

# Station News

Georgia Tech Engineering Experiment Station

VOLUME II NUMBER 7

APRIL, 1981

## Salary Increases Will Vary

Administrators are now working on salary increases due July 1. And EES Director **Don Grace** says employees will receive the news next month about their individual raises.

Like all departments at Georgia Tech, the Station is duty-bound to adhere to salary administration rules set forth by the Board of Regents of the University System of Georgia and our President's office. For FY 82, state and sponsored funds are available for each unit to work with a maximum 11% increase in its total payroll for both professional and classified employees. Unit managers, faced with a need to balance salary levels, must recommend increases below as well as above the 11% overall figure.

With some exceptions, all fulltime employees will receive a 5½% across-the-board salary increment consisting

of a 2½% position index increase and a 3% cost-of-living increase. The cost-of-living raise will not be given automatically to those employees with less than a year of service, those terminating in FY 82, or those considered to be fully compensated for their position or level of responsibility. However, employees in the last category will receive the 2½% position index increase or a \$500 increase, whichever is greater.

The additional 5½% budget increase available to each unit manager has been loosely designated for "merit increases." Unit managers must distribute this budget increase among all employees after considering each individual's current compensation, performance during the year and level of responsibility. These funds are also used to adjust salaries of classified per-



sonnel to bring them up to or within, their appropriate classification range. The same is true for professional researchers whose salary may have fallen below a level commensurate with their performance.

Although the overall salary increase must average no more than 11% throughout EES, individual raises may be above or below this percentage, within limits, depending upon the combination of factors that affect specific individuals.

Raises for classified personnel are administered under slightly different rules. For example, they cannot boost salaries beyond the brackets specified for a given classified position.

For part-time personnel and graduate students, a total budget increase of 9% is available for raises based on performance and other factors. Of the 9%, 3% is for cost-of-living raises and 6% is available for merit. Again, individual employees may receive more or less than a 9% salary increase, depending on specific circumstances.

"Every year we face difficult decisions in administering salaries," says Director Don Grace. "It is a complicated process during which outstanding employees as well as average performers are to be compensated within very finite budget constraints. We try every year to compensate all of our employees fairly," he added.

## Sheppard Heads Space Council



Dr. Albert P. Sheppard

A national association of 52 major universities which conduct space research has selected a Georgia Tech administrator as its 1981-82 chairman.

Tech Associate Vice President for Research **Albert P. Sheppard** will head the Council of Institutions for the Universities Space Research Association for one year.

The association coordinates space research programs at member universities in conjunction with the National Aeronautics and Space Administration (NASA). Major programs include operation of the Lunar Science Institute and the Institute for Computer Applications in Science and Engineering.

## ECSL Study Benefits TV Consumers

EES employees who experience poor reception when watching UHF-TV stations could be among many consumers to benefit from a study conducted by ECSL's Electromagnetic Compatibility Division.

Like many television viewers, you may want to buy special equipment to improve UHF reception in your home. But what components should you buy? Do you need a new antenna or transmission lines? Is the most expensive equipment necessarily the best?

To answer consumer questions like these, ECSL has assessed the quality of UHF receiving equipment which is commercially available today. During a nine month study for the Federal Communications Commission (FCC), the laboratory tested many different combinations of UHF antennas, preamplifiers, transmission lines and transmission line components. As a result of these tests, ECSL provided to the FCC a number of purchasing guidelines for consumers.

"In general terms, we learned that antennas designed for UHF reception perform better than products labeled for combination UHF-VHF use," says **William Free**, director of the ECSL project. "From an overall performance and cost standpoint, the 4-bay, bow-tie antenna with a screen reflector is best," he added.

The ECSL study concluded that television owners willing to buy special receiving equipment should look for products with the following specifications:

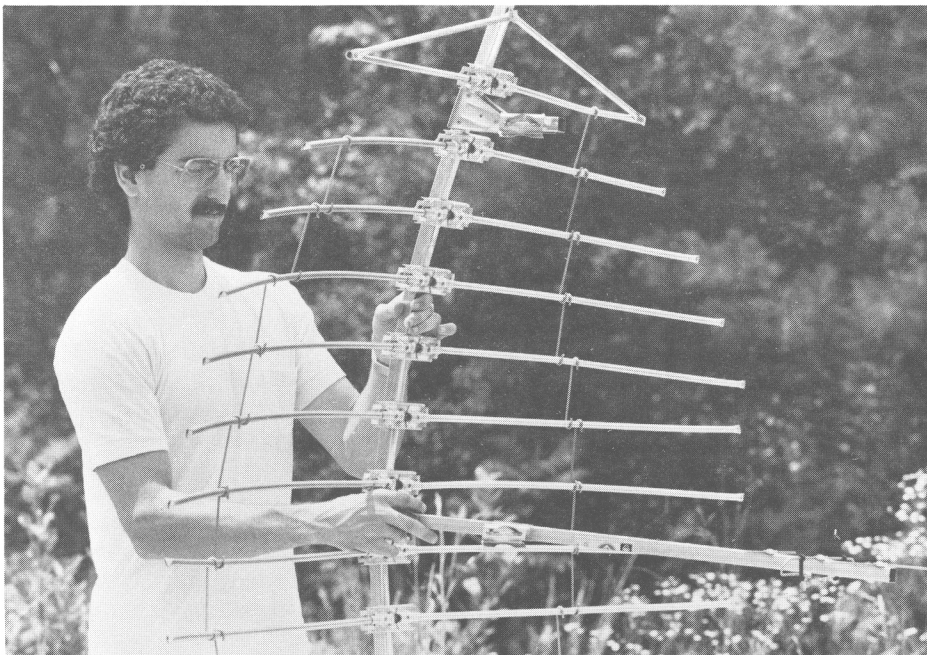
- UHF-only preamplifiers, mounted at the antenna, which provide approximately 20 decibels of gain with a noise figure in the range of two to five decibels.

- An input terminal at the preamplifier which matches the output terminal of the antenna.

- An RG-6/U type coaxial transmission line. Unshielded lines are susceptible to wetness, metal proximity and interference.

ECSL estimates that equipment with these ratings will cost approximately \$70 at current prices — \$10 for an antenna, \$45 for a preamplifier and \$15 for a transmission line.

A report to the FCC was compiled by the Electromagnetic Compatibility Division after the project. ECSL's guidelines may be distributed by the FCC to consumers at a later date.



Engineers like John Daher helped the FCC to evaluate the quality of a number of different kinds of UHF-TV reception equipment. As a result of ECSL's studies, guidelines now exist to help consumers in choosing equipment which will improve UHF television reception.

## Presentations

### ECONOMIC DEVELOPMENT LAB

During a five-week assignment in the Republic of Korea, **Jim Muller** worked with the Industrial Extension Division of the Korean Credit Guarantee Fund. **Lynn Tessner**, Industrial Extension Division, attended the U.S. Water Jet Symposium in Golden, Colorado in April.

**Judi Komaki** has presented papers on work motivation to the Summit Group in South Lake Tahoe, California, and to the Southeastern Industrial/Organizational Psychologists Conference in Atlanta.

### ELECTRONICS & COMPUTER SYSTEMS LAB

**Ron Seaman** coauthored an article published in the December issue of "Bioelectromagnetics." The paper was on "Microwave Irradiation and Instrumental Behavior in Rats: Unitized Irradiation and Behavioral Evaluation Facility." Seaman joined **Jim Toler** at a March conference of the U.S. Department of Agriculture in Philadelphia, Pennsylvania. Both men talked on "Electromagnetic Detection of Cultural Products in Travelers' Baggage." A recent issue of "Medical and Biological Engineering and Computing" carried an article by Toler and G.S. Smith. The article was on "Analysis of the Coupling of Electromagnetic Interference to Unipolar Cardiac Pacemakers."

**Cliff Burdette** is area/council president of IEEE's Region 3. In April, he attended the SOUTHEASTCON executive committee meeting in Huntsville, Alabama to update members on IEEE activities in Georgia.

### ELECTROMAGNETICS LAB

**Bill Livesay** conducted a seminar at Tech in April on "Hydrogen Energy Technology."

### ENERGY & MATERIALS SCIENCES LAB

**James Hubbard** will be a faculty advisor for an asbestos course given at Tech by the Department of Continuing Education on May 26-28, 1981.

**Steve Bomar** conducted a seminar at Tech in March on "Solar Thermal Research in EMSL."

**Jim Knight** of EMSL and **Chas Gorton**, School of Chemical Engineer-



## wards & Honors

ing, presented an invited paper at the national meeting of the American Chemical Society in Atlanta on April 2. The paper was on "Entrained Pyrolysis/Gasification of Biomass to Syngas." Knight and Gorton also attended the 12th Biomass Thermochemical Conversion Contractors' meeting, March 18-19 in Washington, D.C. They presented a report on "Thermochemical Conversion of Biomass to Syngas via the Georgia Tech Entrained Pyrolysis/Gasification Process."

**Bob Cassanova** and **Hans Spauschus** attended the Alcohol Fuels Contractors Review Meeting in Denver, Colorado last month. They also attended the Solar Thermal Energy Systems Research and Advanced Development Program Review Meeting in Oakland, California. **Steve Bomar** joined them at the California meeting on April 8-9.

### RADAR & INSTRUMENTATION LAB

**Robert Michelson** presented a paper on "Automated Remote Tracking of the Florida Manatee" in April at the EEE SOUTHEASTCON meeting in Huntsville, Alabama.

**Linda Leiker**, **Ross Gagliano** and **Duane Miller** attended the Human Factors in Information Systems Conference held in Atlanta on March 27-29 by the Association for Computing Machinery. Leiker chaired a session and presented papers on "Human Factors in Automated Air Traffic Control" and "Human Factors Relevant to Computer Users." Gagliano and Miller presented a paper on "Information Systems and Decision Processes: Some Fundamental Aspects."

Seven RAIL staffers are working in Molokai, Hawaii. Taking radar reflectivity measurements in Hawaii are: **George Ewell**, **Jerry Purvis**, **Gary Price**, **Dave Stallings**, **Walter Horne**, **Dave Odom** and **Brad Skelton**.

### SYSTEMS ENGINEERING LAB

**Kenneth Perry** delivered a paper to the ICASSP Conference in March on "Comparison of the Effects of Component Non-Idealities on the Performance of Analog and Digital LMS Adaptive Noise Cancellers." A paper authored by Perry also has been ac-

(Continued On Page 4)

## Basic Data Closes in May

EES' Basic Data Collection will be disbanded as a centralized research area as of May 15, 1981. Some of its resources, however, will be retained in various offices within EES.

"The collection has been an invaluable resource to the people of Georgia," says **David Clifton**, director of the Economic Development Laboratory under which the collection now resides. "EES' economic development goals have changed over the years, however, and we find that other organizations are now providing some of the information services handled by Basic Data," added Clifton.

"We cannot overemphasize the important role that **Mary Edna Anders** and the collection played in helping Georgia during its economic development drive in the 1960s," says Clifton.

Basic Data Director **Mary Edna Anders** is assuming a new position as an EES information specialist. She will be helping researchers with computer-based data searches and other research projects. Secretary **Nickie Whitehead** will be working in Tech's Admissions Office after May 15.



Bill Howard

## Howard Assumes New Position

Senior Research Scientist **Bill Howard** has been appointed by OOD to serve as Special Assistant for Staff Development.

In his new role, Howard will be involved in professional recruitment, evaluations, exit interviews and staff grievances. He will also provide administrative support for long-range staff development.

EES administrators with questions relating to staff development are encouraged to discuss them with Howard. His phone number in the Hinman Research Building is 894-3359.

## Radar Could Protect Miners

Researchers at EES and NASA have built a prototype radar sensor designed to make remote control of coal mining operations possible. Through remote control, this sensor could protect miners from black lung disease.

"The aim of the research is to remove miners from areas where coal dust is heavy and to do it without impairing the efficiency of mining," says **Dennis J. Kozakoff** of EML.

If used commercially, these radar sensing devices would be installed on mechanical shearers which remove sections of coal in mine shafts and transport them out of mines on conveyor belts. At present, human operators must walk beside these shearers to position the digger for proper cuts.

The radar unit would electronically measure the distance between the cutter and the ceiling of a shaft, making it possible for an operator to control the

equipment at a location hundreds of yards from the excavation site.

EML has built four prototypes, using radar developed by NASA at its Marshall Space Flight Center in Huntsville, Alabama. EML's engineers developed the unit's antenna and a special lens which focuses the radar beam on targets several feet from the apparatus. EML packaged the radar, antenna and lens into an explosion-proof box. EML is working as a subcontractor in the program to Foster-Miller Associates, a Massachusetts engineering firm which is handling mining tests of the radar for NASA.

No decision has been made yet to release the radar sensor design for commercial development. However, tests undertaken recently at the Marshall Space Flight Center were promising enough that EML has received a contract to build five new prototypes modified for improved performance.

# Laboratory Personnel Sign-On In April

## ECONOMIC DEVELOPMENT LAB

**Harris Johnson**, field engineer with the SW Area Office of EDL's Industrial Extension Division (IED), is now direc-



**Lydia Geeslin**, administrative secretary in SEL's Countermeasures Division, is a tutor in the Literacy Action Program in Cobb County. Lydia feels this volunteer program is extremely rewarding and encourages other EES employees to participate. To become a tutor, call the Literacy Action Reading Center in Cobb County (428-0175) or in Atlanta (659-2247).

## Presentations, Cont.

cepted for publication in the IEEE's "Transactions On Circuits, Systems and Devices." The paper is on "A Distributed-Mu Implementation of the LMS Adaptive Noise Cancellers."

### TECHNOLOGY APPLICATIONS LAB

**Rachel Moore** spoke at a seminar for plant engineers at Clemson University on March 25. Her topic was "A Coordinated Plant Energy Conservation Program."

In April, **Craig Wyvill** spoke on "Design Considerations in Abating Noise in Poultry Processing Plants" at NOISEXPO '81 in Chicago, Illinois.

**Larry Banta, Hank Jackson** and **Norris Garmon** presented papers on various energy conservation topics on March 31 at Gannon University's Third Annual Energy Seminar in Erie, Pennsylvania.

At DOE's Region IX Alcohol Fuels Workshop, **Bo Hendrix** presented a paper on "The Processing and Use of By-products of Ethanol Production." The workshop was held in Little Rock, Arkansas in late February. Hendrix also talked about TAL's energy research at the Athens Area Industrial Management meeting in Athens, Georgia on April 2.

tor of the Carrollton Area Office. **David Poss** has been promoted to director of the Augusta Area Office.

EDL's Occupational Safety and Health Consultation Program welcomes three new employees. **Anne Alexander** is now a senior secretary in the Atlanta office. **Randy Dalton** has joined the program office in Macon. **Mike Luster**, an employee of IED's office in Macon, has transferred to the safety and health program's on-campus headquarters.

Congratulations are due to Martha and **Dan Kemper**, EDL research engineer, on the April 10th birth of a new son, Randall Charles Kemper.

EDL bid farewell to three employees in March. **Tom Samford** of the West Georgia Area Office is now working with Brown Bovari Compuguard, Inc., on the new TVA headquarters in Chattanooga. **Bruce Eelman** has joined the Strategic Planning Department of Lockheed Aircraft. Staff Assistant **Elaine Storey** has left EDL to spend more time with her family.

### ELECTRONICS & COMPUTER SCIENCES LAB

Six new employees have joined ECSL's staff. **W. Bruce Warren**, formerly an EES employee, has moved back to Atlanta from Houston to serve as ECSL's assistant lab director.

Joining the Electromagnetics Compatibility Division are: **Timothy Shands**, research scientist I; **Joanne Benight**, administrative secretary, and **Sandy Yates**, Clerk I. Benight transferred to the division from EML. The Communications System Division welcomes **Jeffrey Aaron**, a research engineer I and recent graduate of Tech. **Deborah Reid** has joined the Command and Control Branch as a senior secretary.

### ENERGY & MATERIALS SCIENCES LAB

**Carlos Seminario**, an EMSL employee who recently received a Master's Degree in Computer Science, has resigned his position to accept a job in private industry. Congratulations to **Kathryn Logan** on becoming a Registered Professional Engineer.

### SERVICE GROUPS

The Supply Services Group welcomes **Damita Hester**, clerk typist II.

EES' Personnel Services Department accepted the resignations of three employees in March. **Chip Wiggins**, assistant department manager, is pursuing fulltime graduate studies. Administrative Specialist **David Lambert** has moved back to Jacksonville, Florida. **Vic Rockhill**, personnel assistant I, is working for a company in Douglasville, Georgia.

### SYSTEMS ENGINEERING LAB

**Linda LaNear**, senior secretary, has transferred from SEL to the Office of Contract Administration. SEL also said goodbye to **William Geary, Philip Bloom** and **Patrick Ryan** in March.

### SYSTEMS & TECHNIQUES LAB

Congratulations are extended to **Cindy Chappell** on her April 4th marriage to Mike King. The couple honeymooned in Panama City, Florida.

### TECHNOLOGY APPLICATIONS LAB

**Charles Healey** and **Tom Putman** have resigned their posts with the Energy Conservation Division. Healy is working for an engineering consulting firm in Atlanta. Putman has accepted a job with Ebasco Services.

**Peggy Luhrs**, senior secretary, and **Vicki Butt**, administrative secretary, have resigned from TAL's International Division. Peggy is now working with Chase Commercial Corporation. Vicki will soon be working at Emory University.

## Station News

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