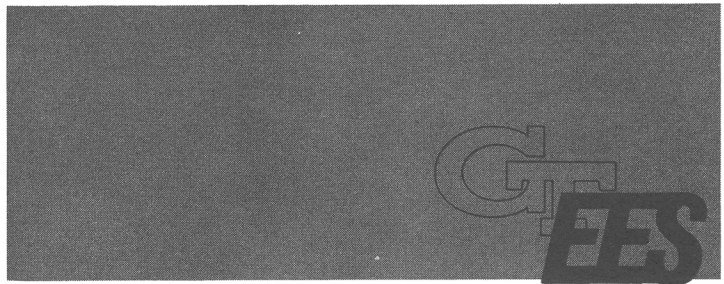


STATION NEWS

ENGINEERING EXPERIMENT STATION • GEORGIA TECH



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September, 1978, An EES Record

According to OCA information given to C. E. Smith, OOD, this federal fiscal year has prompted the largest funding of contracts during a one-month period in the history of EES. Unofficial September, 1978, figures include new funding in the amount of approximately \$8,375,000 affecting 77 projects. Forty-three new projects are being initiated. In addition, authorized/unfunded dollars for these same contracts may reach \$870,000 producing a total for the month of:

\$9,245,000

There's plenty of work for everyone!

Vice-President Joe Guthridge

Joe W. Guthridge, 57, vice-president of development and public relations at Georgia Tech, died September 25 in Atlanta of an apparent heart attack.

Guthridge, a native of Virginia, had been associated with Georgia Tech since 1958. He was director of placement from 1958 until 1960 when he was named assistant to the president, director of development and executive secretary of the Georgia Tech Foundation, Inc.

In 1965 Guthridge was named vice-president for development, and in 1971 was given the additional responsibility as vice president for development and public relations, the



The Cobb County Chapter of the Georgia Society of Professional Engineers recently let the Engineering Experiment Station know formally that the relocation of about 250 Tech engineers to the Lockheed Research Facility is most welcome. L. Andrew Withers, Jr., (second/left) president of the local chapter, is shown presenting a Certificate of Appreciation to EES Director Dr. Donald J. Grace (second/right), a certificate which states appreciation and acknowledgement of all that the engineers of Georgia Tech's EES have contributed to the State of Georgia. Also part of the ceremony were: John R. Ballentine, Robert M. Goodman, Jr., director of one laboratory now working at the Georgia Tech Research Facility at Cobb County and Georgia Tech's associate vice president for academic affairs William Lnenicka.

position he held until his death. In the new post, he had responsibility for the Institute's public relations, fund raising, alumni association and the student placement activities.

Prior to coming to Georgia Tech, Joe was associate director of student affairs at Virginia Polytechnical Institute and State University in

Blacksburg, Virginia. He was a graduate of Roanoke College, Salem, Virginia, where he received a bachelor's degree in physics.

Guthridge is survived by his wife, Evelyn Faw Guthridge, and by two children, Joseph Wiley Guthridge III and Amanda Faw Guthridge.

RAIL

New employees in RAIL include: **Jim Ussailis**, an RS, comes to RAIL from MIT, Lincoln Labs in Massachusetts. Jim received his degree from Univ. of Mass. **Norberto Ezquerra** is an RS, born in Cuba, who received his PhD from Florida State Univ. **Casey Lang**, an ARE, and a native Georgian received his degree from Georgia Tech.

Fred Dyer and **Nick Currie** traveled to Munich, Germany, on September 1 to present a paper at the AGARD meeting and then traveled to Malvern, England, Sept. 9-15 to attend a NATO meeting at RSRE. They became quite adept at bathing out of a wash basin since none of the hotels seemed to have baths in the rooms (apparently Europeans never get dirty). (Ed. Note: The tubs were down the hall.)

Lucien Bomar and **David Odom** traveled to MIRADCOM at Huntsville in September to conduct the "summer" phase of a millimeter measurements program (the winter phase was conducted in March and April).

Steve Brookshire came home in September — he has been on miscellaneous field operations since July.

Paper Making Industry Gets Energy Help From New Textile Process

The paper making industry, one of the nation's leading energy users and one of Georgia's largest employers, will be getting some energy conservation help from a process developed for another large energy consumer — the textile industry.

Working with funds from the U.S. Department of Energy, EES has begun an energy conservation project for the paper industry that will use a drying process developed to lower energy use for the textile industry. The process, which was developed by a Dutch firm, is being evaluated for the textile industry.

According to **James L. Clark** of TDL, both the textile and paper industries use similar processes for drying their products. Therefore, Clark says, the process studied by EES for the textile business should be able to work for the paper business.

Clark explains that the textile

process consists of a high pressure steam jet to remove water from cloth. The jet works by producing shock waves which vibrate the cloth fibers to remove water. The process will work for the paper industry by removing water from felt absorbers.

The paper industry is currently ranked number four in total energy consumed by U.S. industry and is number one in the United States for fuel oil consumption.

EES will be working on this project with the Packaging Corporation of America, the Technical Association of the Pulp and Paper Industry (TAPPI), and the Herty Foundation, a research facility for the pulp and paper industry.

EML News

Jim Schuchardt and **Jim Stratigos** were coauthors of an article entitled "Detected Noise Levels Guide Radiometer Design" in the September issue of *MicroWaves*. **Hank Rainwater's** "Radiometers: Electronic Eyes That 'See' Noise" also appeared in the same issue.

Joe Gagliano traveled to Seattle to support SEASAT underflights with the 94/183 GHz radiometer onboard the NASA Convair 990 during September. EML Personnel will support a series of flights in October/November aboard the same aircraft to gather data supporting NIMBUS-G satellite data flights. They will be traveling to Hawaii, Alaska, Greenland, Norway and Sweden.

Susan Wheeler was admitted to Piedmont Hospital on August 31 for eye surgery. The surgery was successful, and Susan is now back at work and doing fine.

J. W. Dees, **R. W. McMillan** and **J. C. Wiltse** (OOD) attended the AGARD (Advisory Group for Aerospace Research and Development — NATO) Millimeter Wave Conference in Munich, Germany, September 4-8. McMillan presented a paper entitled "Concepts and Techniques in the Utilization of Millimeter and Submillimeter Waves," coauthored with **J. H. Rainwater** and **J. J. Gallagher**. All three researchers visited the

University College in Cork, Ireland; **Dees** and **Wiltse** visited Standard Elektrik Lorenz (SEL) in Stuttgart, Germany; and **McMillan** visited the Max Planck Institute in Stuttgart and Solid State Physics Laboratory in Zurich.

From October 2 through October 13, the Electro-Optics Division of EML will be participating in optical and microwave propagation measurements at White Sands Missile Range. People traveling to White Sands are **Jim Gallagher**, **Bob McMillan**, **Wayne Penn**, **Robert Rogers**, **Doug Guillory** and **Bob Platt**. The field measurements will be a simulation of battle ground type conditions involving various rock firings along with detonation of explosive charges.

Electronics Technology Lab

Richard Moss and **Charles Wilson**, CTG, visited TVA during September to discuss a proposed new concept for consumer purchase and consumption of electrical power.

In connection with a new EES project to develop ground assembly aids for Army paratroops, **Hank Jenkins** (CTG) visited the U.S. Army NATICK R&D Command in Bos-

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ton, MA. A visit to Fort Bragg, N.C., is planned later to view actual exercises.

Charles Wilson recently visited the Sumter Electric Membership Corporation to assist in meeting their land mobile communications needs. Also discussed was their future plans for implementing a load management system within their service area of middle Georgia.

Hugh Denny, Bill Free, Don Clark and **Jimmy Woody** visited RADC in Syracuse for project planning and technical conferences.

James Harris, EMC, has left EES to pursue other interests.

IPO News

There's No Place Like Home

In case some reader is mistakenly envying IPO engineers their "glamorous" globetrotting, they have been bitten by bedbugs, startled by sniper fire, bathed in gin when water was unavailable, and attacked by typhoons, among a myriad of minor annoyances. Picture, for example, IPO director **Ross Hammond** on a recent trip to the Philippines, with trouser legs rolled up, rice paddy mud squishing up to his calves, pushing his car through floods caused by Typhoon Midang.

On "Black Saturday," as Ross terms it, he and **Clint Stone** set out early in the morning to inspect a large rice mill 120 kilometers north of Manila. Finding the main highway bridge washed out at Santa Rosa, and being leery of crossing a dangerously swollen river in a torrential downpour in the overloaded dugout canoes that were offered, they tried an alternate route that entailed being towed out of the mud.

The return trip was highlighted by being towed by a large tractor through a place where flood waters had washed away the road, fording a 500-foot stretch of road that was under water, spending four hours trying to start a drowned vehicle, pushing it ¼ mile, and hitching a ride back to Manila in a pickup truck. The ramblin' wrecks finally arrived back at their hotel at 10:30 p.m.

Oh, yes — one more thing! While traveling to the Philippines in the first place, their plane lost an engine over the Pacific, and they had

to land at Guam. They made it to Manila only 11 hours late.

All that's enough to make a guy swallow his lighted cigar!

IPO Water Pump Activities to Girdle Globe

Phil Potts and **Kermit Moh** will leave for Indonesia October 15 to kick off a new \$38,000 AID project to manufacture locally and install 45 AID hand water pumps. Other aspects will include preparation of well sites, disinfection of the wells, and monitoring of pump performance, as well as development of a detailed follow-up program for AID and the Indonesian Ministry of Health to choose the number of pumps to be installed over the next four to five years.

AID also has given IPO \$10,000 to publicize and promote the water pump program. The Nicaraguan foundry that manufactured the AID pumps used for the recent successful field test in that country will produce 34 pumps to be sent to AID Missions around the world. This is expected to lead to further contracts for rural pump programs in other countries.

While Potts was in Washington the last of September, AID officials stated that IPO probably would be awarded a two-year contract in the next 30 days to provide requesting AID Missions with rural water supply general technical assistance up to a maximum of \$350,000 a year. As a result, IPO is seeking qualified sanitary, civil, mechanical and industrial engineers with rural water supply system experience.

The AID officials also complimented Georgia Tech on OCA's effectiveness and cooperative attitude, commenting that problems encountered in contracting with Georgia Tech are minimal compared with similar educational institutions.

IPO People

Harlan Davis participated in a rural development seminar sponsored by the National Academy of Sciences in the Philippines during the September 12-15 period.

Clint Stone is serving on a Presidential Commission to put together a proposal to establish a Foundation for International Technological Cooperation for submission to the Office of Management and Budget and to Congress.

Nelson Wall will be overseas from October 19 to December 22 winding up the final year's activities in Ghana, the Philippines, Korea and Brazil under the five-year AID Small Industry Grant program.

Frank Malvar will be in the Philippines October 29-December 15 to supervise construction of a prototype pyrolysis unit under contract to UNIDO.



TDL Helps TVA

Bill Moran, Gopal Soora and **Bo Hendrix** of TDL's Industrial Energy Extension Service were in Nashville, Tenn., on Sept. 26 and 27 to teach TVA engineers a little something about energy conservation.

According to Moran, the TVA is instituting a similar service to the IEES and they needed some expert advice on how to get the program going. IEES is a program at TDL which has as its goal a reduction in the state's industries' energy use. TVA intends to help their own energy users with energy conservation.

Moran said that specific instruction was given to TVA on energy conservation for boiler house operations and in heat recovery systems, equipment and application.

TDL Chemist Receives SSCT Appointment. **Frank Rideout** of TDL was appointed Chairman of the Technical Advisory Committee for the Southern Society for Coatings Technology at the society's opening meeting in Atlanta last month. SSCT is the regional branch of the Federation of Societies of Coatings Technology.

It is the job of the Technical Advisory Committee to appoint chairmen of working subcommittees of current projects and to supervise work in the four local sections toward preparation of technical papers.

Rideout, who currently works for Dan O'Neil's CMSD as a Senior Research Scientist, has worked as a chemical marketing executive, a corrosion engineer and a performance coatings specialist.

A retirement luncheon for **Mildred Cole** was held at the C&S Building August 31 by employees of TDL. Mildred is retiring after 14 and one-half years with TDL.

Personality

Responsible and Responsive: Charles E. Smith

During the Depression, in the Texas Rio Grande Valley, Charles Edward Smith, age 15, found himself in the position of having to be independent. From that reality emerged a keen sense of the meaning of responsibility which has been a continuing theme in his life, including his 28 years with Georgia Tech's Engineering Experiment Station.

In his present accounting-oriented work in the OOD, Smitty (also known as "Charlie") is an assistant to the EES director in matters concerning control of all aspects of sponsor property, and he also provides assistance in other vital statistical services to EES. Smitty believes, "When I can relieve staff members of administrative detail so they have more time to work in their area of expertise, my hope is that, ultimately, mankind will be benefited — that the research would culminate in bettering human conditions and human interests."

In his work, Smitty is described as quiet and unassuming — as a "provider of the grease which keeps the EES machine going...as one who ties loose ends together and keeps project directors out of trouble in the legal recording of tangible hardware coming in and going out." "He certainly can make order and clarity out of confusion," one co-worker offered. Known for reliability, Smitty is systematic and accuracy-minded in the rigid world of numbers and facts. As a personality, however, he does not reflect computerization but rather a responsiveness to people — there's no bottom line judgment in his interactions with humankind.

Ranking people is also not his style since he is not a person aspiring to power, and, in fact, he admits, "Power confuses me. It seems to take away the value of the man." His basic philosophy is "to assume your responsibility and do a good job...and as much as possible live at peace with people." Billy Graham is admired by Smitty because of Graham's comprehensive and effective ministry, and Smitty adds, "I really respect any U.S. President because it is amazing that a man can cope with *that* level of responsibility for even one day!"

Although Smitty was born in the hills of Kentucky, he says that his life really began in Mobile, Alabama, where he met "Pinky," his wife of 35 years. That they met standing in line waiting to punch a time-clock is not surprising — and one of two rings Smitty wears has his initials in elegant script — "a most loving gift — Pinky has a corresponding one — from



C. E. Smith — Money Man!

our two children on our 20th wedding anniversary." Recently, the Smiths' third grandchild (but first boy) joined the family. Jeremy Shane was one-day-old when Smitty bounded over to the Tech bookstore to rev up his wardrobe with a micro-mini yellowjacket tee-shirt.

"My second family is of our church," says Smitty, who believes a church should be a living organism, not a civic organization. At the Calvary Baptist Church in Austell, he serves as a Deacon, teaches young adults in Sunday School and sings tenor in the choir. After retirement, he and Pinky want to be involved with a different kind of real service — perhaps with a Christian missionary group or with the Peace Corps.

Just as Smitty does not force his personality on anyone, so do his acts of service remain low-profile. A few years ago when Georgia Tech wanted volunteers to help non-educated staff members read and write in a literacy action program, Smitty worked with a custodian twice a week for two years. Sending a congratulatory note on a special occasion, picking up an extra Faculty Lounge doughnut for a hungry writer and exhibiting kind patience with training student assistants are not limelight-producing but certainly are character-illuminating examples of the way Smitty is.

Smitty enjoys maintaining his house and yard near Austell in South Cobb County, and he has a workshop there. Usually, he can be found at home — sometimes he goes fishing — and he really enjoys the theater. *The Man of La Mancha* especially interests him because of the state of social conditions and terrible political pressures under which Cervantes wrote. Both Smitty and his wife work so that neither one has to be pressured into living according to the demands of society. Keeping up with the Joneses is not at all important to the Smiths.

Smitty's route to Georgia Tech was

roundabout, starting with his friendship with Hayden Zimmerman back in Mobile. Zimmerman was later a professor of thermodynamics at Tech and was instrumental in Smitty's decision to join the Georgia Tech staff. "In 1951," he recalls, "there was no ERB, no Baker Building, no NRC." Area 2 was his first site of work at EES, work which involved a defense project in the chemical area. Swafford, Calhoun, Allen, Kinney and Kinard were all part of the team. Smitty then moved to Hinman in an electronics branch under Bill Wrigley (of the chewing gum family) and later worked in ERB under Dr. Bellingier. "If I move to Area 2 again, it will be full circle and I'll be out," he laughs in retrospect.

If all the information available on Charles Edward Smith were fed into a computer, the punch card would probably come out saying, "Has been around a good while and is still one of the good guys."

Radiometer for NASA Hurricane Experiments Designed by Georgia Tech

A multichannel millimeter wave radiometer, designed and built by Electromagnetics Laboratory, is being flown on NASA's Convair 990 aircraft in support of hurricane penetration flights. The radiometer, used to detect electromagnetic energy radiating from a storm, was installed on the Convair by EES research engineers **Joe Gagliano** and **Jim Stratigos**. The system was developed for NASA's Goddard Space Flight Center for use in collecting storm-related data. During any hurricane penetration mission, data is collected and is stored on tape for future analysis.

Gagliano and Stratigos will operate the EES radiometer onboard the aircraft during the hurricane penetration flights. Following the end of this program in October, the radiometer will be returned to Georgia Tech and modified for further, even higher, altitude flights in the summer of 1979 aboard NASA's modified B57 aircraft. The feasibility of using this type of instrument on geosynchronous (stationary) weather satellites to profile atmospheric water vapor will be demonstrated by the B57 flight program. Collecting such information onboard a satellite would be a valuable aid in the observation and prediction of severe storms.