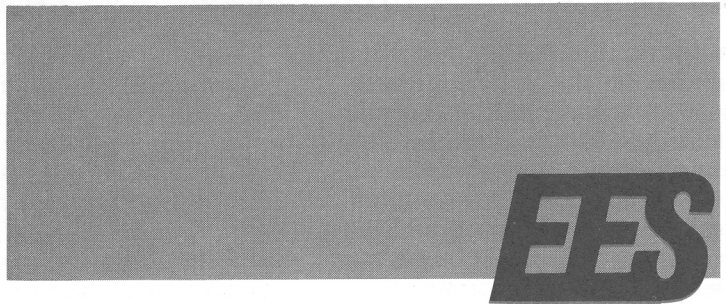


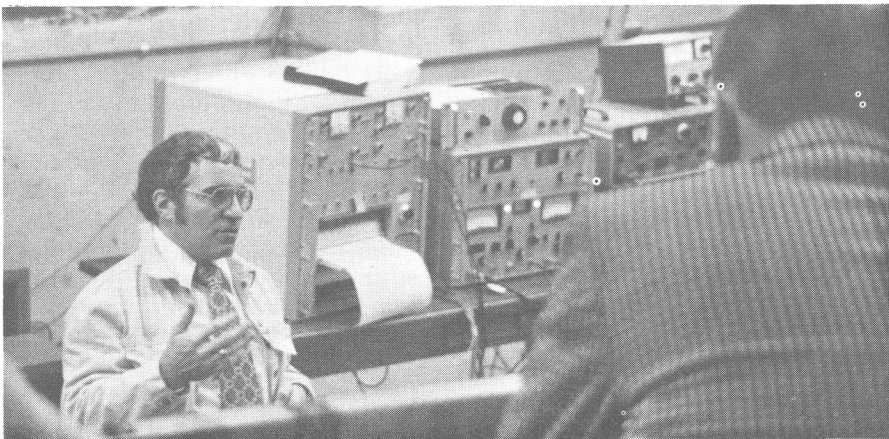
STATION NEWS



ENGINEERING EXPERIMENT STATION • GEORGIA TECH

VOLUME 4 NUMBER 10

NOVEMBER, 1975



Chuck Ryan dispenses information at the recent Radar Course.

Radar Short Course

The AE and ST Labs combined under the administration of **Dr. H. A. Ecker**, Director of Applied Engineering Lab, to provide instruction in the recent annual course on *The Principles of Modern Radar* held October 20-24 at EES under the auspices of the Ga. Tech Department of Continuing Education.

This year there were seventy-five students attending from a wide variety of industrial, military and defense organizations.

The course includes the latest information on radar systems, propagation effects, detection problems, radar design, measurements and tracking and processing techniques among other subjects. Labs were included where attendees had hands-on work with the equipment.

The Radar Course is one of the best attended of the Continuing Education programs. As a result of this course, various government and private laboratories are made aware of Georgia Tech's expertise in radar research and development and the contacts made frequently lead to

future programs and projects.

Another program of interest to be offered by EES and the Department of Continuing Education, is *Radar Reflectivity of Land and Sea* to be held January 19-23, 1976.

Technical Support Services

Under the new organizational structure, several changes have been made which affect the administration of the technical support services. **Howard Dean** has assumed responsibility for the overall operation of support services. **Betty Yarborough** has been named Coordinator of Services, and she will assist in the administration and supervision of these activities. In this role, she will coordinate day-to-day functions of the service operations and will be the first point of contact for all support service leaders. Mrs. Yarborough will also continue to serve as Head, R and P Office with **Deborah Ariail** assisting in this function.

Additionally, Messrs. **J. F. Parker**, **C. E. Smith**, **W. L. Reagh**, and **R. W. Cash** have joined the Technical Support Services group. Mr. Smith has

been assigned to the Accounting and Budget Office and will continue his primary function in the management information and Government Property Administration areas. Mr. Parker will continue in the Station-Owned Property and Security functions and will also assist in the facilities management functions. Mr. Reagh and Mr. Cash will continue to be responsible for Instrumentation and Calibration maintenance. Wherever feasible it is planned to develop ways to expand and provide these services on a Station-wide basis. **Tom Jones** has been assigned to focus his primary efforts on the planning and problems associated with providing adequate space for continued growth.

The supporting groups will continue to be committed to provide the services that are needed for successful research operations.

EDL Issues Directory of Associations

Some 380 associations, with a broad spectrum of interests ranging from accounting to youth, are listed in the third edition of the *Directory of Associations in Georgia* which has recently been published by the Economic Development Laboratory. It was compiled by **Tattie W. Roan** of the Basic Data Branch. The directory identifies approximately 245 organizations which are statewide in scope or cover a major portion of the state. Other associations headquartered in Georgia include about 90 regional groups involving two or more states and 45 national and international societies.

Toot Your Horn

One of the results of the EES reorganization should be a more direct flow of news and publicity material from the Laboratories. Not the least of the requirements for continued and dynamic growth is good communication and news about EES activities and publicity of our capabilities and accomplishments.

The researchers in the groups and divisions are the source of factual and current news and information about new or ongoing projects and activities. Responsible administrators should desire to publicize and gain recognition for their projects and people where appropriate.

Recognizing some proprietary or security restrictions affecting some projects, there remains a large amount of activity either of local staff interest, newsworthy or of publicity value. Laboratories are encouraged to provide brief and factual information copy to the Public Relations Office that will be appropriate for the *Station News*, the *EES Report* newsletter or for news release articles that can be prepared for distribution to local media. Photographs can add value and interest to such material. Plan in advance and don't wait until the last minute. Call the PR office at 3405 for additional information and help in telling about your activities.

S and T Lab

In September, the Systems and Techniques Laboratory was host for a Tri-Services Committee of about 30 government representatives who are active in the area of radar and antenna systems. This was the first time that this select committee, which meets on a regular basis, had held their meeting at a contractor's facility. The meeting, hosted by **R.M. Goodman, Jr.**, included program reviews of several active projects being conducted by the Systems Development Division and a presentation outlining the research capabilities of the Systems and Techniques Laboratory. The presentations were given by **Bob Goodman, Sam Alford, Neal Alexander, Bob Moore, Jim Cofer, Bill Dittman, and Fred Dyer.**

Poultry Committee Meets

Members of the Productivity/Technology Applications Laboratory (P/TAL) gave a presentation to members of the Georgia Poultry Matters Subcommittee October 28. A progress report was presented on Department of Agriculture-sponsored poultry research and development activities in equipment development, energy conservation and waste utilization.

Subcommittee Chairman Doug Whitmire was present, along with nine members of his subcommittee. Also attending were Abit Massey of the GA. Poultry Federation, Vice President, Research and Acting Director **Dr. Tom Stelson**, Assistant Director **Howard Dean**. P/TAL members participating were **Jerry Birchfield, Herb Burrows, John Dawkins and Grant Curtis.**

NEW PROJECTS

Naval Research Lab to Applied Sciences Lab (**N.W. Cox**) for integrated varactor tuned microwave sources — Alabama Electric Cooperative to Economic Development Lab (**R.B. Cassell**) for community and area development seminar — Fairchild Camera and Instrument to Electronics Technology Lab (**R.W. Moss**) for monitoring system evaluation study — Hinesville, GA. to EDL (**L.R. Edens**) for establishment of street address numbering system — Emory School of Dentistry to ASL (**J.L. Brown**) for scanning electron microscopy of dental materials — Onyx Corp. to EDL (**W.C. Ward**) for management and technical assistance — Federal Aviation Administration to Applied Engineering Lab (**C.E. Ryan**) for consulting services — Chattooga County to EDL (**W.C. Darley**) for program of economic development and technical assistance — Naval Surface Weapons Center to ETL (**E.E. Donaldson**) for a "RF Effects Handbook." Kentron Hawaii, Ltd. to ETL (**H.W. Denny**) for "Grounding, Bonding, and Shielding of Electronic Facilities and Equipment."

NEW EMPLOYEES

The **Radar Applications Division** announces five new employees. **William K. Parks** began work for the Division in August. A graduate of Vanderbilt University and Stanford University in Electrical Engineering, he is beginning work toward a Ph.D. at Georgia Tech. **Larry D. Sikes** comes from Farmington, Michigan, where he was employed by Omni Spectra, Inc. as a Project Engineer. He received his BSEE degree from Michigan State University and his MSEE degree from the University of Illinois. **George R. Whitley** is a Graduate Research Assistant who is working on a Ph.D. at Tech. George graduated from the University of South Florida, where he received his BSE degree and his MSE degree in Electrical Engineering. **Tyson S. Craven** is a new GRA. He has been a graduate student at Georgia Tech since June, 1973. He was with Southern Bell Telephone Company from December, 1972 to June, 1973 and Western Electric Co. from June, 1970 to December, 1972. **Susan E. Lynskey**, the new secretary in the RAD Office, graduated from the University of Tennessee with a B.A. degree and from the University of Georgia with an M.A. degree in Anthropology.

New employees in P/TAL are Bob Kutas and Doris Willmer, both in the governmental productivity group.

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National Science Foundation Grant

The National Science Foundation has announced that 100 thousand dollars is granted to Georgia Tech for support of the project entitled "Low Energy Experiment to Measure a Weak Coupling of the Neutrino Current." This project is under the direction of **T.P. Lang** of E.E.S. and **Tino Ahrens**, School of Physics.

AE Lab

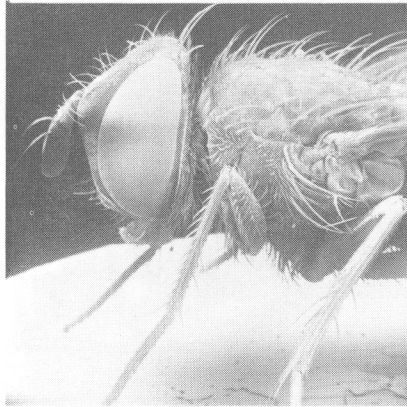
Dr. H. Allen Ecker and **Richard J. Hodges** attended the 1975 Old Crow's Electronic Warfare Symposium which was held at the Sheraton Harbor Island Hotel and at the Naval Training Center in San Diego, California 22-25 September. Dr. Ecker was appointed a member of the Standing Technical Steering Committee for Electronic Warfare which was established at the AOC Symposium this year.

Dr. Ecker also attended the IEEE Electronics and Aerospace Systems Conference (EASCON) and the Radar Systems Committee Meeting which were held at Stouffer's National Center Inn in Arlington, Virginia on 29 and 30 September 1975. Dr. Ecker was elected Vice Chairman of the IEEE Radar Systems Panel at EASCON.

The Countermeasures Division of the Applied Engineering Laboratory has two new employees since the last printing of the EES News. They are **Ms. Jenina M. Hyman**, who began serving as the Division Secretary on 15 September 1975, and **Harry W. Andrews**, a Graduate Research Assistant, who came to the Division on the same date.

Jean Loefer is the new Division Secretary for the Systems Engineering Division of the Applied Engineering Laboratory. Jean started work September 22, 1975. (No, you're not imagining things—the name does sound familiar. Jean's husband, "Gene" Loefer, is an Assistant Research Scientist in the Electromagnetics Laboratory).

On 29 October, **Bob Zimmer** and **Jerry Justus** (Aerospace Engineering) attended the dedication ceremony of the ERDA/NASA 100KW Wind Turbine at the Lewis Research Center, Plum Brook Station, Sandusky, Ohio.



Gnat's-eye view of a common house fly. 20X magnification by Wayne Cooper of Analytical Services Branch, ASL.

A scanning electron micrograph made by the Analytical Services Branch for Arnold Research Organization, appeared on the cover of the October 4, issue of SCIENCE NEWS. The micrograph was taken as part of a study Arnold Research Organization was conducting for NASA concerning the Space Shuttle's exhaust.

ET Lab

Hugh W. Denny and **James C. Toler**, Elect. Tech. Lab., attended the IEEE International Symposium on Electromagnetic Compatibility in San Antonio, TX, on 6-9 October 1975. Jim Toler presented a paper entitled "Electromagnetic Interference in Hospitals." At this conference Toler was elected President, Administrative Committee of the IEEE International Electromagnetic Compatibility Group.

Jimmy A. Woody, ETL, attended the 1975 USNC/URSI Meeting in Boulder, CO, on 20-23 October 1975. He presented a paper entitled "A Short Hooded Antenna For Reducing Radiation Measurement Errors in Shielded Enclosures at Frequencies Below 1 GHz." Mr. Woody also attended the National Bureau of Standards EMI Measurements Workshop in Denver on October 24, 1975.

Robert W. Rice, a recent Ph.D. graduate from the University of Tennessee, has joined the staff of the ETL as a Res. Eng.

Hank Jenkins of ETL had back surgery in October and is recuperating at home. He hopes to be back at work the first part of '76.

EDL NEWS

Dick Johnston, EDL, was a member of a three-man team which was sent to South America October 16-November 13 by AID to evaluate the effectiveness of the National Technical Information Service programs in Brazil, Colombia, Ecuador and Peru.

Gaston Parets has resigned from the EDL staff to undertake a two-year assignment under contract to the Saudi Arabian government. He will be involved in planning the physical facilities and administrative structure of a medical research center. Gaston, his wife and two children will be moving to Riyadh, Saudi Arabia, in December.

Nelson Wall, EDL, left November 3 for six weeks in South America. His itinerary included four weeks of technical assistance to the Educational Foundation of Southern Santa Catarina in Tubarao, Brazil, under an AID small industry grant, plus visits to officials in Colombia and Venezuela.

Ken Stephens, EDL and ISyE, delivered a paper on "Standards—A New Frontier for Quality" in Denver, Colorado, October 31 at the 19th Fall Technical Conference cosponsored by the American Society for Quality Control and the American Statistical Association. He also was one of two instructors at an ASQC seminar on "Evolutionary Operation: A Method for Increasing Industrial Productivity" which preceded the conference.

The Economic Development Laboratory held its 22nd International Development Seminar November 7, with Sonia Tiong-Aquino of the Institute for Small-Scale Industries at the University of the Philippines speaking on "Advisory Services for Small-Scale Industries in a Developing Country." The seminar series is one of EDL's activities under its AID institutional grant program.

Party Plans

It is being planned to hold the EES Staff Christmas Party on Friday afternoon, December 19 in the Baker Building Auditorium.

Personality

Geared for Change

Howard Dean, Associate Director for Programs and Services, feels the next few years will be ones of continuing change and a period of opportunity that has been unequalled at EES. "It's our job to be in gear for change. We shouldn't fear change; we should welcome it as the normal adaptation to our environment. We should be more concerned about a lack of change. Our challenge is to manage the change and to manage our growth to develop new, strong areas of research. We have strong research managers who are being given more responsibility with more financial and other "tools" to perform their jobs. We're seeing a lot of excellent performance on the part of these research managers and their staffs. Particularly now, we should not be timid in setting goals with all the things the Station has going for it. This is a time for us to reach out. A key part of our management job is to help provide some of the basic ingredients for success to the research operations through resources for personnel, money and equipment and through an appropriate administrative climate. The rest of the success ingredients have to come through the initiatives, conceptual abilities and general performance of the research staff members."

Howard has been at Tech three different times and has seen changes taking place. When he was here as an electrical engineering co-op student, there were no graduate programs or research activities of any consequence.

After his military service and working for the FAA and Redstone Arsenal, Howard returned to EES in operations research and radar development projects. At that time, almost all research was done in EES. At the project director level, research activities appeared to be a bother to the campus administration. The administrative operations, as could be expected, were in gear for educational programs and had not evolved as yet to cope conveniently with extensive research operations. There was not much evidence that research activities were welcome.

When Howard returned again in 1970 after eleven years with Scientific-Atlanta, a change was going on in the relationship of EES and the rest of the Institution. There were also large changes in the



Howard Dean

direction of national research priorities from NASA and DoD programs to movement in the direction of environmental and social programs. There was also the beginning of a much stronger recognition of the need for strengthening our research for business and industry and for producing a much greater beneficial impact in Georgia.

"Now the relationship with the Tech administration is the best it's ever been. EES is recognized as an asset rather than a problem; the top Tech administration is interested in helping EES to set its important goals and to be truly an outstanding operation on the national scene. Dr. Pettit has demonstrated that he is the first President who has understood what we are and the value we can provide to the Institution and the State. He understands our problems and how we have to operate, resulting in a positive situation rather than a negative one. He set up the office of the Vice President for Research under Dr. Stelson so that research at EES and on the campus could get vigorous leadership and administrative support with recognition of the importance of research operations. I personally am very enthusiastic about the Station's future and its growth possibilities."

Howard would like to have more time for his hobbies, but he admits to being behind schedule in all of them. He enjoys flying, scuba diving in the Florida Keys and Bahamas, swimming, fishing, tennis and boating. He has a special interest in the functioning and problems of small businesses in today's governmental and economic complex. "Since the free enterprise system has produced so much that we want and value today, all of us ought to be better informed and more aware of the forces at work which affect that system."

His wife is office manager of the Crown Petroleum district office. His married son is general manager of several specialty food stores and his daughter is a student at Georgia State University.

EES Holds International Briefing for Quality Control Experts

The Economic Development Laboratory (nee IDD) hosted nine foreign experts in standardization and quality control plus two officials from the National Bureau of Standards, U.S. Department of Commerce, September 30. The visit was part of an NBS/AID Workshop on Standardization of Measurement Services for Industrializing Economies. The international visitors were from Afghanistan, Brazil, Chile, Colombia, Dominican Republic, Egypt, Jordan, Korea and Nicaragua. They were briefed on EDL activities, viewed the EES slide show, and toured the Analytical Instrumentation Lab and the micromechanics facilities. Ken Stephens, EDL, was in charge of the meeting.

EES people on the move

J. J. Heckman, AEL, to Washington Sept. 28-Oct. 1 for IEEE EASCON symposium... R. L. Yobs, P/TAL, to Austin, TX Oct. 1-3 to present a talk at Southern Growth Policies Board... R. A. Young, ASL, participated in meeting of Am. Institute of Physics in Washington Oct. 1-4... J. L. Birchfield, P/TAL, presented paper at Carpet and Rug Institute in Hilton Head Oct. 2-3, then attended Dixie Poultry Convention in Asheville, NC Oct. 6-7, then presented tri-university local government program in Washington Oct. 14-15... J. L. Brown, ASL, was in New Orleans Oct. 3-4 for meeting of program committee of Electron Microscopy Society... R. S. Ingols, ASL, to Miami to participate in International Ozone Institute meeting and attend Water Pollution Control Federation meeting Oct. 3-8, then attended conference on Environmental Impact of Water Chlorination in Oak Ridge Oct. 12-14 with T. F. Craft... S. H. Bomar, ASL, to discuss program with representative of French solar furnace in Dallas Oct. 5... R. B. Cassell, D. E. Lodge and W. G. Dodson, EDL, conducted workshop/seminar for Alabama Electric Cooperative in Montgomery Oct. 6-8, then Cassell attended IDI Curriculum Committee meeting in Kansas City Oct. 28-31...