

# Station News

Georgia Tech Engineering Experiment Station

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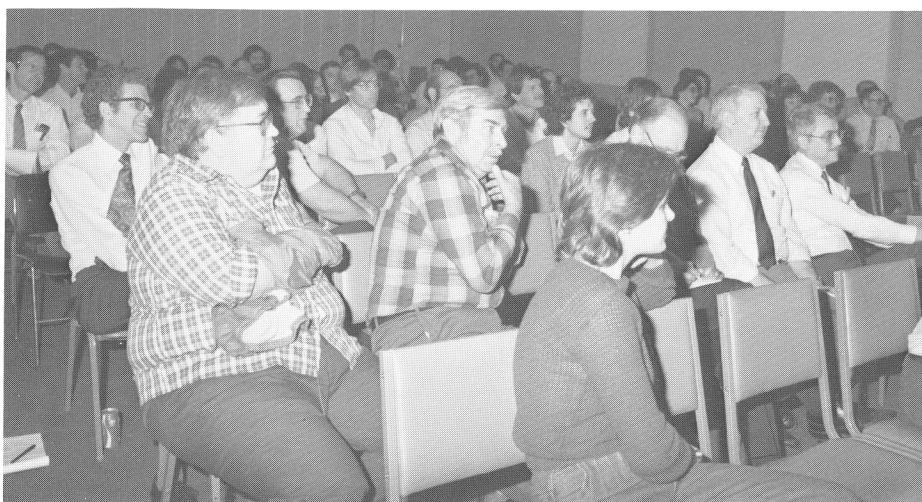
## Station Status Meetings Held

EES employees had the opportunity to learn about the state of the Station from the horse's mouth and to offer personal input through questions or comments at four identical meetings in February. All EES employees were invited to the meetings, two of which were held at Cobb County and two on campus.

EES Director Donald J. Grace gave a panoramic view of the Station's past, present and future during the first hour. His topics ran the gamut from EES history and milestones to implementation of HEMI/GOLD results and long-range plans for the future. Along the way, he gave profiles of EES staff and sponsors, distribution of sponsored research areas, expenditures, space projections, levels of research proposals and awards, professional achievements, interactions with other units, and professional development opportunities.

Stressing that "people, in the final analysis, are the most important part of our organization and our reputation," Grace said that in 1983, EES hired 120 new professionals who came from 41 different universities and 63 different industries. He also pointed out that some 65% of EES researchers hold advanced degrees. About 110 employees are enrolled in the tuition reimbursement program, with most of them studying at Georgia Tech.

Dr. Grace said the main areas of interest resulting from the HEMI/GOLD study are: communication, planning goals and objectives, personnel and training, facilities and tools (particularly a management information system), and support services.



ANITA EDWARDS

The State of the Station meetings, EES's newest tradition, generated wide interest, as this scene from one of the Cobb County sessions shows.

Each meeting had a time reserved for questions and comments from the floor. More than 40 people responded, most of them with written questions. Concern about facilities was uppermost, with 12 questions in this category. There were 11 questions on financial matters and resource allocation. Employee relations and benefits

drew 8 questions, as did matters of policy. The remaining four questions dealt with administration/management, public relations, and sponsors. In addition to receiving immediate response at the meetings, the questions have been compiled and are being given careful consideration for possible future action.

## TAL Gets Materials Handling Projects

The Industrial Systems Branch (ISB) of the Technology Applications Lab has two new research projects in the materials handling and robotics field. One is to help the U.S. Postal Service with automated sorting and processing of irregular parcel post items. "Our major task," said Project Director John Owen, "is to design a robotic manipulator to orient parcels for address reading and for use in other parts of an advanced materials handling system. The device should incorporate tactile feedback to monitor firmness of grip, detect onset of crushing, report initial contact, and identify slippage conditions." A detailed plan for pro-

totype development and evaluation will be submitted to the Postal Service.

ISB also recently completed an agreement with the Distribution Directorate of the Warner Robins Air Logistics Center (ALC) to study ways of improving their warehouse and distribution functions. The Distribution Directorate is responsible for Air Force inventories (especially aircraft parts and electronic components) for the eastern United States. In the course of the project, ISB will assess the current state of ALC and identify opportunities for enhancing services with advanced materials handling automation and robotics.

## Lovett Students Intern at RAIL

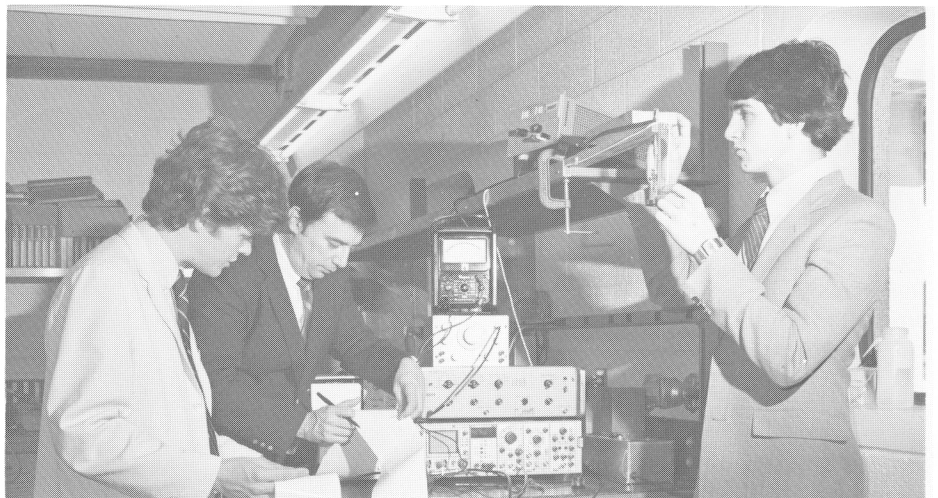
Two top science students at the Lovett School, a prestigious private school in Atlanta, recently spent their two-week spring break working at the Radar and Instrumentation Lab (RAIL). They helped Gene Greneker with a study of the dynamics of rainfall. Their objective was to conduct computer simulations and gather test data necessary for proper calibration of a raindrop distrometer invented by Greneker. The distrometer, for which a patent is pending, measures the drop size distribution of rain as it falls in nature.

"The students helped with experiments aimed at perfecting the distrometer, as well as advancing the knowledge of raindrop behavior," Greneker said. "Jacob Goffman, who is the Lovett Star Student, did a computer simulation to determine how accurately the system would be able to measure drop size. Giles Morrish, a senior in the advanced physics program at Lovett, worked with an ar-

tificial raindrop generator to achieve control over drop size for testing purposes."

Lovett officials requested that the students be permitted to work at EES as unpaid "interns" after Jacob and Giles toured EES facilities with the school's science club and became interested in the research going on at

EES. The two-week internship program received the enthusiastic support of EES Director Don Grace, RAIL Director Ed Reedy, and Instrumentation and Measurements Division Chief Nick Currie. EES also arranged for computer time for the project. "We are happy to return something to the community in which we work," Grace said.



Two Lovett School students, Giles Morrish (left) and Jacob Goffman (right), assist Gene Greneker of RAIL with the raindrop generator during a study of rainfall behavior.

## MINICOMPUTER NEWS

During late February, the MiniComputer Service Facility (MCSF) established its local area network at the Electronics Research Building (ERB) and tapped into the campus Ethernet (trademark of Xerox Corp.). This campus network presently includes the Rich Building, the Administration Building, the Old Athletic Building, and ERB.

The most obvious advantage to users of the ERB VAX is that they can have high-speed access to other computers, such as the CYBER or IBM in the Rich Building. Also, users of the ERB VAX who are not in ERB are no longer limited to communication via slow modems.

The network also has advantages at a local level. Users are aware that any computer can have connected to it only so many devices. Such hardware connections can lead to insufficient use: when the port is physically occupied by a lightly used device, other users or devices must wait. The network, on the other hand, will permit the dynamic sharing of several computer ports by many users or devices.

Although users of the ERB VAX are the only ones who presently have access to the CYBER and IBM central computers via the network, the Baker Building will be added shortly. Future plans include the Cobb County Research Facility and O'Keefe.

With the network available, project

directors and users should be able to find just the right combination of computers, devices and other resources to accomplish their tasks. Not only will processes be done at high speed, but more processes and devices should be supported via the net.

## Tech Defines a National Productivity Network

Few issues have garnered as much attention in the past few years as productivity. Yet, productivity can mean virtually anything. For this reason, the U.S. Department of Commerce hired Georgia Tech/EES to answer some important questions about what is actually being done to improve productivity in the United States.

The goals of the project were to:

- identify and characterize the productivity organizations which comprise the national productivity infrastructure; and
- identify strategic opportunities for the various types of productivity organizations.

Project Director David Clifton asserts that the study achieved four significant goals: "Creation of a good information base among productivity centers; preparation of a directory enabling centers to share information more easily; identification of important issues facing the centers and formulation of recommendations ad-

ressing those issues; and most importantly, formation of a National Productivity Network which EES Associate Director Rudy Yobs chairs."

Clifton, Yobs, Bill Riall, and Anthony DeCurtis wrote the study report. Others who collected data and participated in the study were Rich Combes, Bill Darley, Sherman Dudley, Robert Hawkins, Fred Rossini, and James Varnadoe.

The study recommended that both the private sector and federal government take action to strengthen the nation's productivity efforts. One recommendation was implemented immediately: 17 representative productivity organizations elected to form a National Productivity Network (NPN) to replace the informal network which previously existed. A monthly productivity newsletter, originating at EES, was created, and an electronic mail service was set up.

According to NPN Chairperson Rudy Yobs, the network still faces some major challenges. In order for the network to grow, "it must demonstrate that it can develop and deliver effective programs as a team. Working together, the network will be better able to address a larger constituency with larger problems."

Yobs added: "The National Productivity Network has the potential to have a tremendous impact on improving productivity in the United States, particularly in the crucial area of technology transfer."

Anne DeCurtis, EDL

## Professional Activities

### ECONOMIC DEVELOPMENT LAB

An article by **David Clifton**, "An Empirical Investigation of the Heckscher-Ohlin Theorem," appeared in the February issue of the *Canadian Journal of Economics*. He participated on the Science and Technology Critical Issues Panel at the U.S. Conference of Mayors on March 15, and in a roundtable discussion exploring issues affecting technological innovations for smaller businesses at the U.S. Department of Commerce's Office of Productivity, Technology, & Innovation March 16.

**Johanna Williams** is president-elect of the Georgia Association for Behavior Analysis for 1984 and will serve as president in 1985. She and **Charles Estes** wrote an article, "Georgia Tech TAAC Assists with Performance Management," which appeared in the Fall/Winter 1983 issue of *Performance Management*. She also taught a workshop on Group Problem Solving Skills at the Asbestos Materials in Buildings Seminar of The Survey Group, Inc.

**Anne DeCurtis** is the directory coordinator for the Publication Services Guild of Atlanta.

**Phil Loveless** offered a seminar on Productivity Measurement and Employee Involvement to 47 people from 25 companies at Gainesville Junior College February 23.

**Art Brown** gave a talk on new marketing strategies for small businesses at a meeting of United Minority Businesses, Inc. in January.

**John Nemeth** has been appointed to the Georgia Industrial Developers Association's Hazardous Waste Committee.

The American Industrial Hygiene Association has accredited the Environmental Health and Safety Division's analytical laboratory.

**Paul Middendorf** lectured on "Federal and State Regulations Relating to Noise and Hearing Loss" in February as part of an audiometric technicians training course sponsored by the Georgia Foundation of Otolaryngology.

### ELECTRONICS & COMPUTER SYSTEMS LAB

**Rick Moore** attended a technical conference on electromagnetic materials properties in Tokyo in February, presenting a paper on measurement techniques developed under the MERADCOM program.

**Jim Gallagher** (EML) presented papers by **Rick Moore**, **Tom Wells**,

**Amy Dean**, and **Pat Montgomery** at the December Millimeter Wave Symposium in Miami. **Tom Wells** presented an invited paper by the same four persons at an IEEE meeting in Long Beach in January.

**Ron Seaman** is book review editor for the *IEEE Engineering in Medicine and Biology Magazine*.

**Jim Toler** served on an advisory panel reviewing research programs for the Naval Aerospace Medical Research Lab in Pensacola.

At the IEEE Power Engineering Society 1984 Winter Meeting in Dallas in February, **Dave Millard** participated on a subcommittee studying electromagnetic pulse effects on nuclear power plant systems.

### ENERGY & MATERIALS SCIENCES LAB

**Kathryn (Kaycee) Logan** presented a paper, coauthored with **J. D. Walton**, on "TiB<sub>2</sub> Formation Using Thermite Ignition" at the 8th Annual Conference on Composites and Advanced Ceramic Materials, held January 15-16 in Cocoa Beach, FL.

### OFFICE OF THE DIRECTOR

Congratulations to **Jim Wiltse**, who was selected the 1984 Engineer of the Year in Government by the Metro-Atlanta Engineer's Week Awards Committee. An article by Wiltse, "Millimeter Waves for Electronic Warfare," appeared in the January issue of the *Journal of Electronic Defense*. He presented an invited paper to the National Oceanic and Atmospheric Administration in Boulder, CO, January 16.

### RADAR & INSTRUMENTATION LAB

**Gene Greneker** has been elected to the Executive Committee of the Carnahan International Conference on Security Technology.

### TECHNOLOGY APPLICATIONS LAB

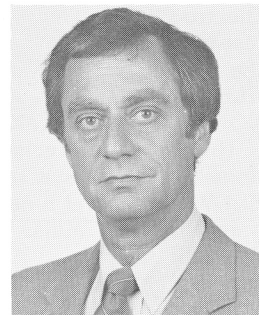
Nine research engineers from TAL are the authors of a book, *THE INDUSTRIAL WOOD ENERGY HANDBOOK*, recently published by Van Nostrand Reinhold Company of New York. Authors are **Bill Bulpitt**, **Grant Curtis**, **Steve Drucker**, **Tom McGowan**, **Jim Walsh**, **Mike Brown**, **Dale Atkins**, **Bob Didocha**, and **Badarinath Dixit**.

**Tom McGowan** made a presentation on current and future use of wood energy in Georgia and the nation to a meeting hosted by the Scientists and Engineers for a Secure Energy Future on January 24.

**Larry Banta** has received his Professional Engineer's license.

## Firstman Testifies On Biomass R&D

"Energy from biomass could contribute as much as 10% or 15% of our nation's energy supply by the year 2000, if the right kinds of investments are made."



So stated Dr. Sidney I. Firstman, director of the Technology Applications Lab and president of the Biomass Energy Research Association (BERA), in testimony last month to the U.S. House subcommittee that scrutinizes the Department of Energy budget. He recommended that the government make two new kinds of investments:

- Cost sharing with industry on large-scale biomass implementation projects
- Funding of basic research to create the basis for future technology

"Government cost sharing currently is limited to small-scale biomass R&D systems," Firstman said. "However, the successes of DOE's programs in medium Btu gas (MBG) production have attracted potential major private investments. To maintain the momentum of such promising projects, a separate budget should be established over and above the continuing R&D program."

He also testified that the current biomass development program needs balancing by separate funding for basic research. In the past, funding for basic research has been included as a small part of the overall production and conversion development program. "Separating it into its own budget category will provide better accountability for research results and ensure that promising discoveries are quickly integrated into the applied research effort," Firstman said.

Dr. Firstman's testimony was presented to a subcommittee of the House Committee on Science and Technology. They were so impressed with his testimony that he has been asked to return to Washington on April 5 to repeat his remarks on biomass and to testify on photovoltaics before subcommittees of both the House and Senate Committees on Appropriations.

Dr. Firstman is serving his second year as president of the Biomass Energy Research Association. Established in 1982, BERA is a nonprofit organization dedicated to furthering basic and applied research, technology transfer, and information and education related to biomass technologies.

## Strictly Personal

### ELECTROMAGNETICS LAB

Dr. William R. Owens has joined the Electro-Optics Division as a senior research engineer and will be working in the area of infrared systems analysis.

### ELECTRONICS &

### COMPUTER SYSTEMS LAB

The Computer Technology & Applications Division has a new division chief, Brit Williams, and a new senior research scientist, John Mills. Both came from Scientific Atlanta.

Welcome to Eric Kuster, research scientist II, Sherry Smith, administrative secretary, Barbara Call, senior secretary, Sandra Sullivan, word processing specialist (transfer from Architecture), and Tom Thompson, research scientist I (transfer from STL).

Joe Schaefer, Bruce Melson, Clark Weeks, and Deborah Reid have resigned. Kirk Pennywitt is replacing Bruce as one of ECSL's four representatives to the General Faculty Assembly.

### ENERGY &

### MATERIALS SCIENCES LAB

Arlene Edmiston has transferred from OOD to be secretary to EMSL Director Hans Spauschus and has been promoted to senior administrative secretary.

### RADAR & INSTRUMENTATION LAB

RAIL welcomes Guy Morris, senior research engineer, and two new employees at the Fort Monmouth office: Carola Amato, staff assistant, and Emerson Frost, senior research engineer.

### SERVICE GROUPS

Facilities Management: Daryl Young was married to Beatrice Mogensen on

February 11.

Personnel Services: Linda Harris was married to Wayne Lautenschlager on February 25. Marianne Thompson has been promoted to staff assistant.

### SYSTEMS & TECHNIQUES LAB

Last month, STL welcomed Katherine Ferrill, photographer I, and said good-bye to Elizabeth Callahan and Donna Page.

Vickie Fennell and Terry Snipes are the editors of STL's new monthly newsletter, *The STL Signal*. Vickie also is a new associate editor for *Station News*.

### SYSTEMS ENGINEERING LAB

SEL also has a new monthly newsletter, *SEL Signals*.

Welcome to Elizabeth (Sam) Owens, artist I, James Brannen, research scientist I, Janie Kite, senior secretary, and Gary Herbst, student assistant.

Stephen Callahan has been promoted to electronics technician I.

Scott Coleman and Joe Harris have resigned.

Joyce and Chris Fowler have a new son, Matthew Bennett.

Judy Wiesman and her family are featured in a new book entitled *LIVING BY YOUR BRUSH ALONE* in a chapter entitled "Can Marriage Survive an Artist?" Judy is having a one-person art show in Louisville, KY, this month.

Condolences to Ed Masters on the recent death of his father.

### TECHNOLOGY APPLICATIONS LAB

Debbie Lockman is TAL's new associate editor for *Station News*.

Steve Dobbins has joined TAL as a mechanical technician II.

Henry Van and Virginia Keller have resigned.

## Legislature Funds Four Field Offices

The Georgia General Assembly, during its recent session, allocated \$320,000 for FY 1985 to open four new industrial extension field offices—in Brunswick, Columbus, Dublin and Madison. Each office will be staffed with an extension engineer and a secretary. They will join the current network of eight field offices. Administered by the Economic Development Lab, the field offices provide an important link between Georgia industry and all of Georgia Tech.

## STL Offers New Photo Services

Design Services Photographic, a unit of the Systems and Techniques Lab's Design Services Group, recently acquired a Polaroid 8x10 processor. This machine can process direct positive, color film or paper prints in less than five minutes. Coupled with the enlarger or copy camera, the Polaroid processor can produce color overhead transparencies from either 35mm slides or positive color artwork. With this new capability, DSP is now able to offer color viewgraphs for in-house controlled processing of classified material.



Wearing T-shirts inscribed "I survived the Self-Study," some of the EES participants on the Institute-wide Self-Study Standards Committee whoop it up at a party given by Dr. Pettit to celebrate the successful completion of the once-a-decade task required for accreditation by the Southern Association of Colleges and Schools. Shown (L-R) are: (top row) Vice President for Research Tom Stelson; Bill Howard, Organization and Administration; Don Grace, Research (resource); President Joe Pettit; (bottom row) Archie Corriher, Special Activities (chair); Fred Cain, Research (chair); Howard Dean, Physical Resources (vice chair); Billy Livesay, Graduate Programs. Other EES personnel who served on committees were Steve Bomar, Educational Programs; Lee Edwards, Faculty; David Clifton, Library (vice chair); Ed Reedy, Research; Fred Dyer, Computer Services; Gordon Harrison (former EES), Steering Committee.

### Station News

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