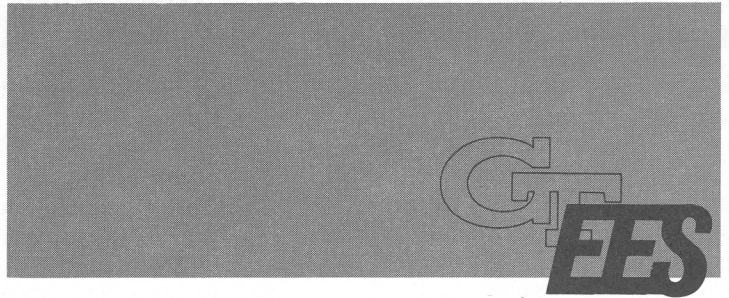


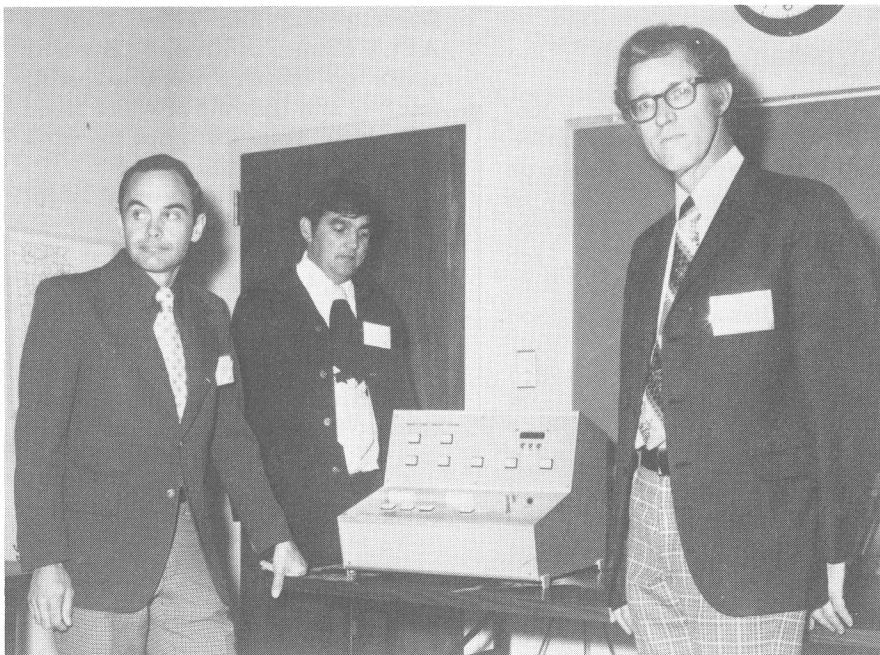
STATION NEWS



ENGINEERING EXPERIMENT STATION • GEORGIA TECH

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(left to right) Charles Wilson, Assistant research engineer; Bobby Wilson, electronic technician and Ernest Donaldson, project director, view the control console used in operating the Cable-Alert system.

Cable-Lert System Developed For Emergency Communication

An emergency warning system which will interrupt Cable Television (C.A.T.V.) broadcasts for emergency civil defense communications has been developed by EES researchers. A demonstration of the model project was held August 18 at the Electronics Research building and was attended by the press, area Civil Defense officials and business supporters.

The Cable-Lert program, was contracted to EES by the Alabama-based Twenty-first Century Systems, Inc., to provide local Civil Defense Agencies with immediate access to cable TV facilities for transmitting oral and visual emergency informa-

tion to the public.

During a natural disaster, the Cable-Lert system will be activated by Civil Defense Agency authorities through a central control console which transmits a warning tone and a time regulated pre-emption message directing viewers to a designated civil defense channel for information and instructions. The pre-emption substitutes emergency signals on all channels of the CATV system for a brief period.

According to **Ernest Donaldson**, EES senior research engineer and project director, his staff introduced a penetrating sonic-alarm signal which will sound an alert to cable television customers on a 24-hour basis.

The system's control console can be installed in control centers which

are remote from the cable television transmitting facilities. **Charles Wilson**, EES engineer responsible for the design and fabrication of the Cable-Lert, said this would enable broadcasts directly from the Civil Defense headquarters as well as additional locations.

The emergency interruption system, the first available unit of its kind, is scheduled for operation by early September.



Fire Damages ASB Equipment

At 6:30 p.m. Friday, August 20, a fire broke out on the second floor Baker Building, damaging the power supply cabinet connecting the scanning electron microscope in **John Brown's** Analytical Services Branch.

The fire was caused by overheating of the cooling fan motor which operates the microscope.

According to eye-witness **Joe Lupton**, ASL, and **Wayne Cooper**, ASB, smoke was spotted first by Lupton outside room 201 of the Prep Lab. Cooper arrived on the scene and immediately opened the room to the power supply doors in efforts to locate and extinguish the fire. Assuming the power was now turned off, Cooper opened one of the doors to the supply cabinet only to find a gust of flames. Cooper was able to put out the fire with a nearby fire extinguisher.

Estimated damage to the power supply cabinet, in addition to damage caused by a previous flood, will run close to \$2,000.

Productivity-Technology Applications Laboratory

Welcome to **Sherry Clark**, who joined the Productivity Systems Group as secretary to **Jim Lowry**, and **Elinor Plowden** who joined the group as administrative specialist to work with the Governmental Productivity Program.

Beginning on October 1, PTAL will launch a program sponsored by NSF to develop a regional and multi-state system for productivity improvement in the southeast. **Jerry Birchfield** and **Lee Burks** of PTAL and **Fred Tarpley** of the School of Industrial Management will conduct a study which was funded for one year.

A new publication entitled "Manufacturing Productivity in Georgia: Recent Trends and Industrial Group Analyses" will be issued this month by the Georgia Productivity Center. The report will provide a basis for policy making and assessing trends in manufacturing in Georgia.

Joan Wood participated in the 1976 International Solar Energy Society Conference "Sharing the Sun," held recently in Winnipeg, Canada. Joan, co-author with **J.H. Schlag**, **D.C. Ray**, of Electrical Engineering, and **A.P. Sheppard**, associate vice president for research, presented a paper entitled "Improved Inexpensive Solar Collectors for Agricultural Requirements."

ETL News

ETL welcomes back **W.R. Free** who is returning to EES after several years of commercial business activity in Toccoa, GA. Bill is a principal research engineer in the EMC Group.

On August 2-5, **Richard Moss**, **Bob Rice**, and **Don Sentz** traveled to Rome, NY to present a computer demonstration at Rome Air Development Center.

On August 6, **Doug Robertson**, **Jim Toler**, **Don Clark**, and **Reg Curry** visited MICOM in Huntsville, AL to present a mid-contract progress presentation.

Hugh Denny, **Don Clark**, and **Reg Curry** visited the Air Force Systems Command at Kirtland AFB, Albuquerque, NM, on August 18 and 19 to discuss EMC/EMV assessment methodology and testing standards.

EES Hosts Open House, Reception for Dr. Grace

On Friday, September 10, a reception was held at the C&S Bank Building in honor of **Dr. Donald Grace**, newly appointed director of EES. Guests attending included EES laboratory directors and staff, GRTI representatives and Georgia Tech administrative officials and department heads.

In addition to the reception, an open house was held for the new EES offices located on the 15-18th floors of the C&S Bank Building.

ElectroMagnetics Lab

The EML staff sponsored a luncheon in honor of **Nancy Price**, **Laura Royston** and **G.T. Wrixon** on September 2. Nancy, secretary to EML director **J.W. Dees**, transferred to the Math Department at Tech while Laura, secretary to **R.G. Shackelford**, has accepted a position as secretary in the IM Department.

J.W. Dees will present an invited paper "Monitoring the Environment Through Remote Satellite Sensing," co-authored with **N.L. Faust** and **J.J. Gallagher** at the 14th Convention of The Pan American Union of Engineering Associations in Rio de Janeiro, Brazil, October 3-10.

Glen Riley has announced his resignation from EML to return to Martin-Marietta in Orlando, FLA.

EML staff welcomes **Brenda Eubanks** as new secretary to **J.W. Dees**. Brenda was formerly secretary to the president of the University of Louisville.

EES Service Groups Move

Three of the EES Service Groups are scheduled to relocate to the now vacant WGST-radio station building on Eighth Street as of September 27. The groups moving include: Accounting-**Billy Atcheson**; Supply Services-**Barbara Allen**; and Reports and Procedures-**Betty Yarborough**. All telephone exchanges will remain the same. Ample parking facilities have been made available for business purposes.

Camera Shy? Don't Be!

We need you...if you're not camera shy! Why not help our P.R. image by appearing as a guest on the Albany, Georgia WALB-TV morning program? The show is aired live, each weekday morning and covers a variety of topics including medicine, science, agriculture, energy, industrial development, etc. It's an ideal opportunity to capitalize on the Station's activities and inform the public of the many research projects currently in progress.

Two EES researchers recently appeared on the program—**Cliff Burdette** and **Jim Toler**, both of AEL's Biomedics division. Burdette spoke on research work involving freezing and thawing of white blood cells while Toler discussed his work with heart pacemakers.

The list of dates available for future guest appearances are as follows: September 27 and 30; October 1, 4, 7, 8, 11, 18, 19, 22, 25, 28 and 29.

If any EES personnel are available and would like to arrange a guest appearance on the program, please contact Bette Justice, EES Information Office, extension 3405.

Funds have been appropriated to cover the expense of the trip.

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EDL News

Welcome to the following new EDL secretaries: **Sally Gum**, who replaced Christi Jackson and **Patricia Tully**, who replaced Nancy McHan. Nancy has transferred to OCA as a contract officer.

Philip Hess has transferred from the Augusta Area Office to EDL's International Program Division in Atlanta.

Ross Hammond will attend the inaugural ceremonies of the Center for Economic and Social Studies of the Third World on September 14 in Mexico City at the invitation of the Mexican Government. On September 16, he will deliver a paper on appropriate technology in industry at a seminar sponsored by the Natural Resources Program of the University of Arizona in Tucson, followed by a presentation on EES's appropriate technology activities at a UNIDO Conference in Vienna, Austria, October 18-22.

David Fyffe, EDL & ISyE, left for South Korea August 23 for a three-week interaction with Soong Jun University under the AID Small Industry Grant. He will consult with the Industrial Engineering department and assist with their industrial extension activities.

Sherman Dudley, will be in the Philippines September 12-October 2, assisting the University of the Philippines Institute for Small-Scale Industries with their new industrial extension field office program.

EDL Rises to New Heights—EDL isn't going around in circles, it's just settling into its new offices in the C&S Bank Tower on North Ave. EDL's administrative offices and the International Program Division are on the 16th floor; the Area Development Division and the Industrial Development Division, comprising the industrial services, community development, special projects and basic data activities, are located on the 17th floor.

Hart Receives Award

Dr. R.K. Hart of Solid State Sciences Division has been awarded a NASA Certificate of Recognition and cash award for the creative development of technology entitled, "Improved Einzel Lenses."



EML student assistant David Philips (seated) checks the computer scoreboard's electronic system as Chris Bowick adjusts the wire connectors.

Electronic Scoreboard Designed by EML

What is unusual about an electronic scoreboard? Just ask any of the project staff in the Electromagnetics Lab who recently designed a prototype scoreboard for a Wrightsville, Georgia firm.

According to **John Langley**, EES research engineer and project director, the majority of scoreboards used in both amateur and professional athletic events today are electromechanical. This means they require many underground wire connections from the central control console to the scoreboard, and the rate of mechanical failure is high.

The new prototype scoreboard designed by Langley and his staff is an all electronic scoreboard—connected to a control console by only two wires. This system is more reliable as well as versatile, Langley commented, as the portable control console can easily be moved from indoor to outdoor sport events.

The solid-state scoreboard was programmed and constructed by EML student assistants, **David Philips** and **Chris Bowick**. The scores are electronically punched into the scoreboard through a 16-digit calculator-styled keyboard.

The project was made possible through the efforts of the EES Macon area office, headed by **Bill Craig**.

Applied Engineering Lab

The Systems Engineering Division of AEL has been relocated to the 18th floor of the C&S Bank Building on North Avenue.

P.G. Sassone presented a conference paper entitled "Cost Benefit Analysis of Information Centers" as the Engineering Foundation Conference on Technical Management in Easton, MD, on August 23.

Janice Manders, secretary II, joined the Systems Engineering Division under **R.P. Zimmer**.

J.R. Moore, formerly with Florida-based Harris Electronics, is employed as a research engineer with the Radar Technology Division.

Dayton Adams visited the Rome Air Development Center for technical discussions on a project that RADC is currently sponsoring on

broadband measurements.

The Radar Technology Division celebrated Labor Day with a picnic for the staff on September 2. The Division is currently preparing for a short course in Principals of Modern Radar to be held at Georgia Tech October 4-8.

C.E. Ryan gave a presentation at the Electromagnetic Compatibility Analysis Center Conference on August 10 where he discussed applications of near-field methods to electromagnetic compatibility.

Cliff Burdette attended the 13th annual meeting of the Society of Cryobiology where he presented a tutorial workshop and also visited the VA Hospital in Brooklyn, NY to discuss biomedical research with the staff.

Lee Edwards... A Long Climb to Success

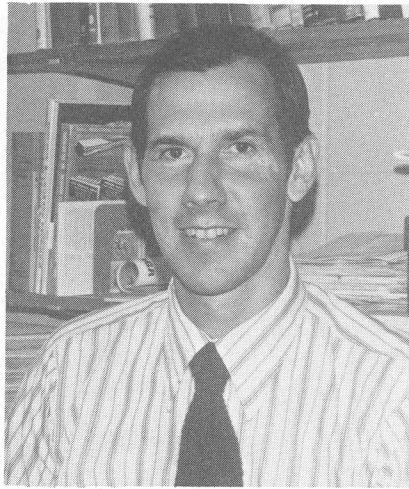
"I feel we give our sponsors more than their money's worth," commented J. Lee Edwards, manager of the Advanced Technology Technical Area of AEL. "That's the main reason EES has such a good reputation," he added.

Lee Edwards' attitude is one you can't help but admire. He is a firm believer in giving a little extra...whether time or effort...to complete a job. He's done this with every project he's undertaken beginning with his first business experience, achieving three professional degrees, and culminating in a management position with EES.

Edwards determination in acquiring a doctorate in physics from Georgia Tech is ample proof of his goal-oriented lifestyle. For almost five years, including six days a week and up to 12-hours a day, Edwards labored over his NASA-sponsored physics traineeship. When completed, the 115-page thesis was a welcomed accomplishment for Edwards, but obtaining it brought several unexpected problems; his traineeship expired after three years, but fortunately, a secondary sponsor made it possible for him to complete his work. Then, when his studies overextended the four-year leave-of-absence limit imposed by Georgia Tech (Edwards had been employed as an assistant research physicist with the EES Radar Branch), he was forced to resign. But Edwards didn't give up. With Ph.D. in hand, he was rehired by EES in 1970. "Tech's been good to me," he reflected, "and I knew I wanted to come back and work here."

In addition to a doctorate, Edwards also holds a B.S. in physics from Tech and a masters in physics from Carnegie Tech.

Since rejoining EES, Edwards has been involved in the development of innovative radar countermeasures including near-field techniques for measuring antenna radiation patterns. As manager of the Advanced Technology Technical Area, he is responsible for three major areas; microprocessor systems, advanced



Lee Edwards

techniques for measuring electromagnetic fields and technology assessment of devices and materials.

His staff, consisting of six engineers, six student co-ops and assistants and one secretary, have just completed a proposal to construct an automated near-field measurement system for indoor testing of two new types of antenna which will soon be manufactured for the Army.

"Another of my projects," Edwards related, "is helping the Advanced Technology Technical Area reach division status...we're looking for a principal investigator with a strong background in microprocessors to assist us in this expansion." In 1964 when Edwards first joined EES' Radar Branch, the operation was quite small. Over the years the Branch nearly tripled in size to the extent that three major laboratories were created to encompass all its generated activities. The environment which fostered this expansion also provides Edwards area with an excellent opportunity for continued growth.

The personal side of Lee Edwards, in between his studies and career with EES, includes two years with the Navy at Ft. Meade, Maryland, where he worked in low temperature physics. He later joined the Kelvin & Hughes America Corporation in Annapolis where he was an applications engineer responsible for marketing industrial controls and instrumentation.

In the fall of 1969 he enrolled in Carnegie Tech, completed his masters in 1961, and returned to Kelvin & Hughes in a management position

through 1964.

An Atlanta native, Edwards is a self-styled physical fitness enthusiast. You can find him jogging around the Tech track on his lunch hour three or four days a week. "The body is the temple of the soul, as the ancient Greeks proclaimed," Edwards said, "and I subscribe to that view."

He has also played clarinet with both the Tech Band and the Annapolis Symphony Orchestra. He enjoys singing and was a member of the Choral Guild of Atlanta and the Atlanta Symphony Orchestra Chorus where he performed for several years under the direction of Robert Shaw.

Lee Edwards and his wife have one son, Matthew, age three.

Applied Sciences Lab

J.L. Brown, J.W. Johnson (ASB) and **Dr. R.K. Hart** (Solid State Sciences Division) attended the annual meeting of the Electron Microscopy Society of America (EMSA) in Miami Beach, August 7-14. **Brown**, who chaired the symposium on the subject of Forensic Science, presented a paper, "Forensic Analysis of Disintegrated Grinding Wheels Using the SEM and X-Ray Microanalysis." **Johnson**, treasurer of the organization, also served as a member of the local arrangements committee while **Dr. Hart** was a session chairman and local arrangements chairman.

Dr. J.M. Spurlock, Energy & Environmental Analysis Division, has been invited by NASA headquarters to present a paper at the 27th International Astronautical Congress in Anaheim, October 12-15. The paper, "Evaluation of Technology for Spacecraft Water-Waste Processing Systems," will be presented in the Bioastronautics Session of the Congress.

Congratulations to **S.W. Day** on his recent marriage to Laurie G. Riley of Pine Mountain, GA, July 24.

J.D. Lupton returned to work after spending a few days in DeKalb General Hospital. On September 14 he completed an evening presentation on "Low Cost Resource Recovery" to the Georgia Conservancy.
