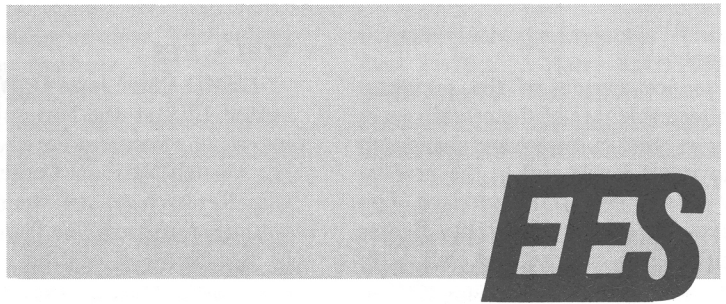


STATION NEWS



ENGINEERING EXPERIMENT STATION • GEORGIA TECH

VOLUME 1 NUMBER 3

DECEMBER, 1972

DIRECTOR'S OBSERVATIONS

INDUSTRIAL EXTENSION SERVICE

The Engineering Experiment Station provides a state-wide industrial extension service to bring to bear the talents of our staff of scientists, engineers, and technicians on the needs of industry, business, and local development groups. To facilitate the industrial extension service program, field offices are located strategically throughout the State at Albany, Augusta, Carrollton, Douglas, Macon, Rome, and Savannah with headquarters in the New EES Building. The field offices are a very important link in the chain for strengthening the economy of Georgia. They deliver important services, and their effectiveness is multiplied by the backup capability of the total EES organization.

Mr. Hugh Miller, Executive Secretary of the Office of Foreign Secretary, National Academy of Engineering, visited IDD and the Southeast Georgia Field Office, Douglas, during November. According to Miller, he was visiting to determine the reasons why our industrial extension service has been so successful. He has been requested to include a discussion of our program in a speech he will deliver on economic development activities at the Korea Institute of Science and Technology. Mr. Miller believes that our program is the most successful in America, and he says that his organization plans to adopt the techniques used by us for the U.S. and overseas work. He also stated that it is his understanding that the Canadian government is in-



"-AND MANY HAPPY CONTRACTS IN 1973."

terested in our program as a model for economic development and extension activities.

In a recent paper prepared on dissemination of technology, Dr. Hahn-Been Lee, Director, Technology and Development Institute of the East-West Center in Hawaii, cites our program as one of three that have been notably effective in lesser developed areas.

Contributions to the economy of Georgia through our field office services have been recognized for some

years at the National level. For example, a 1969 cost/benefit study of the Georgia State Technical Services Program, conducted by Arthur D. Little, Inc., indicated that for each \$1 invested in the program, more than \$21 was returned in economic benefits to Georgia. This finding was based primarily on a study of companies assisted through the field offices. As a result, Arthur D. Little not only recommended that the nationwide program be continued, but that greater emphasis be given to the

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field service aspects of the program.

Other evidences of the effectiveness of our extension service are changes in employment levels and in the profitability of the companies serviced. Unfortunately, exact profitability figures are difficult to acquire, but case study results and letters of commendation point to the potentials for increased profitability resulting from field service assistance. Employment changes are somewhat easier to quantify, and these measurements have indicated that the field service program has been very effective.

The field offices play an important part in the highly successful management and technical assistance program conducted by IDD. This program assists Georgia business and industry by stimulating the expansion and diversification of existing businesses, by supporting the formation of new enterprises, and by assisting troubled companies in solving the problems that threaten their existence. During FY 1971 this program made a significant contribution to the creation of over 1,900 identifiable new jobs and in the saving of over 500 existing jobs. This industrial development work created an estimated \$14,400,000 in economic activity. During FY 1972 about 800 new jobs were created and approximately 1,700 jobs were saved.

EES serves as a clearinghouse for advice, consultation, and technical information to Georgia industry. These services are carried on principally through the Industrial Extension Service and the Office of Industrial Assistance, although Divisions and even individual staff members are frequently contacted directly. Many of these contacts are brief and informal, while others involve several man-days of effort. It is estimated that a thousand or so such contacts are made annually.

In other industrial activities, EES provides highly specialized facilities which Georgia industry cannot normally afford to maintain itself, but which are needed at times to solve pressing production and product development problems. Approximately 100 short-term measurement and analysis contracts were undertaken last year. Industrial research contracts in EES amount to approximately \$400,000 annually, a substantial portion of which is with Georgia industry.

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VOILA, EES

HTMD Chief Jesse D. Walton represented EES at the November 16 signing of an agreement between Tech and the French National Center for Scientific Research to use their 1000 kilowatt solar furnace. The furnace, located in the Pyrenees, will be used to conduct high temperature materials research. This was the first contract between the French Center and a U.S. research institute for the use of the solar furnace.

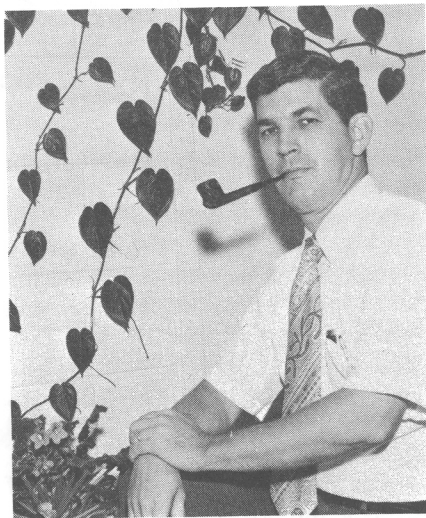
RADAR COURSE

During Oct. 23-27, the Radar Division, in conjunction with the Dept. of Continuing Education, held an intensive course on Principles of Modern Radar. Some 75 representatives from government, industry and armed forces attended the lectures and discussions.

CHRISTMAS SPIRIT

The final report of the UNITED WAY campaign shows that 105 persons at EES gave \$3,907. This represents 31.3 percent participation, a per capita gift of \$11.66, and an average gift of \$37.21. Our 1972 contribution increased 36 percent over our 1971 contribution. Special thanks to those who worked as solicitors, and those who gave, to make this possible.

H. H. Jenkins, Communications Division, attended an international conference on Future Directions for Radiolocation Research at the University of Texas, November 6-8. Mr. Jenkins was one of only 35 experts in the field invited to attend.



EES pin-up for December.
Chart Bonham and his office friends.

PEANUTS

Peanut processing opportunities in Georgia was the subject of a September 1 seminar held at the Rural Development Center at Tifton. Attending from EES were Tze I. Chiang, George Woodward, and Dave Clifton, all of IDD. Clifton talked on "Results of the Peanut Candy Analysis" and G. Woodward reported on "Results of the Peanut Butter Analysis." Georgia grows 42.2 percent of the peanuts produced in the U.S. and we have the experts on their usage.

On November 13 Miss Bonnee Wettlaufer joined EES as Assistant to Head, Publications and Information Office. Bonnee is from Pennsylvania, an advertising graduate of Kent State and was editing the Prudential Insurance Company's newspaper in Jacksonville, Fla. prior to moving to Atlanta.

ERRATA

The November Station News feature on the "New EES" stated that the elevator lifts 80,000 lbs. Actually it is rated to lift 80 people - or 12,000 lbs. - or 8 horses or 2 Jeeps!

CHRISTMAS PARTY

Friday, December 22nd

3 - 6 PM

EES Auditorium, 3rd Floor

Free Refreshments

Informal

Y'all Come

STATION NEWS

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EES PEOPLE ON THE MOVE

George Ewell, Senior Research Engineer, SSD, visited the USCG Electronics Center, Wildwood, N.J., Oct. 30, and Itronics, Inc. in Boston, Nov. 3, for technical discussions . . . **H. G. Dean, Jr.**, OPD Manager, attended a special briefing for industry, research institutes and universities conducted by the Transportation Systems Center, DOT, and visited EPA, Oct. 29-Nov. 1, Boston and Washington . . . **G. W. Leddicotte**, Acting Chief, NBSD, met with personnel from EPA, NSF, NIH, NIOSH AND USAEC on potential R&D contracts, Nov. 1-3, Washington . . . Senior Research Physicist **R. D. Wetherington** and Senior Research Engineers **Larry D. Holland** and **Joseph R. Walsh, Jr.**, all of Communications, were in Huntsville, Ala., Nov. 1-3, for technical conferences . . . **Raymond Hart**, Principal Research Scientist, PSD, visited the U.S. Electronics Command for project conferences, Nov. 8-9, Ft. Monmouth, N.J. . . . **Nelson C. Wall**, Senior Research Engineer, IDD, traveled to Washington Nov. 6-8 to provide technical assistance for a project of OAS. Then he left Nov. 13 for Sao Paulo and Tubarrao, Brazil, and Asuncion, Paraguay, to develop contracts with the Foundation at Santa Catarina through AID, to carry out project direction and final preparation of eight export studies presently under way in Paraguay and to develop a contract with the Research Foundation in Sao Paulo. He'll return Jan. 8 following Jan. 2-8 vacation . . . Research Engineer **E. K. Reedy**, SSD, went to ITT Gilfillam, Los Angeles, Oct. 17-20, and to Raytheon, Boston, Nov. 2-3, for technical discussions . . . HTMD Senior Research Engineer **J. N. Harris** and Research Engineer **Earle Welsh** discussed a renewal proposal in Washington Nov. 9 . . . Research Engineers **R. G. Pearl** and **W. E. Sears, III**, of S&T were at Wright-Patterson AFB, Dayton, O. for technical discussions Nov. 7-8 . . . Principal Research Scientist **R. B. Cassell**, IDD, attended the board meeting of AIDC and gave a progress report in Chicago, Nov. 8-9 . . . Senior Research Engineer **H. H. Jenkins** attended a radiolocation workshop, Nov. 5-8, at the University of Texas . . . Research Scientist **Philip Koos**, IDD, went to a

low-cost housing seminar, Technology Development Institute, East-West Center in Honolulu, Nov. 25-Dec. 3 . . . **William Dittman**, S&T, was in Baltimore Oct. 11-13 to give technical assistance at APL . . . Radar Division members **R. P. Zimmer**, **J. L. Eaves** and **F. L. Cain** were in Washington Oct. 10-13 for technical discussions . . . **H. L. Bassett**, Special Techniques, traveled to Huntsville Oct. 16 for contract development and to Odeillo, France, Oct. 23-Nov. 14 to evaluate materials in the solar furnace . . . **J. W. Dees**, Principal Research Engineer, S&T, went to Orlando to speak at the IEEE meeting and for contract development at NTDC, Oct. 17-18 and was in Boston Nov. 1-3 for NEREM (IEEE) Meeting and contract development at the Department of Transportation and AFCRL . . . **Ernest Donaldson**, **Bernard Jenkins** and **Harris Johnson**, Communications, were at Selfridge ANG Base and Fort Austin AFB, Mich. to conduct field interference susceptibility measurements on test specimen electronic equipment, Oct. 17-Nov. 7 . . . **R. L. Zimmerman**, Radiological Safety, went to Chattanooga Oct. 20-21 to speak on Tech programs at the regional chapter meeting of the Health Physics Society . . . Anaheim, Calif., was visited by **C. E. Ryan**, Radar, Oct. 23-24 for technical discussions . . . **J. E. Husted**, Tech. App., attended the SME annual meeting, Oct. 16-20, and traveled N. Carolina, Virginia, Colorado, Wyoming, Montana, Idaho and Utah Oct. 23-Nov. 3 to secure contract information . . . **G. W. Leddicotte** and **R. S. Kirkland**, NBSD, on Oct. 24-25 met with **W. B. Harrison**, Southern Services, Birmingham, to discuss R&D potentials, and with **H. Richardson**, Nuclear Systems, Baton Rouge, to discuss NRC hot cell use . . . **T. M. Miller**, Radar, attended the AMS Symposium, Champaign, Ill., Oct. 9-12 . . . **R. A. Young**, Physics, was in Cleveland Oct. 18-19 for the AIME meeting . . . **Mary Edna Anders**, IDD, in Raleigh Oct. 19 for the Southeastern Library Association and in Columbia and Nashville Oct. 24-26 for the Southeastern States Cooperative Library Survey . . . **R. M. Boyd** and **John Wright**, Radiological Safety, were in Chattanooga Oct. 20-21 for Health Physics Society regional meetings . . . **John Brown**, Physical Sciences went to the technical conference on Skylab

metallurgical experiments in Huntsville, Oct. 25-26 . . . **Harry Baker, Jr.**, was in Washington Nov. 2-3 at the Patent Subcommittee meeting of the Committee on Governmental Relations . . . **M. E. McLain, Jr.**, NBSD, was at the University of Texas Nov. 19-22 for a symposium on Technology of Controlled Fusion Experiments and Engineering Aspects of Fusion.



MOON ROCKS

Under the Reactor Sharing Program sponsored by the Atomic Energy Commission at the Georgia Tech Research Reactor, several samples of moon rock and soil have been irradiated for Cornell University. The purpose of the irradiation is neutron activation analysis. NAA is a method of elemental analysis in which the sample to be analyzed is exposed to neutrons, making the elemental constituents of the sample radioactive. Examination of the irradiated sample by gamma-ray spectrometry permits the determination of the quantity of various elements as well as identification of the elements present. Approximately 70 of the 90 naturally occurring elements are amenable to analysis. The irradiated samples are returned to Cornell University for completion of the analyses.

On November 20, **Bill Ward**, IDD, was the speaker at a joint meeting of the Atlanta Chapter of the American Society of Metals and the Georgia Chapter of the American Institute of Mining, Metallurgical and Petroleum Engineers. He discussed the potentials for producing alumina from kaolin in Georgia, highlighting the research project conducted by several members of IDD and **John Husted** of TAG.

Senior Research Scientist, **T. F. Craft**, NBSD, presented a paper, "Radiation Treatment of Textile Dye Wastes," before the American Nuclear Society on November 17 in Washington, D.C.

DEPARTMENT NEWS

Dr. C. E. Ryan, Jr., Radar Division, presented a lecture on "Engineering Development of a High-Power Dielectric Lens Antenna" at the Columbus, Ohio Chapter of the IEEE Antennas and Propagation Group Meeting on October 10.

Albert McSweeney, in the Special Techniques Division, is the co-author, with **Wayne Rivers**, of "Optical-Fiber Array for Measuring Radial Distributions of Light Intensity for Particle Size Analysis," in *Applied Optics*, Volume 11, p. 2101 (September 1972).

October saw the addition of many new faces at IDD. **Phillip W. Potts** is working in Management and Technical Assistance, replacing **Ivan Entrekina**, who has gone into the real estate business. Joining the Industrial Services Branch to implement a program of minority business development are **Edwin A. Bethea** and **William H. Buxby**; Bill will also be working on development of housing resources.

In the Area Development Branch, **Eric O. Berg, Jr.** replaces **Wayne Hodges** at the on-campus IDD office. Wayne has succeeded **Zeke Wellslager** as director of the West Georgia Branch in Carrollton. **Bill Craig** will report to work November 1, heading the Central Georgia Branch in Macon. **Betty Summers** has returned to the Savannah office as part-time secretary, after a five-year absence. Welcome back, Betty!

John Hollis has begun work as a Technical Assistant in the Sensor Systems Division. New Student Assistants in the S&T Dept. are **Steve Chaddick** in Special Techniques and **Frank Riherd** in Radar.

J. W. Dees, Chief, Special Techniques Division, has announced that EES will participate in the ATSF 12/18 GHz Comsat/NASA Propagation Experiment by locating one of the 24 ground terminals here on the Ga. Tech campus.

Bob Mason presented a paper, "An Integrative Systems Model for Strategic Planning," at the joint national meeting of ORSA/TIMS/AIIE, Atlantic City, November 10.

BON VOYAGE!

IDDers flying off into the wild blue yonder in November were **John Cuevas**, **Margaret Textor** and **Phil Koos**. John and his wife spent ten days in and around London November 6-15. After a cork-popping send-off, Margaret accompanied her daughter Suzie to Europe November 11 for a month's stay. They were to rendezvous there with her other daughter, Julie, who has taken a quarter off from her studies at the University of Georgia to tour the Continent, and husband Tex was to join them all at Thanksgiving. Phil and his wife flew to Honolulu, where he participated in a seminar on low-cost construction materials for housing November 27-30 at the invitation of the East-West Center, an educational institution of the U.S. Government in cooperation with the University of Hawaii.

Ben James, IDD, was elected secretary-treasurer of the Georgia Industrial Developers Association for the 1973 year at GIDA's Annual Conference at Jekyll Island October 26-28. One of the speakers featured at the Conference was **Bob Cassell**, who spoke on "Urban vs. Rural Development."

Bob Cassell, who is immediate past president of the American Industrial Development Council, attended the AIDC mid-year board meeting in Chicago November 8-9.

EES PHOTO CONTEST

Photographers are reminded to submit their entries to Publications - Information Office, **Bonnee Wettlauffer**, Room 223, by December 15.



Speaking of speakers, **Sanford Ulmer** appeared on a panel discussing the importance of community facilities in industrial development at a workshop conducted by the Altamaha Georgia Southern Area Planning and Development Commission in Claxton; **Ben James** spoke on "Basic Data for Industrial Development" at a Georgia Mountains Planning and Development Commission-sponsored community industrial development seminar at North Georgia College. And **Ross Hammond** spoke on "Economic Development Projections for the South" on November 17 at the annual conference of the Tennessee Industrial Association.

COSMIC RAYS

G. W. Ledicotte, Head, NBSD, has announced the first in a series of cosmic ray experiments designed to study the production of muons by neutral components of the cosmic radiation has been completed. Three years were required to construct the large volume, modular, liquid scintillation detection system which weighs 10,000 pounds. Cosmic ray data were collected 24 hours a day, seven days a week for three months.

W. E. (Bud) and Beverly Sears have a new baby William E. Sears, IV, born July 29. Bud is a Research Engineer in the Radar Division.

George Rothe and **Nicholas Faust** are new Grad. Res. Assists. in the ST Div. Rothe is working toward his MS in Geophysics and Faust is an MS student in Geology.

George Taylor has joined the staff of the Sensor Systems Div. George has an MA in Physics from San Diego State and is pursuing a PhD at Georgia Tech.

Dr. R. C. Johnson and **H. A. Corriher** attended the EASCON '72 meeting in Washington, D. C., 16-18 October.

J. C. Toler, Communications Division, attended the American Public Health Systems Conference in Atlantic City, N. J., November 14-16 and presented a paper entitled "Electromagnetic Environments in Urban Areas."

THE DIRECTOR, ENGINEERING EXPERIMENT STATION, EXTENDS HIS SINCERE BEST WISHES FOR A HAPPY, HEALTHY AND PROSPEROUS 1973 TO ALL EES EMPLOYEES.