

STATION NEWS



ENGINEERING EXPERIMENT STATION • GEORGIA TECH

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1974 IEEE/S-MTT International Microwave Symposium

The 1974 Institute of Electrical and Electronics Engineers/Microwave Techniques and Theory (IEEE/MTT) International Microwave Symposium will be hosted by Atlanta IEEE Section and will be held June 12-14 on the Georgia Tech campus and at the Sheraton-Biltmore Hotel.

The period of June 5 through June 14 will see an unprecedented concentration of technical Symposia at Georgia Tech. In addition to the Microwave Symposium, four other technical meetings will be held in that period. These others are:

International Conference on Submillimeter Waves and Their Applications, June 5-7; IEEE/Antenna Propagation International Symposium, June 10-12; U.S. National Council/International Union of Radio Science Meeting, June 11-13; Twelfth Symposium on Electromagnetic Windows, June 12-14.

The theme of these meetings, "Together in '74," is obvious. Participants will have an unparalleled opportunity to "sample the merchandise" in related areas.

The Microwave Symposium will accent MAN—Microwave Applications Now—in one complete session and in several papers interspersed throughout the program. The technical program also contains joint sessions with the Antenna Propagation Symposium dealing with Phased Array Antennas and with Technology Assessment and Forecasting.

On the extracurricular side there promises to be an unusually festive banquet preceded by a Scientific-

Atlanta sponsored cocktail party. Dr. C. L. Hogan, President of Fairchild Camera and Instrument Co. and a leading microwave pioneer will be Banquet Speaker. The Ladies Program will highlight some of the many attractions of this dynamic yet gracious city.

The Microwave Symposium will hold its opening session on Wednesday, June 12 at 9 A.M. in the Benjamin J. Dasher (EE) Auditorium with John J. Guarrera, IEEE President, delivering the keynote address. Twenty technical sessions have been scheduled. The program consists of 27 invited presentations, 111 contributed papers and three special panel discussions. The program contains twenty-two papers from outside the U.S. Countries represented are: Germany, France, United Kingdom, Canada, Poland, Denmark and Japan.

Six papers are scheduled for presentation by EES staff members. These are:

C.P. Burne and C.E. Burdette, Radar, S&TD, "Multi-frequency Electromagnetic Thawing of Frozen Kidneys;" J.E. Rhodes, Sensor Systems, S&TD, "Requirements for Optically Processing Information from a Phased Array;" H.L. Bassett and J.M. Schuchardt, Special Techniques, S&TD, "A High Power Microwave Waveguide Window Design;" F.B. Dyer and E.K. Reedy, Sensor Systems, "Highlights and Review of the International Conference on Submillimeter Waves and their Applications;" N.W. Cox and C.T. Rucker, Physical Sciences, ASD, "X-band

TRAPATT Amplifier."

In addition, H.A. Ecker, Radar, will serve as Session Chairman for the Wednesday, June 12, morning session, "Analysis and Application of Microwaves in Biology and Medicine."

J.J. Gallagher, Special Techniques, will be Chairman of the Wednesday afternoon session on "Millimeter Astronomy and Related Topics."

J.W. Dees, Special Techniques, will chair a Wednesday evening session on "Millimeter Waves."

On Wednesday morning, N.W. Cox will participate as a panel member in a special session on problems associated with high power microwave amplifiers.

G.P. Rodrigue, School of Electrical Engineering, is the local steering committee chairman for the conference. EES staff members assisting him either on local arrangements or the program committee are: G.R. Harrison (Program Committee Chairman), ASD; J.W. Amoss, PSD; N.W. Cox, PSD; C.T. Rucker (Co-editor of Special Issue of IEEE Transactions on MTT which will document the Symposium), PSD; E.L. Meeks, PSD; J.W. Dees, ST; H.A. Ecker, RD; J.J. Gallagher, ST; R.C. Johnson (Program Chairman of the IEEE/AP International Symposium), S&TD.

In addition to normal business and technical activities, the period from June 5-14 will be a busy time for some of our staff members. This period, however, presents an outstanding opportunity for EES to gain additional visibility and stature through interacting with our many colleagues and customers or potential customers in attendance.



Discussing EES' capabilities are, L to R: N. Tutos, Dr. Dan Halpin of Civil Engineering, Howard Dean, Robert Collier, IDD, translator and Anton Predescu, General Director of Rumanian Ind. Const. Ministry.

Rumanian Officials Visit

The EES hosted a delegation of three engineers and officials of the Rumanian Ministry for Industrial Construction April 30. The group was visiting Tech to coordinate activities between the Construction Management Research Institute, Bucharest and the School of Civil Engineering. **Bob Collier** and **Phil Koos** discussed IDD's functions and capabilities after the group viewed a slide presentation by **Jim Donovan** about the Station.

General Director of the Rumanian Industrial Construction Ministry, Anton Predescu headed the delegation. Others were N. Tutos, Technical Manager, of the Rumanian Institute for Construction Management Research and an engineer-translator. Program Director, D.W. Halpin of Civil Engineering, said he believes this is the first visit by construction industry officials from Rumania to an academic institution in the U.S. since before World War II.

Development Activities

We've always said our field offices are creative, productive places, but three baby boys in two weeks? Proud fathers are **Bill Darley**, head of the Northwest Georgia Area Office at Rome, and **Sherman Dudley**, head of the Southeast Georgia Area Office at Douglas. The new mother is **Melba Marshall**, "retired" secretary of the Central Georgia Area Office at Macon. **Cherry Durrett** has replaced Melba. And we hear **Bill Craig**, head of the Macon office, also will be passing out cigars before long. It's rumored that these successful developers have offered management and technical assistance to another field office head who remains childless.

S&T News

Dr. Charles E. Ryan, Jr., Radar Division, presented a seminar on Near-Field Measurements at Selinia S. P. A. in Rome, Italy, during the week of 7-13 April. Selinia is a diversified electronics company which is active in communications, radar systems, missile systems, minicomputers and civilian electronics. The seminar was attended by approximately 30 engineers from the Selinia Antenna and Missile Systems Divisions. Attention was also given to sightseeing and the excellent Italian cuisine.

Larry Holland, Communications Division, and his wife are proud parents of a baby boy, Christopher Todd, born April 27.

IDD NEWS

Bob Cassell, IDD, gave the welcoming speech at the Southeastern Regional Rural Industrialization Conference held in Tifton, Georgia, at the Rural Development Center on April 4-5.

Margaret Textor, IDD, is leaving around the middle of April for a month's vacation in Europe with her family.

Nora B. Medlin, IDD, has resigned to take a secretarial position with an Atlanta law firm.

EES Report

For some months the Station has been publishing a news letter titled *EES Report* which deals with our professional activities and projects, and reports on research being conducted. It is mailed to six hundred businessmen, civic leaders, chambers of commerce, scientific organizations and others in the Southeast and the nation who we desire to keep informed about EES research and developments.

The *EES Report* has limited distribution to the departments and divisions, but individuals who desire copies for promotional or professional use or who have names of prospects to add to the mailing list can contact the Publications Office, extension 3405. The *EES Report* is published about six times during the year. The fifth issue is being distributed in May.

The Station purchased 200 copies of the February issue of *Atlanta* magazine containing the article about EES. Copies or tear sheets are available to the staff for any purposes you may find appropriate.

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Honors Dinner

EES staff members are invited to attend the annual Tech Faculty Dinner on Thursday, May 23, at 7:30 P.M. in the Student Center Ballroom. The occasion will honor 1974 retirees and also 12 persons who have completed 25 years' service to the Institute.

Among others, the Gold T 25-year service awards will be presented to Director Maurice W. Long; Maurice C. Hedin, Photo Lab, and Berry O. Pyron, Sensor Systems.

Deadline for purchasing tickets is May 20.

Housing Program Shows Results

For the past 18 months, Phil Koos has been masterminding a project to stimulate profit-oriented housing ventures in order to increase housing starts for low-income families in the Coastal Plain region of Georgia. Working with the housing coordinators of four area planning and development commissions — Coastal, Middle Flint, Middle Georgia, and Slash Pine — under contract with the Coastal Plains Regional Commission, Phil has found that "it is feasible to pursue solution to the housing supply problem in minimum affordable and moderate price ranges through the provision of technical assistance to private builders."

A pre-engineered housing package for two-, three-, and four-bedroom units was assembled, and an

Implementation Manual was written. This manual gives step-by-step instructions which can be used by a multi-county planning and development operation to organize and carry out a housing program.

Concrete results include 109 single-lot houses actually built and 121 firmly committed. In addition, six subdivisions have been built and seven committed. These subdivisions will account for some 500-plus houses. Most of these houses utilized U.S. Forest Service designs, but an innovative metal house was built which shows promise for the future.

Researchers Promoted

The Board of Regents recently approved promotions for members of the EES staff. Promoted to the rank of Principal Research Scientist were: Tze Chiang, IDD; John Brown, ASD, and Frederick Dyer, S&TD. Principal Research Engineer promotions announced are: Fred Cain and Jerry Eaves, Radar, and H. H. Jenkins, S&TD.

William Howard, IDD, was promoted to Senior Research Scientist. New Senior Research Engineers are: Jerry Birchfield, S&TD; Charlton Bonham, TAG; Richard Hodges and Thomas Miller, Radar, and Ben James, IDD.

Three were promoted to Research Scientists: Sherman Dudley and H. Wayne Hodges, IDD, and George Spann, S&TD. Designated as Research Engineers are: J.C. Meaders, NBSD; Michael Tuley, S&TD, and Brian Wright, Radar.

Ecker Talks at NCI

Dr. H. A. Ecker presented a paper entitled "Techniques of tissue heating with non-ionizing electromagnetic radiation" at a meeting on Hyperthermia sponsored by the National Cancer Institute Division of Cancer Treatment at Bethesda, Md., April 5, 1974. He was invited by the Director of the Division to participate in this meeting.

IDD ISSUES DIRECTORY OF SCIENTIFIC RESOURCES

Current information on scientific research capabilities in Georgia is available in the *Directory of Scientific Resources in Georgia, 1973-1974*, which has just been released by the Industrial Development Division.

The directory is designed to assist the firm or individual seeking research capability to solve a specific problem. It describes the research activities and facilities of industrial research laboratories, consulting engineers, government laboratories and colleges and universities. Each section of the directory reports names and addresses, specific information on personnel, fields of interest, kinds of activity, equipment and availability of services. In addition, for colleges and universities, the annual research budget is given.

Counterpart Representative Visits

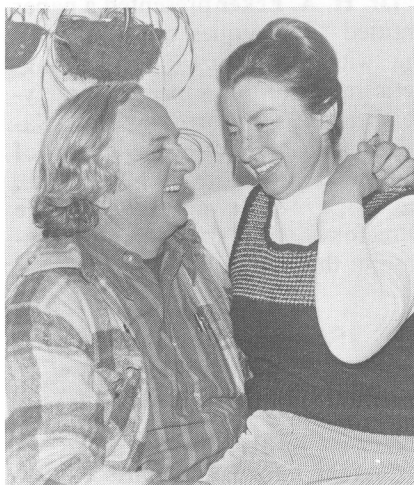
Professor Sam A. Aluko of the University of Ife, Nigeria, spent the week of April 30—May 8 visiting EES in conjunction with the AID counterpart agreement. Aluko is chairman of the university's economics department and heads its development section. He is on an extensive tour of the United States to learn about small-scale industry development.

While here, he met with Dr. Pettit and other Tech officials, conducted a seminar, visited small-scale industries and discussed managerial, engineering and technical assistance.



Professor Sam Aluko and Dr. Pettit exchanging greetings

PERSONALITIES



Joe and Mary Lupton at work.

Mutual Admiration Society (or Love in the Labs)

The personality column this month is plural with the interview of Joe and Mary Lupton, both of the Biomedical Group. Among the EES working couples, they are the only ones in the same group. How do they feel about it?

Neither could think of disadvantages, only advantages. Mary said, "We're able to spend time with each other and share each other's activities and interests. I personally don't feel any particular disadvantages; we have always worked together. I just like to do anything for him. Our work activities are not so closely related that there is any conflict because neither of us supervises the other. No personal conflicts arise."

Were Joe and Mary pioneers in the currently fashionable role of sharing housekeeping chores as well as careers? Mary doesn't think so. "I've never had any thoughts of women's lib. When we started out, Joe was a student and it was financially necessary for me to work, so I did. I do think that women, or anybody qualified for a job, should have the opportunity and be paid for it. The couple has to resolve the varied problems of housekeeping with the wife working. We pitched in together. Each of us did whatever needed to be done, from changing diapers to fixing cars. We concentrated on our obligations and forgot the extraneous matters."

Joe shares Mary's sentiments: "The early guilds and crafts were in the home. In today's society, the husband and wife usually go in different directions and have very little time to spend

together. We have the chance to talk to each other, lunch together, be together. Both of us are aware of each other's everyday activities. Growing and changing takes place together, and we don't have the potential of growing apart. But we also have separate friends—and we don't take our home problems to work. When we separate in the morning, we go and do our own thing. All in all, there are no disadvantages. We just know more about each other."

While working together, Joe and Mary also find time to pursue their separate interests. The sign on Mary's office door is indicative of one of her interests. It reads "Mary's Jungle of Tomorrow," warning the visitor that about 50 plants, mostly African violets, are housed there. "It's exciting," she commented, "to put seeds or leaves in the ground and watch them grow."

Mary's avocation is music. She started studying the violin in Ft. Wayne where she grew up. She continued studying under the concertmaster of the Atlanta Symphony in its early states and played for a period with the Symphony. Now she plays occasionally with the Chattanooga Symphony and is concert-mistress of the Marietta Symphony. She has played for the Isaac Hayes and Henry Mancini orchestras here, as well as for church programs.

Mary started working in the Tech Registrar's Office over 20 years ago when Joe was a student here. After the stint with the Symphony, she returned to help out at EES one summer, and eventually worked into her present job. "I kind of hung around; nobody said 'go,' so I didn't."

Mary jokes that she has taken a few general courses at Georgia State, where their older daughter is now a history major, "but I don't have a degree in anything except mischief." With her characteristic conviction, Mary commented that she has found her role. "Finding the niche you enjoy is what it's all about."

Joe's interest in biomedical instrumentation started when he worked in a hospital as a lab technician and in the emergency room. A physics major, Joe has also worked with the Public Health Service and with the forerunner of the Southeast Water Pollution Lab. He said he returned to EES to work in the dog lab and in water pollution control. His interest in pollution control goes hand-in-hand with his patent on an ionization chamber with a solid porous anode. It's also called an "electron capture detector." All that means it is able to detect the presence of organic molecules at levels of 10^9 to 10^{12} grams. Human taste and smell capabilities end at 10^6 grams for some substances. By

moving the capability down, the operator is able to go into an industrial site and determine such things as pesticides in waste ponds. The Food and Drug Administration uses similar devices to detect DDT in milk. As an outgrowth of his work in the dog lab, Joe has also developed a vein spreader/manipulator for open heart surgery. It is now being evaluated off campus for its potential use in human patients.

When he isn't working at EES you can find Joe with his head in the clouds in his four-passenger airplane or with his feet on the ground riding his motorcycle. A bass baritone, he has been choir director of Northside Baptist Church and has performed with the Atlanta Symphony Chamber Chorus.

Driving to work Joe and Mary usually detour to drop daughter Mary Ann off at Georgia State. She is also a student-teacher with the Atlanta Ballet and has performed in the Nutcracker Suite. Younger daughter Judy, 21, works with the IRS in Chamblee. She was a music major at Atlanta Baptist College and now is very involved in church music.

If you happen to be on the second floor of the Baker Building and notice a handsome couple walking down the hall holding hands, say hello to Joe and Mary.

DDDD

Basic I.D. Course Held

IDD sponsored its Seventh Annual Basic Industrial Development Course on the Georgia Tech campus April 14-19. One of seven Basic I.D. Courses offered regionally by major educational institutions over the United States which are accredited by the American Industrial Development Council, it was directed by **Bob Cassell**. Other IDD lecturers were **Ross Hammond** and **Bill Howard**, with three faculty members from the College of Industrial Management and one from the Graduate City Planning Program also participating from Georgia Tech. The 14 other faculty members were drawn from all over the country, and included both academic specialists and practicing professional industrial developers. **Larry Edens** and **Martha Ann Deadmore** of IDD were among the 43 students from 13 states, the District of Columbia, and one foreign country (Iran) who were enrolled.

Car pools save gasoline

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