been made, and our issues are complete (at Headquarters) through the July publication. Consequently, the greater than 20% decrease in budget pages is made more burdensome by the fact that it will have to be accomplished in the last five issues.

Our Editor is making every attempt to accomplish this in an orderly manner; by delaying special issues and judiciously building up publication backlog. Unfortunately, this answer to the fiscal problem is made at the disadvantage of technical communication.

The only way to minimize this burden placed on the Transactions, is to increase the Group's income. Aside from the membership dues (which have recently been increased), the two potentially largest items of income are from:

1. Voluntary page charge fees paid by the employers of authors who publish in the Transactions,
2. Institutional listings that appear on the back cover of our Transactions. Both of these income items have been disappointingly low in the past year.

I would like to take the liberty in this short message to ask each and every MTT member to discuss both of these income items with his respective management. It appears to me that it is to the advantage of each employer, be it corporation, university, or Government, that they support this vitally important communication medium. At an approximate publication cost to the Group of $70 per Transaction page, a mere $14,000 would be required to bring our publications into a more reasonable state. It is the responsibility of each and every one of us to take a more active role in assuring that this message is heard.

---

**PROFESSIONAL ACTION COMMITTEE REPORT**

by R.A. Rivers

The committee has had one meeting in the Boston Area in March. Some of the tentative subjects for investigation are in the areas of Political Action, Public Relations, and Professional Ethics. They are what I would call Professional Obligations. Activities in these areas determine the level of an individual's responsibility to society. Should the professional care enough to maintain a relationship with society by being personally responsible, by contributing his special knowledge and expertise to the public, and by influencing public policy through the lawmakers? The technical societies have avoided their responsibility to society in the matter of ethics, public education, and education of our lawmakers.

Other subjects for investigation are Economic Benefits, Professional Placement, Continuing Education, Institutional Professional Education, Professional Services, and Professional Contact. These may be grouped under the heading Professional Benefits or Privileges. The level of these benefits determines an individual's ability to act in a professionally responsible way.

It is the objective of the committee to study in detail and report on the many aspects of professionalism. After reporting to the membership through the available communications media, then the committee will attempt to take action if any action is warranted and if it has the support of the membership. The desire is to stop the "arm waving" about what the IEEE should do and substitute rational action based on facts.

There will be some criticism of a Group activity in this field. Some would desire no discussion of any non-technical matter. I assume that their feeling is that the IEEE is perfected, and that any discussion of its role will destroy the IEEE. I ask; Is it really perfected? If the organization is so precarious that its role cannot be discussed in a rational fashion by the membership, then we really do have a problem.

If you have any contributions to make to this activity, please contact me.

---

**EXCERPTS FROM ADCOM MEETING**

by AL CLAVIN

Chairman S. Okwit called the meeting to order and indicated that three basic topics for discussion during this meeting would be (a) IEEE policy regarding Society and Group Status and possible implication with regard to the G/MTT, (b) The G/MTT Finances, and (c) Direction for the Professional Action Committee. These topics would be discussed at the appropriate place on the agenda.

J. Bryant pointed out that there was pressure to merge groups and evolve to a Society status. Achieving Society status may be difficult in the near future without a strong base. S Okwit stated that a firm reading was not as yet available from IEEE Hq, regarding Societies, however it would seem that by 1973 the group structure would be replaced by a Society structure. The IEEE Hq is in the process of setting up general guideline for Societies. E. Torgow offered the following two part motion:

1. Resolve that it is the intent of the MTT to consider Society status, possibly with other groups and/or Councils.

2. Resolve that until such time as the relationship between Councils, Groups, Societies and Divisions are defined the MTT recommends that a "status quo" be maintained with regard to Councils.

H.W. Cooper seconded the motion and the two part motion carried.

S. Okwit indicated that to become a Society a good five year plan was a prerequisite. To this end, he established a committee to be chaired by H.M. Altschuler. J. Bryant and S. Okwit are to serve on the committee. An effort will be made to have preliminary plans by the May meeting. S. Okwit stated that he was in receipt of a letter from the Communication Technology Group Ad Com regarding the formation of an IEEE Communication Society.

Several Chapter Chairman were at the meeting to report the progress in their areas. Reports were given for the Baltimore Chapter by Larry Whicker, for the Boston Chapter by R.A. Sparks, and for the Denver Chapter by D.F. Wait (for M. Decker).

Standard's Coordinating Committee Chairman P.H. Smith reported on the activities of this committee. Members of the committee are R.W. Beatty, P.A. Loth, and G.L. Matthaei. The Waveguide
Standards Committee is chaired by R. Lawman; the Waveguide Measurements Committee is chaired by S. Adams; the Polarization and Modes Committee is chaired by G.A. Deschamps and the Microwave Magnetics Committee is chaired by L. Young. P. Smith indicated that under the prerogative as Chairman he is elevating the Waveguide Measurements Committee to full Committee (Ad Hoc) status.

Publications Committee Chairman G. Haddad reported on the MTT Transactions. The special issue on Biological Effects should be out by the end of the month. The special issue on MIC's is just waiting for a few papers from England to be complete. The special issue on Microwave Measurements is going well, approximately 20 papers have been submitted. A special issue on Civilian or Commercial Applications of Microwaves is being considered for 1972. He reported that the cover of the Transaction will be in two colors instead of three. This will save $140 per issue. The number of pages estimated through June is about 600 pages. G. Haddad indicated that it will be very difficult to live with the 992 pages allocated.

Finance Chairman E. Torgow reported that the final statement of Group Financial Operations for 1970 shows an $8,429 annual deficit, reducing the Group reserves to $8,232. The 1970 Symposium refund has not as yet been credited to the Group account.

H. Cooper reported that there were no problem areas of consequence regarding the 1971 G-MTT Symposium. They will need 430 attendees to break even. He next discussed the "non-technical Panel Discussion" to be held Monday evening May 17, during the Symposium. The proposed subject is to be "Changing Priorities and Engineering". Senator Proxmire has been invited to be one of the panelists but has not as yet confirmed.

D. Leeson indicated that he is preparing a revised scope and goals for the various technical committees and will have a draft by the May meeting.

Regarding Chapter Activities, P. Rodrigue reported that the National Lecturer, Carl Blake has set up an itinerary which lists 13 dates thus far. He reported that the depressed employment situation has dampened attendance at some Chapter meetings.

R. Rivers reported that the first meeting of the Professional Action Committee was held 18 March 1971. Tentative subjectives were discussed. No priorities were established. A list of subjects were compiled which would serve as a basis for future investigation. Monthly meetings are tentatively planned.

The next meeting will be held at the Marriott Twin Bridges Motel, Washington, D.C. on 16 May 1971 at 2:00 P.M.

(Cont. on Page 5)
soul-searching on what non-technical services the Institute should innovate for its members. I have no doubt that a consensus is emerging, and that IEEE will play its part, serving the individual as well as professional needs of its members.

The Groups collectively are the technical backbone of IEEE. In addition to their basic function of providing technical services, most Groups have developed their own identity and a group spirit which in itself is a strong asset. Being associated in a Division should make it easier for Groups to share experiences, exchange ideas, work together, and act together on matters of common concern. My main task will be to facilitate this process. I intend to keep in close touch with the Groups through their AdCom chairmen, most of whom I met again at the TAB meeting in Washington on January 15, and at the Division dinner meeting the evening before. I also attended the TAB OpCom meeting in New York on January 5, and the Board of Directors meeting on January 6, and spent a most instructive evening with IEEE President Jim Mulligan on January 12. I plan to attend most of the Division's AdCom and Council meetings in New York in March, and to have another meeting with your chairman one evening during the IEEE Convention. I hope that these meetings and discussions and other contacts will indeed help to open up new channels of communication, and will result in an organization that is more responsive to our members' interests. In particular, I would like to keep in touch with all of you, and would be glad to hear your views, complaints, and especially your encouragement. If you have any pertinent information or suggestions, and especially if you can help in any way, please write to me at Stanford Research Institute, Menlo Park, California 94025.

In summary, we must continue to adapt our organization to meet new needs. We have been successful in the past on a purely technical plane, and technical problems will continue to be our primary concern in the future. But let us see the whole picture, and also care for the individual member on whom the practice of engineering depends.

*For example, see the correspondence in IEEE Spectrum for January 1971.

**Technical Activities Board.

***TAB Operating Committee.

---

**NEW NEWSLETTER ON COMPUTER AIDED DESIGN**

A new bimonthly Newsletter for Computer Aided Design has made its debut last February. The newsletter is an inter-group publication that will provide its readers with information on the availability of CAD programs, technical reviews of articles on CAD, Calls for Papers, announcements of meetings and other items of CAD interest.

The newsletter is available free of charge to IEEE members. Current recipients of the newsletter are all members of the Computer Society and all those who have been recipients of the CADAR Newsletter. If you wish to receive the newsletter send your name, address and IEEE Membership No. to Dr. H. Freitag, IBM - Post Office Box 218, T. J. Watson Research Center, Yorktown Heights, New York 10598; or to Mrs. Herrick, IEEE Headquarters, New York City.

---

**IEEE ENTERS ENVIRONMENTAL QUALITY AND SOCIAL PROBLEMS FIELDS**

In response to the recommendations of its Vice Chairman in 1970, Dr. John R. Whinnery, for action on the impacts of electrotechnology on environmental quality and social problems, the Technical Activities Board (TAB) has authorized two new TAB committees: The TAB Environmental Quality Committee and the Ad Hoc Committee on the Application of Electrotechnology to Social Problems. The first Committee will be operational and, therefore, permanent while the second will be active just so long as social problems need to be identified from an electrotechnical standpoint. The Environmental Quality Committee is now in process of being organized and will include representatives from all IEEE Groups wishing to participate.

The Purpose and Activities of the TAB Environmental Quality Committee have been approved, as follows:

**PURPOSE**

To coordinate and stimulate the efforts of the IEEE Groups in the field of environmental quality to better apply electrotechnology and make information available to those that need it.

**ACTIVITIES**

1. Arrange with other engineering, scientific and governmental groups and societies for the establishment of technical meetings on environmental quality that may be expanded later to international meetings.

2. Document the technical areas of activity and interest of the IEEE.

3. Plan the dissemination of information on IEEE activities in this field.

4. Arrange for sessions at IEEE regional meetings and conventions.

5. Document the availability of resources for use by the Institute and others.

The roles of the Ad Hoc Committee on the Application of Electrotechnology to Social Problems will be as follows:

1. To identify more clearly and specifically the problems to which IEEE might contribute solutions;

2. To identify relevant present interests and activities of the Groups;

3. To coordinate and otherwise facilitate joint efforts, particularly to support new activities, program and projects.
An updated speakers list is being compiled for distribution to our MTT chapters. Anyone having heard a particularly good speaker is urged to submit his name and topic to me at Georgia Tech, Atlanta, Georgia 30332.

The schedule for our National Lecturer, Carl Blake, is rapidly becoming filled as indicated by his itinerary listed below. However, if you are still interested in having him talk at your chapter meeting, please contact him at MIT, Lincoln Laboratory, MS C371, Box 73, Lexington, Mass. (617-862-5500 x 5312). His present itinerary for 1971 is:

- **Boston**: 11 February
- **Orlando**: 16 February
- **Houston**: 16 March
- **Dallas**: 17 March
- **Ft. Worth**: 18 March
- **Atlanta**: 20 April
- **Huntsville**: 21 April
- **N. Jersey**: 22 September
- **Schenectady**: 23 September
- **Philadelphia**: (Tentative)
- **Phoenix**: 15 November
- **San Diego**: 16 November
- **Denver**: 18 November

The next principal event for chapter activities is the Chapter Chairman's meeting to be held on Sunday evening, May 16, 1971, at the Marriott Twin Bridges Motor Hotel in Washington, D.C. Chapter Chairmen will receive a notice by May 1, giving the room location and time of the meeting. I would like to encourage each chapter to send a representative. For further information about the agenda, contact me at Georgia Tech (404-873-4211, x 318).
FEATURE

1971 IEEE INTERNATIONAL MICROWAVE SYMPOSIUM
Marriott Twin Bridges
Motor Hotel, Washington, D.C.
MAY 16 -- 19, 1971

Sy Okwit
Keynote Speaker

Walter R. Hinchman
Banquet Speaker

W. J. Evans
Microwave Prize Recipient

CONDESED PROGRAM

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday,</td>
<td>1900-</td>
<td>Registration</td>
</tr>
<tr>
<td>May 16</td>
<td>2200</td>
<td>Main Lobby</td>
</tr>
<tr>
<td></td>
<td>1900-</td>
<td>Rap Session – Cocktails</td>
</tr>
<tr>
<td></td>
<td>2200</td>
<td>ADCOM – Members – Wives</td>
</tr>
<tr>
<td></td>
<td>0730-</td>
<td>Registration</td>
</tr>
<tr>
<td></td>
<td>1600</td>
<td>Lobby</td>
</tr>
<tr>
<td></td>
<td>0900-</td>
<td>Welcoming Remarks and Keynote Address</td>
</tr>
<tr>
<td></td>
<td>0930</td>
<td></td>
</tr>
<tr>
<td>Monday,</td>
<td>0940-</td>
<td>I. Filters and Couplers</td>
</tr>
<tr>
<td>May 17</td>
<td>1230</td>
<td>II. Integrated Circuits</td>
</tr>
<tr>
<td></td>
<td>1400-</td>
<td>III. Transmission Lines and Measurements</td>
</tr>
<tr>
<td></td>
<td>1700</td>
<td>IV. Microwave Acoustics</td>
</tr>
<tr>
<td></td>
<td>1930-</td>
<td>Panel Discussion – Changing Priorities and Engineering</td>
</tr>
<tr>
<td></td>
<td>2200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0830-</td>
<td>Registration</td>
</tr>
<tr>
<td></td>
<td>1600</td>
<td>Lobby</td>
</tr>
<tr>
<td></td>
<td>0900-</td>
<td>V. Ferrite Materials and Circulators</td>
</tr>
<tr>
<td></td>
<td>1200</td>
<td>VI. Avalanche Diodes</td>
</tr>
<tr>
<td>Tuesday,</td>
<td>1330-</td>
<td>VII. Ferrite Limiters &amp; Phase Shifters</td>
</tr>
<tr>
<td>May 18</td>
<td>1630</td>
<td>VIII. Computer Oriented Microwave Practices</td>
</tr>
<tr>
<td></td>
<td>1800-</td>
<td>Cocktail Hour</td>
</tr>
<tr>
<td></td>
<td>1900</td>
<td>Persian Room</td>
</tr>
<tr>
<td></td>
<td>1900-</td>
<td>Banquet</td>
</tr>
<tr>
<td></td>
<td>2200</td>
<td>Persian Room</td>
</tr>
<tr>
<td></td>
<td>0900-</td>
<td>Registration</td>
</tr>
<tr>
<td></td>
<td>1200</td>
<td>Lobby</td>
</tr>
<tr>
<td>Wednesday</td>
<td>0900-</td>
<td>IX. Winning</td>
</tr>
<tr>
<td>May 19</td>
<td>0940-</td>
<td>Student Paper</td>
</tr>
<tr>
<td></td>
<td>1230</td>
<td>X. Microwave Applications for the 70's</td>
</tr>
<tr>
<td></td>
<td>1330-</td>
<td>XI. Gunn Devices</td>
</tr>
<tr>
<td></td>
<td>1630</td>
<td>XII. Civil Radar Systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>XIII. Solid State Microwave Devices</td>
</tr>
</tbody>
</table>

G/MTT April 1971

Thomas A. Saponas
Student Paper Winner
INVITATION FROM THE CHAIRMAN

Microwave integrated circuits, microwave acoustics, and computer aided design techniques as well as civil applications of microwaves will be covered in depth in 1971 Symposium. Automobile radar for a safer world and microwave transmission of electrical energy from space to earth we hope will contribute to our theme—"Microwaves For A Better World." In addition we will examine in a panel session on Monday evening the impact of changing national priorities on the engineer.

The Twin Bridges Marriott location is optimum for our Symposium since we will occupy most of the facilities and have the benefit of being the only Symposium in the hotel. To allow our sessions to proceed on schedule, buffet luncheons will be arranged and tables will be identified so that persons interested in the same topic can join for luncheon discussion.

For ladies, the Washington Symposium has many attractions, including tours of the Capitol (Congress will probably be in session) as well as Georgetown and the Naval Academy at Annapolis.

The Washington Chapter of GMITT extends you all a warm welcome to attend this year’s International Microwave Symposium in our Nation’s Capital.

H. WARREN COOPER
Chairman, Steering Committee

REGISTRATION

Symposium registration will be available Sunday through Wednesday in the Main Lobby of the Marriott Twin Bridges Motel.

Hours are:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday May 16</td>
<td>7:00 - 10:00 P.M.</td>
</tr>
<tr>
<td>Monday May 17</td>
<td>7:30 - 4:00 P.M.</td>
</tr>
<tr>
<td>Tuesday May 18</td>
<td>8:30 - 4:00 P.M.</td>
</tr>
<tr>
<td>Wednesday May 19</td>
<td>8:30 - 12:00 P.M.</td>
</tr>
</tbody>
</table>

Conference fees for registration at the Symposium are:

- Registration (IEEE Member) ...................... $18.00
- Registration (Non-Member) ...................... $30.00
- Registration (Student) ......................... $2.00
- Cocktail Party – Cash Bar ...................... $14.00
- Banquet ......................................... $24.00
- Ladies Program ................................ $24.00

HOTEL ARRANGEMENTS

The Marriott Twin Bridges Motor Hotel in Washington, D.C., site of the Symposium, has reserved a block of 350 sleeping rooms. To assure accommodations in the hotel where all Symposium activities will be held, make reservations no later than May 1, 1971. All reservations requested after this time, as well as any received after the 350 rooms have been reserved, will be assigned by the Marriott on an available basis at one of the many other fine hotels nearby.

It is important that reservations be made as early as possible.

MEALS

Buffet luncheons at $4.00 each will be set up in the Chesapeake Bay Room each day for those wishing to talk shop during lunch. Food service from four serving lines will be fast.

In addition, the Symposium hotel has three restaurants that offer many varieties of excellent food and beverage: Fairfield Inn, the largest, accommodates 375. The Sirloin and Saddle Room accommodates 125, and the Windjammer (120) in addition to its menu and cocktails, offers a beautiful view of the Potomac River reflecting the Washington skyline.
SYMPOSIUM DIGEST
Can't make the Symposium? Send for your copy of the 1971 IEEE G-MTT Symposium Digest. It presents a brief synopsis of all the papers including the more important figures. While many of the papers will be published more comprehensively in the IEEE Transactions on Microwave Theory and Techniques, most are not. The Digest offers the quickest publication of the state-of-the-art material given at the Symposium.

Digest Prices:

<table>
<thead>
<tr>
<th>Category</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEEE Member</td>
<td>$5.00</td>
</tr>
<tr>
<td>Non-member</td>
<td>$10.00</td>
</tr>
<tr>
<td>Institution</td>
<td>$15.00</td>
</tr>
</tbody>
</table>


For additional information about the Digest, contact one of the members of the Digest Committee, F. Reggia (Chairman), H. Schrank or E. Wolff.

Marvin Cohn, Chairman of the Student Awards Committee for the 1971 G-MTT Symposium, has announced that Thomas A. Saponas is the winner of the student paper contest. Mr. Saponas paper is entitled, "Generation of Confined Spectrum Pulses Using an Absorption PIN Diode Modulator". His sponsor is Professor J.R. Ashley of the University of Colorado.

Thomas A. Saponas attended secondary and high school in Colorado Springs, Colorado, and is now in his senior year at University of Colorado. Colorado Springs, attending the University on a Boeing Company Scholarship. He expects to graduate with a BSEE in May 1971. In addition to his studies, he is a teaching assistant at the university and is a member of Tau Beta Pi, student member of IEEE, the Association for Computing Machinery, and Audio Engineering Society.

The winning paper was sponsored by Dr. J. R. Ashley, associate professor of electrical engineering at the University of Colorado. Dr. Ashley is well known to the microwave field through his many contributions including co-authorship of a paper at the 1971 Symposium (Session VI-5).

SYMPOSIUM STEERING COMMITTEE

Front Row (l to r) — M. Cohn, W. Cooper (Chairman), W. Gabriel, E. Wolff, L. Whicher
Back Row (l to r) — R. Van Wagoner, H. Schrank, F. Reggia, R. Garver, J. Kaiser
Social Events

The Symposium activities will begin at 7 pm Sunday, May 16, with a RAP session which includes cocktails and general get-together with other attendees, Symposium officials, ADCOM members, wives, etc. This will be an opportunity to meet with many old friends and enjoy a relaxing evening.

The principal social event of the Symposium is the annual cocktail hour/banquet scheduled for Tuesday evening, May 18, in the Marriott Persian Room. Featured speaker at the banquet is Mr. Walter R. Hinchman. Mr. Hinchman’s topic is “Changing National Priorities: A New Challenge for the Communications Engineer”. Mr. Hinchman is with the Office of Telecommunications Policy, Executive Office of the President. He is responsible for policy studies concerning broadcast and cable television and related services, domestic satellites, specialized communications carriers, and mobile communications. Mr. Hinchman received his B.S. in Physics from Ohio State University in 1955. He is a member of the AIAA, Research Society of America and several U.S. CCIR study groups.

LADIES’ PROGRAM

The Washington area offers the visitor a wealth of museums, churches, and monuments in addition to the Capitol and other government buildings. The following program has been planned for the ladies while the technical sessions are in progress. Hopefully, many will come and enjoy it. Transportation will be by chartered bus.

MONDAY, May 17

9:00 am Continental Breakfast at Marriott.

10:00 am Sightseeing trip to National Shrine of the Immaculate Conception and to the Islamic Center—the only Mosque in the Western Hemisphere.

1:00 pm Dutch treat lunch at Maison des Crepes in Georgetown and shopping or browsing in the nearby shops.

3:30 pm Arrival back at Marriott.

TUESDAY, May 18

9:00 am Leave Marriott by bus for guided tour through new State Department building.

11:00 am Guided tour through Capitol. Dutch treat lunch in cafeteria. Visit National Art Gallery or Smithsonian Museums.

3:30 pm Arrival back at Marriott.

WEDNESDAY, May 19

9:30 am Trip to Annapolis for a guided tour through the U.S. Naval Academy, lunch at the Harbour House, and a visit to one of the historic old homes in that area.

3:30 pm Approximate arrival back at Marriott.

EVENING PANEL DISCUSSION

Monday, May 17

1930-2200

Topic: Changing Priorities and Engineering

Chairman: R.A. Rivers

Panelist: Representatives from Professional Societies & IEEE
SYMPOSIUM TECHNICAL PROGRAM COMMITTEE

Front Row:
A. Clavin, S. Rosenthal, G. Haddad, R. Garver, D. Varon

Middle Row:

Back Row:
L. Dickens, M. Cohn, W. From, J. Horton, A. Bahr

Not Shown in Photograph:

Special offer to non members who join IEEE at the symposium.

Part of your symposium registration can be applied to your IEEE membership fee.

For information: Inquire at the membership desk
(R. A. Sparks)
### Ft. Worth Chapter
```
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 12, 1970</td>
<td>H. Hayes</td>
<td>Design of Active Element Phased Arrays</td>
<td>Texas Instruments</td>
</tr>
<tr>
<td>October 10, 1970</td>
<td>P. Montgomery</td>
<td>Ridged Waveguide Array Elements</td>
<td>Texas Instruments</td>
</tr>
<tr>
<td>March 18, 1971</td>
<td>Carl Blake</td>
<td>Applications of Solid State Microwave Power Sources</td>
<td>MIT, Lincoln Laboratory</td>
</tr>
<tr>
<td>April 13, 1971</td>
<td>H. Upton (1), C. Witzke (2)</td>
<td>Rotor Blade Radar Antenna (1) Ball Helicopter, (2) Texas Instruments</td>
<td></td>
</tr>
</tbody>
</table>
```

### Orlando Chapter
```
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 20, 1970</td>
<td>W. A. Birge</td>
<td>Optical Communications Systems for Local Data Distributation</td>
<td>Martin Marietta Corp.</td>
</tr>
<tr>
<td>November 17, 1970</td>
<td>Beryl Barber</td>
<td>Parametric Amplifiers—Their Development and Application</td>
<td>Sonoma Engineering and Research Co.</td>
</tr>
<tr>
<td>January 21, 1971</td>
<td>Gerald Levy</td>
<td>A Survey of Some Aspects of the Microwave and Antenna Programs at JPL</td>
<td>Jet Propulsion Laboratory</td>
</tr>
<tr>
<td>February 16, 1971</td>
<td>R. T. Daly</td>
<td>Application of Solid State Microwave Power Sources</td>
<td>MIT, Lincoln Laboratory</td>
</tr>
<tr>
<td>April 20, 1971</td>
<td>R. T. Daly</td>
<td>Commercial and Medical Applications of YAG:Nd Lasers</td>
<td>Quantronix Corp.</td>
</tr>
</tbody>
</table>
```

### Phoenix Chapter
```
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 15, 1971</td>
<td>Norman Gri</td>
<td>Microwave Transistors From Small Signal to High Power</td>
<td>Fairchild Microwave &amp; Opto-Electronics</td>
</tr>
<tr>
<td>March 15, 1971</td>
<td>S. V. Forgue</td>
<td>Photosensitive Imaging Tubes and Related Solid State Considerations</td>
<td>RCA Laboratories, Princeton</td>
</tr>
</tbody>
</table>
```

### Schenectady Chapter
```
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 20, 1970</td>
<td>Harold Sobol</td>
<td>Microwave Integrated Circuits</td>
<td>RCA Laboratories, Princeton</td>
</tr>
<tr>
<td>February 25, 1971</td>
<td>Ron Gutmann</td>
<td>An Ordered Array of Terminated Metallic Posts as an Embedding Network for Lumped Microwave Devices</td>
<td>RPI</td>
</tr>
<tr>
<td>April 22, 1971</td>
<td>R. F. Harrington</td>
<td>Computational Methods in Microwave Engineering</td>
<td>Syracuse University</td>
</tr>
</tbody>
</table>
```

### S. E. Michigan Chapter
```
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
<th>Affiliation</th>
</tr>
</thead>
</table>
```
DESIGN OF MODERN COMMUNICATION CIRCUITS

The Communications Research Laboratory of McMaster University, Hamilton, Ontario, Canada, is organizing a three-day summer school on the design of modern communication circuits to take place August 30 – September 1, 1971 at McMaster University.

The aim of the course is to present the latest techniques, with equal emphasis on theoretical and practical aspects of circuit design, to the practicing electrical engineer or educator. The lectures will be given by members of the Laboratory and Industry.

TOPICS TO BE COVERED

1. Integrated Circuits Technology
2. High Frequency and Distributed Circuits
3. Circuit Analysis and Sensitivity Analysis
4. Active and Digital Filters
5. Review of Circuit Synthesis Techniques
6. Computer-Aided Circuit Design

LECTURERS

Dr. John W. Bandler, Assistant Professor of Electrical Engineering, McMaster University.

Dr. Edward Della Torre, Associate Professor of Electrical Engineering, McMaster University.

Dr. Simon S. Haykim, Professor of Electrical Engineering, McMaster University.

Dr. H.C. Lin, Manager of Advanced Development, Molecular Electronics Division of Westinghouse Electric Corporation, Baltimore, Maryland.

Dr. Naresh K. Sinha, Associate Professor of Electrical Engineering, McMaster University.

FEES

The cost of the school will be $100. This includes a banquet on August 30 and lunches during the school. Those who register on or before July 23 will be assured of a trip to see the Stratford, Ontario, play "Much Ado About Nothing" on August 31 at no extra cost (wives included).

ACCOMMODATIONS

On-campus accommodation from the evening of August 29 to noon on September 1 including meals will be available at $30 single, $50 double.

Further information may be obtained from:

Dr. John W. Bandler
Department of Electrical Engineering
McMaster University
HAMILTON, Ontario, Canada
Phone (416) 522-4971 Ext. 305

This will be the third in a series of yearly short courses which are anticipated to be offered alternately between San Fernando Valley State College and Georgia Tech. This year's offering will include a tour of the antenna laboratory of the Lockheed-California Company's Rye Canyon Research Laboratories.

The faculty for this short course will be Messrs. Searcy Hollis and Gerald Hickman of Scientific-Atlanta Inc. and Edmond S. Gillespie of S.F.V.S.C. Guest lecturers will include A.M. Archer and Don Stephens, Lockheed-California Company; Ron Bowman and Allen Newell, National Bureau of Standards; Vaughn Cable, S.F.V.S.C.: Gerald Levy; Jet Propulsion Labs.; and Harry Sefton, Bunker-Ramo Corporation.

The fee is $300 which includes text and parking and classroom supplies. For further information contact Dr. Edmond S. Gillespie, School of Engineering, San Fernando Valley State College, Northridge, California 91324; (213) 885-2178 or 885-2190.

"MICROWAVE ANTENNA MEASUREMENTS"

A Five-Day Short Course July 12-16, 1971
San Fernando Valley State College
Northridge, California 91324

This course is an intensive study of the measurement of microwave antenna radiation characteristics including directivity, gain, pattern, boresight, polarization and phase. Radome and reflectivity measurements will also be treated. Included will be treatments of modeling techniques, the testing of large antennas, gain standards and quantifying hazardous electromagnetic fields. The course covers the theoretical basis of the measurements as well as current techniques including the analysis of error. An important segment deals with the design and evaluation of antenna measurements facilities.

"COMMUNICATION SYSTEMS DESIGN LINE-OF-SIGHT, TROPOSCATTER, SATELLITE AND OPTICAL"

A Five-Day Short Course July 19-23, 1971
San Fernando Valley State College
Northridge, California 91324

This course will treat the design and performance evaluation of line-of-sight, tropospherical scatter, satellite, and optical communication systems. The factors affecting the performance of communication systems such as thermal and intermodulation noise, non-linear distortion and, in the case of optical systems, background and detection noise will be discussed in detail. Microwave and optical propagation as well as antenna systems will also be covered.

The unique design features of each of the four major types of systems will be treated. A thorough presentation of multiple access techniques for commercial satellite systems will be given. For the optical systems an introduction to lasers and the associated optical components will be
presented. An important segment of the course will be the design trade-offs appropriate to each type of system. The course will cover not only the theoretical aspects of communication systems but also practical design considerations drawn from the extensive experiences of the lecturers.

The faculty for the course will include Dr. Philip Panter, consultant; Mr. John Ward, ITT/Aerospace; Messrs. Simon Bennett and Irving Dostis, COMSAT; Dr. Sherman Karp, U.S. Department of Transportation; Dr. Jack Holmes, Jet Propulsion Laboratory and Dr. Edmond S. Gillespie, San Fernando Valley State College.

The fee for the course including texts, parking, and classroom supplies will be $300. For further information contact Dr. Edmond S. Gillespie, School of Engineering, S.F.V.S.C., Northridge, California 91324, (213) 885-2178 or 885-2190.

CALL FOR PAPERS

JOINT CONFERENCE ON SENSING OF ENVIRONMENTAL POLLUTANTS

This joint Conference on sensing of environmental pollutants will be held at the Cabana Hyatt House, Palo Alto, California, November 8 – 10, 1971.

The Conference is being cosponsored by the American Chemical Society (ACS), The American Institute of Aeronautics and Astronautics (AIAA – Host Society), The Institute of Electrical and Electronic Engineers (IEEE), The Instrument Society of America (ISA), The National Aeronautics and Space Administration (NASA) and The National Oceanographic and Atmospheric Administration (NOAA).

The purpose of the Conference is to exchange information on the basic phenomenology related to sensing and measurement of pollution of the air, water and land environment. The Conference is directed to representatives of all technical disciplines concerned with the development, evaluation and use of pollution measuring techniques.

Papers are solicited which emphasize the physical and chemical processes involved in instrumentation for detecting and measuring specific contaminants. Preliminary drafts of final papers or abstracts of at least 1000 words should be submitted for acceptance review. Significant results and sketches of pertinent charts or figures should be included wherever possible.

Three (3) copies of draft papers or abstracts must be submitted by May 14, 1971, to the Technical Program Chairman:

Robert L. Chapman
Beckman Instruments, Inc.
2500 Harbor Boulevard
Fullerton, California 92634

Authors will be mailed notification of acceptance by June 23, 1971.

1971 IEEE INTERNATIONAL SYMPOSIUM ON ELECTROMAGNETIC COMPATIBILITY TO BE HELD JULY 13 - 15, 1971

PHILADELPHIA, PENNSYLVANIA

The 1971 IEEE International Symposium on Electromagnetic Compatibility is to be held in Philadelphia, Pennsylvania at the Bellevue Stratford Hotel on July 13, 14, and 15.

The Symposium is sponsored by the IEEE Group of Electromagnetic Compatibility. Over twelve technical sessions and workshops are planned on topics associated with the prediction, measurement, control, and effects of electromagnetic radiation and noise, including such subjects as Spectrum Pollution, Radiation Hazards and Side Effects, Home & Industrial Electrical Devices, Biomedical Applications Digital Systems, Frequency, Allocation and Spectrum Conservation.

The three day Symposium will include a luncheon on the second day. Mr. Louis A. deRoss, Assistant to the Secretary of Defense (Telecommunications) will be the principle luncheon speaker. The title of his presentation is "Electromagnetic Compatibility – Cost and Promise".

CALL FOR PAPERS

1971 IEEE INTERNATIONAL ANTENNAS & PROPAGATION SYMPOSIUM AND USNC/URSI MEETING

TO BE HELD SEPTEMBER 20-24, 1971 – UNIVERSITY OF CALIFORNIA, LOS ANGELES, CALIFORNIA

The 1971 Fall Meeting sponsored by the U.S. National Committee of URSI and the 1971 IEEE International Antennas and Propagation Symposium will be held jointly at UCLA. URSI and IEEE/G-AP technical programs will be arranged separately except for appropriate coordination.

Authors are invited to present original papers in their fields of interest, treating theoretical, experimental or developmental work related to the topics below:

URSI Commissions & Special Topics
I. Radio Measurements related to Radiometers, Receivers and Antennas; Evaluation of Screen Rooms and Anechoic Chambers
II. Radio and Non-Ionized Media
III. Ionospheric Radio: Influence of Electric Field and Artificial Perturbation of Ionosphere
IV. Magnetospheric Radio: Wave Emissions from ELF to HF and Wave-Particle Interactions
V. Radio and Radar Astronomy
CALL FOR PAPERS

1971 IEEE (22nd) VEHICULAR TECHNOLOGY CONFERENCE

TO BE HELD
DECEMBER 7-8, 1971 - - -
DETROIT, MICHIGAN

Papers covering contributions in the following or related areas are invited:

Vehicular Communications
Techniques
Digital Techniques
Spectrum Utilization
Data Transmission
Antennas
900 MHZ Equipment Technology
Computers

Vehicular Command and Control Systems
Traffic Control & Surveillance
Public Safety
Location
Transportation Systems
Computers

Electronics in Vehicle
Automatic Vehicle Guidance
Entertainment & Accessories
Vehicle Safety – Air Bags, etc.

Propulsion Technology
Electric Propulsion
Electronics & Fuel Control for Internal Combustion Engines
Electronics & Emission Controls for Internal Combustion Engines

Prospective authors are requested to submit six (6) copies of an 800 to 1,000 word summary of their paper, single spaced with a two inch left hand margin and typed in a 4-3/4 inch column. The cover page should include the name, title, company affiliation, and address of the author or authors. Summaries are to be submitted by June 15, 1971, to the Technical Program Chairman:

Mr. A.E. Marshall
Ford Motor Company
23400 Michigan Avenue
Dearborn, Michigan 48124

Authors of accepted papers must submit a complete Transactions paper to the Technical Program Chairman by December 1, 1971.

Topics for the G-AP Symposium

1. Phased Arrays
2. Spaceborne Antennas
3. Signal Processing Antennas
4. Numerical Methods in Antenna and Diffraction Problems
5. Plasmas and Propagation in Random Media
7. Ionospheric Heating
8. Electromagnetic Probing in Geophysics
9. Sea-wave Backscatter Applied to Oceanography
10. Millimeter Wave Propagation
11. Transient Radiation and Relativity Applications

Deadlines for submission will be about mid-year. Details will be given in the 2nd call for papers. All abstracts and summaries should be sent to:

Prof. V. H. Rumsey
Dept. of Applied Physics & Information Sciences
The University of California,
San Diego
La Jolla, California 92037
Dear John,

(2-20-71)

Thanks for air mailing my copy of the Newsletter including the Directory. You are off to a flying start as Newsletter Editor, and it looks like G-MTT has done it again. They have an outstanding team of officers and Committee Chairmen. My extension has been approved, so I’ll stay here until early in July. Actually, I’ve just scratched the surface of things to do and places to see. But there is no place like home. So I’ll look forward to seeing you later.

Sayonara,

Bob Beatty

Unemployment/Employment: What Role should GMTT Play?

I recently became aware of several industrial job openings for microwave engineers. My problem was that I did not have knowledge of unemployed microwave engineers of the right type and experience to fill these positions, yet from our questionnaire, I know that 11% of the 25% responses we received stated that they were unemployed. Certainly amongst these there should be someone who could fit the job openings. The problem, then, is how to match these openings with unemployed engineers and what, if anything, should GMTT do to close the gap? As a suggestion, I would like to propose that MTT Adcom set up a committee to act as a referral clearing house. They would solicit responses from industry and from engineers, on a short form, describing requirements for jobs as well as experience and abilities of engineers. Resumes could then be forwarded to potential employers for their enquiries to the particular engineer. I also feel that the chapters could pay an important role in this activity by setting up a similar referral service for local areas, forwarding the names of engineers and/or employers to the Adcom central committee.

Do you feel that this is a service that MTT should engage in and would you be willing to send resumes to the committee if you happened to be unemployed? I would appreciate your responses to the above questions.

A. Clavin
Vice-Chairman
GMTT Adcom