

STATION NEWS

ENGINEERING EXPERIMENT STATION • GEORGIA TECH



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JUNE, 1978

FOUR RETIRE FROM EES

Tom Buckley once commented that it was very difficult to find an unreasonable person at EES. Such reflects his own willingness to cooperate with others as well as his spirit of friendliness and helpfulness. After 26 years with EES, Tom has retired from his duties as engineering draftsman with TDL. Tom's recent research activities included helping engineers on the anaerobic digester at Cumming, Ga. During his retirement he plans to continue devoting his efforts to church activities and enjoying his home and garden.

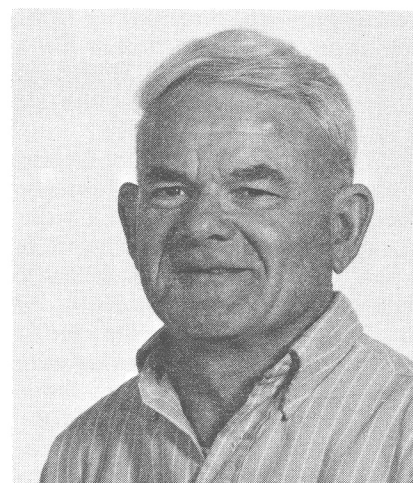
John Coker of the EES Machine Shop is retiring after working with the Station for 28 years. John has been described as a very qualified and efficient worker who continued to find the variety of his work in the shop challenging. In his retirement, John plans to travel, visit friends, enjoy relatives (especially his two grandchildren), garden on his acreage and, generally, take life easy.

Ed Flynt, who was referred to as "Mr. Radar," retired this year after 29 years service with Ga. Tech. His specialty in radar flourished as he served as supervisor of the electronics laboratory and head of the radar branch, and Ed was author of many reports and publications on radar and electronics research and development. His retirement includes enjoying his family and continuing his electronics interests in his workshop at home.

Joe Perry, instrument maker in the EES Machine Shop, has been known for his versatility in skills and experience. Machinist, welder and mechanic, Joe is retiring from 26



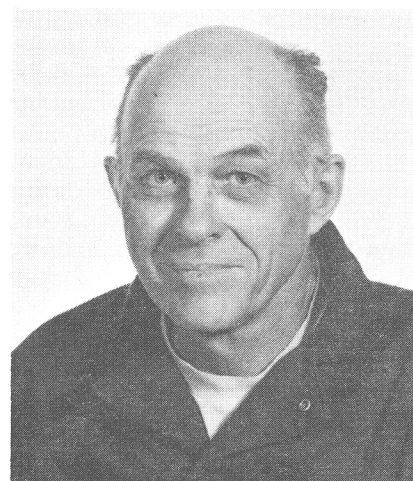
Thomas H. Buckley, Jr.



John W. K. Coker



Edward R. Flynt



Joseph B. Perry

years of service at EES. He will spend more time at his resort home at Lake Jackson where he is an avid boatsman as well as further enjoy his garden. The variety of his work at EES continued to interest him over the years as he participated in the making of numerous instruments for

the Station.

Tom ... John ... Ed ... and Joe, who gave 100% effort in their individual work at EES, will be missed by their co-workers and are wished happy and healthy experiences in their retirement.

Have Radar Skills, Will Travel

A recent project venture found **Dick Johnson** (OOD) and **Don Bodnar** (STL) undergoing an unusual engineering experience: fixing an airport surveillance radar at the Marine Corps Air Station in Iwakuni, Japan, a small town near Hiroshima.

Noteworthy are the facts that: (1) our EES engineers solved the problem and also had the radar checked successfully by the FAA, and (2) the sponsor, who contacted EES after learning of our radar capabilities through a short course, was very satisfied, and (3) many of the aircraft employed to check out the radar were supplied by the Marine's Black Sheep Squadron, whose WWII exploits are the basis for a popular TV program.

Less newsworthy but interesting are some observations of Japanese lifestyle by Johnson and Bodnar. For example, prices are "out of sight" in Japan. An evening in a Japanese nightclub can cost about \$300. At one club, Americans are stopped at the door and told only Japanese are allowed. Since Japanese businessmen have liberal expense accounts, such action (suggested by the Marines), apparently prevents embarrassment (shock!) to Americans when payment is due.

Car owners in Japan are required by law to have a complete auto inspection every two years, and it costs anywhere from \$200 to \$400. Also, trains are exactly on time so that if one had the correct time, he could depart on the train according to the minute and be assured of being at his destination on time. Japan, according to Johnson and Bodnar, has a pleasant atmosphere of quiet politeness.

They also noted that they had the feeling of being totally illiterate since Japanese written communications lack any familiar words or characters. Starvation could have been a problem had restaurants not displayed plastic samples of menu offerings. Also, Japan has a 100% "no tipping" policy, and honesty is such that waitresses will run after customers to return a tip.



Health Insurance Plan Changes Announced

The Board of Regents of the University System of Georgia has adopted a 70-30 sharing of the cost of health insurance for employees of the University System.

According to Dr. Gene Nordby, vice president for business and finance, the cost sharing arrangement is consistent with health insurance plans provided to state employees in other agencies.

Nordby said, "Right now the state pays 100 percent of the cost of an employee of the University System, but nothing toward the cost for dependent coverage." Beginning July 1, the state will pay 70 percent of the cost of health insurance for employees and their dependents. The employee will pay the remaining 30 percent."

Nordby added that the plan is optional. Employees do not have to buy the insurance.

Single employees will pay \$8.10 monthly and the state will pay the remaining \$18.90. Each month, the cost to employees with dependents will be \$19.80. The state will pay the remaining \$6.20. Nordby said, "The person with a family will save \$12.80 each month."

The new health insurance plan will not affect the life insurance plan.

In addition, Nordby says there will be a change for active and retired people 65 years and older. The state will offer a supplement to the Medicare plan. The new program will cover expenses that Medicare does not. The cost of the plan for University System employees 65 years and older is \$3.22 monthly. The state will pay \$7.53 for the employee and their dependents.

Effective immediately, there is an open enrollment period for employees with dependents. Until July 1, dependents not covered by the current insurance plan can be enrolled without a waiting period.

Detailed information concerning the changes will be distributed when it is received.

Conversational German Offered Faculty, Staff

This summer, for the first time at Georgia Tech, conversational German will be offered free of charge to all interested faculty and staff. The first four-week course will run from June 26 - July 21, and will meet from 8 A.M. to 9 A.M. daily, Monday-Friday, in Room 313 of the Savant Building. The second class, Level II, will meet at the same time starting July 24 and will end August 18, 1978.

The courses are designed as basic conversation courses, aimed mainly at developing speaking and understanding skills. Since many members of the Tech community, especially of EES, have to travel to German-speaking countries to attend conferences, etc., these courses should be particularly helpful as a preparation for such activities. To profit maximally from these courses, participants are expected to have a basic knowledge of German equivalent to one year of college German.

Dr. Theodor Langenbruch, who has distinguished himself as an outstanding teacher and scholar, will be teaching the courses. Prospective participants are encouraged to call Dr. Langenbruch at ext. 2425 or 2426 (Department of Modern Languages) for further information and registration.

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Tech Studies Transportation for Elderly and Handicapped

Researchers at EES are hard at work on a new survey and study for the Federal Department of Health, Education and Welfare and the Urban Mass Transportation Administration on transportation services for the elderly and handicapped.

During the past three years the Departments of HEW and Transportation initiated innovative, cooperative efforts to expand the availability of transportation services to elderly and handicapped persons in urban and rural areas throughout the nation. So far only marginal success has been achieved so additional studies are being focused on N. Carolina, Kentucky and Georgia.

In Georgia, EES is doing the survey under the auspices of the Georgia Department of Transportation and will concentrate efforts in the Cherokee and Richmond County areas.

According to **Neil B. Hilsen** in the Systems Engineering Division of EES, who is heading the project, the surveys will be conducted by means of questionnaires and the collection of data from county service agencies.

The survey project will attempt to evaluate the degree of coordination that presently exists among human services transportation providers in both public and private sectors. Attention will be given to the special transportation needs of older citizens and handicapped persons, hopefully to develop better planning data for communities and the help communities better organize efforts to serve the mobility needs of the elderly and handicapped.

ETL News

ETL welcomes **Linda LaNear** as secretary to **R. W. Moss** in the Communications Technology Group.

Richard Moss and **C. S. Wilson** were in Pittsburg on April 6 and 7 to discuss a possible contract with the Bureau of Mines to evaluate electrical storm warning systems. Later in May, Wilson was at NASA Goddard to prepare for upcoming activities during the Thunderstorm International Research Program.

R. W. Rice was in Washington April 10 to collect data for a current

study of FCC broadcast regulation.

B. J. Wilson has been busy lately setting up the CB-AIDS system (A-1940) at DeKalb County Police Headquarters and two area high schools.

B. M. Jenkins and **J. A. Woody** were in Washington, D.C., the last two weeks of April participating and advising in the evaluation of heart pacers to EMP environments.

ASL News

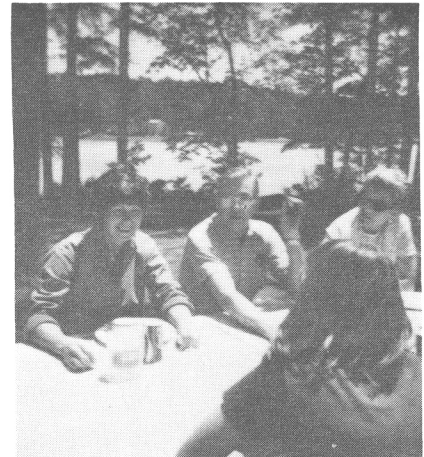
Bob Ingols recently had an Article published in *Ozone/Chlorine Dioxide Oxidation Products of Organic Materials*, 1978, entitled "Ozonation of Seawater."

J. D. Lupton, **Steve Havlicek** and **P. R. Loy** presented a paper at the National Bureau of Standards' 9th Materials Research Symposium on Trace Organic Analysis held in Washington, DC., April 10-14, 1978. The paper described the use of Mr. Lupton's novel gas chromatographic detection system. It has elicited considerable interest in the scientific community.

Dr. Havlicek met with members of EPA's Effluent Guidelines Division in Washington on April 21 and subsequently attended a Conference sponsored by the division in Savannah on May 23 and 24. The topic of both the meeting and the conference was the analysis of priority pollutants in a variety of effluent streams. A tremendous opportunity for future research in this area now exists.

Havlicek was also inducted into the Georgia Tech Chapter of Sigma XI at their initiation ceremonies held recently at the Peachtree Plaza.

Robert Belcher, a high school student at Harper High School, who has received guidance and encouragement from the staff at EEAD in conducting his science fair project recently distinguished himself by winning a gold-key in local competition, a scholarship to attend a National Training Camp for outstanding high school students, a substantial cash award and a second place award in the National Competition held recently at Cleveland, Ohio. His friends at EEAD are quite proud of Robert, who will be attending Morehouse College this fall.



S and T Lab picnic'ers, l. to r.: Delores Dittman, Jack Bridges, Jerri Bridges and Tessie Dittman in front.

S and T Lab on the Ball

The sun broke through the clouds at Murphy-Candler Park on May 13 just in time to welcome the annual family picnic of the Systems Development and Defense Electronics Divisions.

Deborah Fuller and **Rhonda Yearwood**, division secretaries and the picnic's organizers, report that about 100 persons participated. Deborah organized games for the smaller children, but the big event of the day was the SDD vs. DED baseball game. **Bob Moore** was the pitcher for SDD and **Sam Alford** pitched for DED.

"Sam came out there and really showed us how to play," remarked **Bill Dittman**. However, it was SDD who gloated all week over the final score of 19 to 13. DED is waiting for next year!

STL was strongly represented in the sixth annual George C. Griffin Roadrace on May 6. Running the 3-mile SAC course were **George Whitley** (of Boston Marathon fame) of DED and **Lee Edwards**, **Jerry Heckman**, **Larry Corey** and **Pat ("Flash") Burns**, all of ACD. All STL entries received T-shirts, suitable to wear for briefing sponsors.

**Every Kilowatt counts!
Save energy.**

International Programs

Four staff members of the Korea Credit Guarantee Fund arrived in Atlanta May 21 to begin a four-week industrial extension training program conducted by the Office of International Programs. The course includes two weeks of lectures/discussions/workshops at IPO, a week observing the EES field offices, and three days with the U.S. Small Business Administration. **Dick Johnston** is in charge of the training program.

Ross Hammond was in Ghana May 26-June 14 in connection with the Agency for International Development Small Industry Grant and pyrolysis projects. He travels to Vancouver, British Columbia, June 21 to be a speaker and panelist at the American Society for Engineering Education (ASEE) 86th Annual Conference, speaking on "Appropriate Technology in Practice and Implications for Engineering."

Kathy Finkelstein, a graduate of the Emory Library School, has joined the IPO staff one-half time as a library assistant.

Margaret Textor toured Great Britain May 23-June 13 with her husband ("Tex"), daughter and son-in-law.

RAIL

Jim Metcalf was elected president of the Metro Atlanta Chapter of the American Meteorological Society for the 1978-79 year.

The Outstanding Military Citizen of Georgia Award was presented to **Dan Veatch**, RAIL/TDA, on May 16, 1978.

Fred Dyer and **Jeff Grover**, (RAIL/TDA), were in charge of the EES Microprocessor Short Course held May 16, 17 and 18.

Harold Hood started work in May as an Elecs. Tech. III. Harold is from Ohio.

Nancy Barron has transferred from OCA to RAIL and will be working as a secretary in **Harold Bassett's** Division.

Mary Ann Adams has started work as an Assistant Research Scientist. Mary Ann is from Georgia and has an MBIS in Formation Systems.

Welcome back to **J. Goldsmith** and **J. Levy** who are working in

RAIL again as student assistants; and to the new co-ops **Carol Smith** and **Aaron Collins**.

Randy Carrier has started work as an Assistant Research Scientist.

Station Begins Study for Cancer Institute

Can present treatments of cancer be improved by using microwave energy? There is evidence to support the belief that the use of electromagnetic energy either before, during, or after use with other cancer treatment methods such as chemotherapy and hard radiation enhances effectiveness of the treatments.

EES has recently received a two-year research grant for \$130,000 from the National Cancer Institute to measure the dielectric properties of normal and cancerous-type tissue. EES researchers will be working with radiologists and physiologists at the Emory School of Medicine on the project.

According to Project Director **Clif Burdette**, "Our research is an essential preliminary step that must be taken before doctors can make effective use of electromagnetic energy as a supplemental procedure in cancer treatments." Assuming that such energy enhances the possibility of destroying all of the cancerous tissue during treatment, one must know exactly how to apply the electromagnetic energy to the body. This depends on the interaction of the electromagnetic energy with the cancerous tissue which in turn depends on the electrical properties of the tissue. Our role will be in determining these properties, and one aspect will involve the differences in heat produced by the electromagnetic energy in the different types of tissue.

Burdette is also a principal investigator in a Georgia Tech EES biomedical project involving freezing and thawing of organs for transplantation purposes.

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EES Services

Tom Jones attended a meeting of the Interservice Committee on Technical Facilities at the University of Alabama, April 16-18. Tom also won first place honors for his collection of Civil War military buttons at the North Georgia Relic Hunters Semi-annual Show.

The Supply Services Department held a farewell party on April 14 for **Mary Hewett** to wish her success in her new role as a mother. She subsequently has had a boy, **David Michael**, born May 3rd.

The Service Groups have several new employees: **Charles Callaway** and **Thomas Mabry**, Machinists in Mechanical Services; **Loraine Jones**, Clerk in Supply Services; **Rachel Foster**, Report Typist in Reports & Procedures; and **Linda Wilkerson** who is working with petty cash and travel in Accounting. **Chip Wiggins** has also joined the R&P staff. One of the functions of his job will be to develop and implement employee indoctrination and professional recruiting programs.

SED News

Bob Zimmer, SED chief, attended a Congressional reception held by the National Association of Old Crows in Washington, D.C., on May 22. Bob is the president of the Peachtree Roost Association of Old Crows.

SED welcomes a new employee — **Dr. Richard Fuller**, research engineer. Richard will be working on simulation and analysis projects.

Phil Boyd is leaving EES on May 31 for a position with the Atlanta Regional Commission.

Dave Kelly — not **Dave Wilkins**, as reported last month — presented the paper entitled, "Cost Benefit Assessment of NASA Remote Sensing Technology Transferred to the State of Georgia" at the Southeastern Conference on Systems Theory in Atlanta.

Jim Wiltse (OOD) and **Glenn Riley** (EML) attended the National Infrared Information Symposium (IRIS) in Colorado Springs, May 9-11. Jim served as a member of the technical program committee and as a session chairman.

Procedures for Corporate Travel International (CTI)

The Georgia Tech Business Office is having problems with the system of charging airline tickets through CTI. CTI is required by regulation to pay the airlines every seven days. The Business Office also pays the travel agency every seven days, but can only pay them for those tickets for which a travel authorization is on file.

This system represents a real advantage to many EES travelers, but in order for it to function effectively, staff cooperation and assistance are necessary. Without them, we will lose the privilege of direct airline ticket charges.

When utilizing the services of CTI, it will be necessary to observe the following procedures:

Submit a travel authorization form to EES Accounting no later than the *same day* the ticket is ordered. The pre-printed number on the travel authorization form along with the account number to be charged should *both* be given to the travel agency.

If the ticket is being purchased through CTI, it is *essential* to indicate this fact on the travel authorization form. This notation should be entered *next to* the box which indicates that the travel will be by common carrier.

A travel authorization *must* be submitted if the ticket is purchased through CTI. This is necessary *even though* the traveler may have standing in-state travel authority.

All *unused* airline tickets should be returned to the campus Payroll Department through the courier service. *Do not* return tickets through the campus mail.

If a ticket is changed while you are in a travel status and a credit is due, inform the airlines to forward the credit to the issuing agent, CTI, or whoever obtained your ticket. If *you* have to pay the additional cost, claim that separately on your travel expense statement. The traveler's copy of the transaction should be returned to the Payroll Department.

When submitting the expense statement, the *cost* of the ticket purchased through CTI *should be shown* in parenthesis in the Common Carrier section, *but should not be included* in the total for reimbursement. A copy of the airline receipt *must* be submitted.

If situations not covered by this set of procedures arise, or if there appears to be problems in your dealings with the Business Office, please address your concerns and inquiries to our own Accounting Office rather than directly with the Business Office.

TDL News

Three new staff members recently joined the CMSD to form a coatings research team. **Charles Ray** and **Leslie Henton** joined the staff in May. **Frank Rideout** came on board in March. The three scientists have 70 years of combined experience in the paints and coatings field. **Dan O'Neil** reports that over one-half million dollars in sponsored research has been developed in the first six months of 1978 and that a doubling of this level is expected by the end of the year. Projects are being sponsored currently by the Federal Highway Administration, Georgia Department of Transportation, and the Transportation Research Board. Rideout has visited Washington, Maryland and Pennsylvania for discussions with the Navy. Ray and O'Neil recently visited the National Bureau of Standards, FHWA, and the General Services Administration to discuss future work.

Sharon Vann and **Debbie Israel** joined CMSD as division and group secretaries, respectively.

Gary Holmes recently joined CMSD as a mechanical technician, and is assisting in the installation of a new pilot plant facility.

Doris Willmer of the Economic Development Division, has resigned in order to take the position of Coordinator of Civil Engineering and Energy Services with Stevens and Wilkenson Architects, Engineers, Planners, Inc., of Atlanta.

Al Poulin recently resigned from CMSD to join an Atlanta company.

Jeff Tiller, recently of ASL, has transferred to the Economic Development Division as a research scientist.

Judi Komaki made a presentation on "Personnel Safety in Local Government" at the Public Works Management Seminar, May 25.

On May 1 and 2, **George Dodson**, of EDD attended the conference on "Energy, Architecture and Land Use Planning" given on the Georgia Tech campus. On May 3,

George attended a Tech Seminar on "Changes in Georgia Water Law."

Tom McGowan of EED conducted a Home Buyers Energy Conservation Seminar in Savannah on May 27, 28 and 29, at the Coastal Empire Home and Garden Show.

Grant Curtis of the IEED conducted a two-day seminar on "Improving Steam Boiler Operating Efficiency," May 23 and 24.

Dave Wade of EED has been elected to the Board of Governors of the Atlanta Chapter of the American Society of Heating, Refrigerating and Air Conditioning Engineers.

Research Aimed at Better Temporary Pavement Marking Systems

Research scientists of EES are working on development of new temporary pavement marking paint systems that are less expensive and safer than those presently used.

Maintenance and construction operations on all classes of highways frequently require temporary pavement markings to provide motorist guidance and safe traffic movement. When existing pavement marking materials, devices and techniques are used for this purpose, they are difficult to remove in a cost-effective manner without leaving scars on the pavement that may mislead the motorist. There is a continuing need for a temporary pavement marking system for all types of pavement surfaces under all environmental and traffic conditions.

Temporary marking systems are those either easily applied and easily removed or those easily applied and self-destructible under controlled conditions.

According to **Dan O'Neil** of TDL, who is the principal investigator, the objectives of the research are: to examine new paint formulations, primer materials, and related combinations that offer promise for development into workable temporary pavement marking systems. Efforts will also be made to analyze the feasibility of the marking concepts in comparison with existing practice.

Others working on the project are: **Charles Ray** and **Paul Howley**, also of TDL.

Personality

Station Humorist: Ben James

There's no one around like Ben James, chief of the EES Industrial Extension Division. Described as one of the most amusing personalities at the Station, Ben combines diligence with indulgence and proves that one can have fun while working hard, a definite preference to stuffiness. One could say he is a 20th century teller of parables as he uses stories to illustrate points, and he must know every funny story ever told.

Ben's ability to relate well to all kinds of people is an asset as he manages the EES area offices around the state as well as his division at C&S. His amazing catalogue-and-retrieval system — which is all in his head — allows him to be quick, humorous and appropriate, a gift attributed to, perhaps, a fantastic childhood and his father. "My dad was a traveling salesman who was known far and wide for his incredible storytelling," says Ben. "I was an only child, and my father, mother and I enjoyed "growing up" together. One might say that we were too poor to paint and too proud to whitewash."

In his hometown of Brunswick, Ga., Ben Edward James, Jr., tried to fulfill his dream of being a professional photographer. After studying fashion and commercial photography in New York, he established his own business. Disillusioned by the reality of being an artist in a merchant's world, Ben sold his equipment rather than sell out on his convictions. Taking pictures of expectant mothers, toddlers and puppies was not his cup of "kim chee."

Kim chee? An important part of Ben's world includes Korea — visits and friendships — and a garlic-cabbage food called kim chee, a favorite which he concocts with pleasure. The Korean morning greeting, "An-yong ha-sim-ni-gga," is not unusual in his office as he settles into the day's work, perhaps field office business or a final report on technology transfer . . . or financial matters. "He talks us out of money with greater facility than anyone I know," laughs Bill Borchert of GTRI. "We even have a Ben James Memorial



Ben James

Travel Subsidies Formula."

Humorists are said to have expansive personalities and abundant experiences, and so does Ben. The fact that he and his wife, Edi (an IRS examiner), have five children, all teenagers, is an expansive enough experience to keep anybody in one humour or another.

Ben also enjoys boating at Lake Lanier, collecting and rebuilding Corvairs and telling stories about his Navy days which include a Thursday night sea-story club in Brunswick . . . and his service on a destroyer escort in the North Atlantic and Mediterranean during the Korean War.

As Ben's division faces doubling in size, he continues to be a responsible leader who insists on keeping in close touch with each of his people. Described by co-workers as encouraging teamwork at all levels, Ben is also one who recognizes both the strengths and weaknesses of individuals and maximizes the strengths. An IED researcher recently commented, "When you deal with Ben James, you know you won't get thrown a curve."

Researchers Study Use of Coal

Our energy conservation planners are busy thinking in terms of using coal in homes and small businesses in order to reduce oil consumption. Tech researchers have recently completed studies on "Residential and Commercial Uses of Coal" for the Office of Technology Assessment of Congress. ASL's **John Goodrum, Steve Day and Jeff Tiller** and Project Director **Barbara**

Levi of the Physics Dept., have been active in the energy-related project which included: reviewing the past decline in use of coal by homes and businesses; surveying the current market and its potential for rejuvenation, assessing new technologies likely to have an impact on the use of coal in this sector; analyzing the economics of coal compared to other options and evaluating the probable impact of an increased use of coal, especially upon the environment.

EES Microprocessor Short Course

This year EES expanded its short course offering by adding microprocessor fundamentals to its list of topics. The "Introduction to Microprocessors" short course was offered during the period of May 16 through 18. Those EES employees attending were exposed to the many facets of microprocessors.

The Atlanta Chapter of the IEEE provided instructors who have conducted seminar sessions in the past. The course material was designed to provide employees with enough information to familiarize themselves with microprocessors and give them the necessary background to pursue their specific topics of interest at their own pace.

Wood Energy for Industry Topic of Seminar

An energy seminar was held at Tech on April 18, to discuss wood as an alternate energy source for Georgia industry.

Sponsored by the Georgia Forestry Commission and EES, the day-long seminar drew some 50 participants from business and government to hear industry representatives from around the country speak on various ways wood can be used to provide energy for industry.

Topics for discussion included: Georgia's wood supply; wood retrofit of coal fired boilers; installation of wood burning systems; and design, construction and startup of a textile mill wood fired steam plant.

Tech is currently studying the possibility of setting up a wood energy center headquartered at EES.