

Station News

Georgia Tech Engineering Experiment Station

Volume 15 Number 2

September 1984



Shackelford Named Associate Director for Resources Labs

Robert G. Shackelford is the new EES associate director for the resources laboratories, effective September 1. He replaces Rudy Yobs, who retired June 30.

The selection of Shackelford was the culmination of a national search that produced nearly 200 applicants. "We are proud to announce Mr. Shackelford as an excellent choice from among a number of very well qualified external and internal candidates," said EES Director Donald Grace. "We look forward to working with a man of his proven leadership, sound judgment, and managerial abilities."

Shackelford has been the director of the Electromagnetics Lab (EML) for the past three years. In this capacity, he has directed programs in microelectronics, material sciences, atmospheric chemistry, and millimeter-wave propagation phenomena. Last December, he received EES's first annual award for outstanding performance in management.

A 25-year employee of EES, Shackelford demonstrated his management skills by organizing EML's Electro-Optics Group (now a division) in 1975. He became associate director of EML in 1977 and director in 1981. Dr. N. Walter Cox will be acting director of EML while a search is conducted for a new permanent director.

GTIMS Shifts into High Gear

The Georgia Tech Information Management System (GTIMS), a powerful, comprehensive computerized management tool for EES project directors, is now on line in most EES administrative units.

EES Director Donald Grace views GTIMS as a vital part of EES's commitment to a growing base of research projects. "We recognize that adequate support of project directors is essential to EES's continued success and that computerized planning tools are important components of that support," he said. Associate Directors Gerald Carey and Howard Dean have provided overall guidance and support in the development of GTIMS.

Every laboratory is using the time reporting module, and many are keeping track of management reports, accounting data, and other employee items through the system, thereby providing timely management data on such items as project costs. Of the service groups, Research Property Management, Personnel Services, and Supply Services are on line, with the other units soon to follow.

GTIMS is one of the tools used by the Georgia Tech Research Network. The Office of the Vice President for Research has provided each research unit with at least one IBM PC with which they can communicate with the VAX minicomputer in the Electronics Research Building. The VAX, in turn, communicates with the Tech CYBER, and will communicate with the Burroughs in the Office of Contract Administration when it comes on line. Addition of the new IBM 4361 minicomputer this fall will allow a significant increase in the number of individuals on the Research Network. Associate Vice President for Research Albert Sheppard expects to involve all research units, principal investigators, and project directors.

What GTIMS Can Do

"GTIMS can assist project directors during all phases of a project—at the pre-proposal, proposal, and after-award stages," said Fred Dyer, who has guided the development and implementation of the system since its inception. "It also provides support to all aspects of EES

research management. GTIMS won't replace the need for direct management involvement in a project. But it is a tool to make the manager's job easier, to help select those projects which need a closer look, and generally aid in the communications between manager and project director. For instance, the system will produce a list of projects likely to overrun, but early enough to allow adjustments to be made. I believe this feature alone will save us enough in overruns to pay for the cost of running the program."

How to Plug In

Dyer and Dr. Gerald Mackey, manager of the MiniComputer Service Facility, are available to make presentations explaining GTIMS to the senior staff of each laboratory. For assistance in using the system, contact the GTIMS Support Group (ext. 6200), located at 226 Hinman Building. Art Vandenberg heads the group, assisted by Wanda Fox and Rob Steele. The GTIMS Development Group, also in Hinman, consists of Dr. Jay Gowens (head), Ed Anderson, John Barkshadt, Jeanne Hall, Pat Mathiasmeier, and Lindsay Morris.

Training in the use of GTIMS is provided through the Software Training Facility (ext. 6206), since GTIMS is based directly on a number of popular commercial software packages that are included among the courses currently taught. GTIMS training also has been incorporated in the project director training offered under the staff development program headed by Dr. Neil Hilsen (ext. 4545).

Plummer Names News

Station News has a new name—*The GTRI Connector*—and the winner of the \$100 prize is Dave Plummer of the Systems Engineering Lab. Plummer says he coined the name "to reflect the concept of the publication being a mechanism for providing improved two-way communications." Thanks to all the contestants, who submitted a total of 109 entries. Watch for the inaugural issue of *The Connector* in October.

Professional Activities

ECONOMIC DEVELOPMENT LAB

Frank Brown is a member of the Community Advisory Council of the Correctional Facilities and Services Committee of the State Bar of Georgia and serves as an instructor in courses to help inmates learn what will be expected of them when they return to the world of work.

Art Brown was a panelist on "Strategies for Providing Technical Assistance to Women and Minorities in Business" at the National Association of Management Assistance Centers Conference on July 20 in Atlanta.

Marilyn Black was coauthor of a paper, "National Contributions to Acid Rain," delivered at the recent American Chemical Society National Meeting in Philadelphia.

An article by **Marty Melton**, "Emergency Preparedness Assures Minimal Damage to Personnel, Plant," appeared in the July/August issue of *Occupational Health and Safety*.

Bill Ewing, William Spain, and Rachel McCain presented the asbestos abatement course in Dallas, TX, in July to 66 attendees from 18 states. Spain also helped teach a course on "Safety and Health Program Assistance" in St. Petersburg, FL.

Larry Edens was graduated in August from the Economic Development Institute at the University of Oklahoma, while **Sherman Dudley, Bill Darley, and Phil Loveless** completed their second year of this three-year professional development program of the American Economic Development Council.

ELECTROMAGNETICS LAB

Papers recently presented by **John Gilmore** include: "Image Understanding through Artificial Intelligence Techniques," Conference on Infrared Physics, Zurich, Switzerland, July 27; "Automatic Route Planning in Autonomous Vehicles" and "A Survey of Air Targeting," International Conference on Pattern Recognition, Montreal, Canada, July 31; "Expert System Control of Autonomous Airborne Vehicles," Unmanned Vehicle Conference, Washington, DC, August 1; and "Artificial Intelligence in Automatic Target Recognizers" and "Target Analysis of the Third Kind: Airborne Vehicles," Society of Photo-optical Instrumentation Engineers (SPIE) Digital Image Processing Symposium, San Diego, CA, August 21.

Marshall Weathersby presented two papers at the SPIE 28th International Technical Symposium on Optics and Electro-optics in San Diego on August 23: "An Experiment Quantifying the Effect of Clutter on Target Detection," coauthored with **Dave Schmieder**, and "Infrared Flight Simulation Using Computer Generated Imagery," coauthored with former staffer **Mark Finlay**.

ELECTRONICS & COMPUTER SYSTEMS LAB

John Mills recently shared an award from NASA with Allan Pierce (Mechanical Engineering) and W. G. Hadden (Texas

A&M) for a brief, "Sound-Burst Generator for Measuring Coal Properties."

ENERGY & MATERIALS SCIENCES LAB

At the NASA Solar Dynamic Power Systems Workshop held in Houston, TX, August 1-3, **Tom Brown** gave a paper on "Concepts and Research and Development Needs for Concentrating Solar Thermal Power Systems in Space."

At the National Heat and Transfer Conference and Exhibition recently held at Niagara Falls, NY, **Paul Mackie** gave a paper on "In-Situ Emissivity Measurements with a Four-Wavelength Infrared Pyrometer," coauthored with **R. S. Zabor** and **W. S. Lewis**, and **Doug Neale** gave a paper on "Water Gas Production with a Solar Thermal Direct Flux Chemical Reactor," coauthored with **Bob Cassanova**.

OFFICE OF THE DIRECTOR

Jim Wiltse is the author of three new articles: "Millimeter-Wave Radar Features Unique Characteristics and Designs" appeared in the May issue of *Microwave Systems News*; "Millimeter-Wave Sensors Technology" was featured in the Summer issue of *Military Technology*; and "History of Millimeter and Submillimeter Waves" will be published in the September IEEE Centennial Special Issue of *IEEE Transactions on Microwave Theory and Techniques*. He also was a session chairman at the IEEE International Microwave Symposium in San Francisco in June.

RADAR & INSTRUMENTATION LAB

Nick Currie led the RAIL staff in August in presenting a short course on "Techniques of Radar Reflectivity Measurement" to 52 students. The text was a book by the same name, published in April by Artech House. Currie edited the book, which had the following coauthors: **Joe Bruder, Archie Corriher, George Howell, Bob Hayes** (retired), **Margaret Horst, Gene Knott, Maurice Long** (retired), **Jim Scheer, Bill Steinway** (former employee), **Bob Trebits, and Mike Tuley**.

SYSTEMS & TECHNIQUES LAB

At the IEEE Antennas and Propagation Society 1984 International Symposium in Boston during the week of June 24, **Alton Dunn** presented a paper entitled "Axial Ratio Measurement with a Variable-Polarization Reference Antenna," and **Larry Corey** gave a paper entitled "Modeling Triangularly Packed Array Antennas (Using a Hexagonal FFT)." **Don Bodnar** participated in the APS Administrative Committee meeting and chaired the IEEE Antenna Standards Committee.

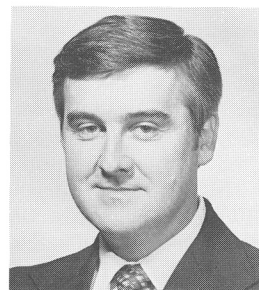
TECHNOLOGY APPLICATIONS LAB

Craig Wyvill presented a paper entitled "An Assessment of the Potential for Water Reuse in the U.S. Pulp and Paper Industry" at the Water Reuse Symposium III in San Diego on August 27.

Jim Walsh was invited to serve as one of three panel chairmen at a workshop on standards in biomass sponsored by the National Bureau of Standards on August 1-3 in Gaithersburg, MD.

EES to Develop New Solar Materials

One of the greatest problems holding back the application of passive solar technology to buildings is finding a practical means of storing solar energy for



Dan O'Neil

release when the sun stops shining, as at night. Methods currently used are costly and severely restrict building design and construction.

New materials being developed in a U.S. Department of Energy-funded project at EES could break through these design and cost barriers to widespread adoption of passive solar energy technology in buildings. The new materials are expected to result in much cheaper and more efficient passive solar heating systems than are possible with the bulky materials and structures commonly used today, such as brick, stone, masonry and water-filled units.

The Georgia Tech project will focus on two proprietary approaches, currently under patent review, for the storage of thermal energy in the comfort range of homes and buildings. According to Principal Investigator Daniel O'Neil of the Energy and Materials Sciences Lab, the advanced materials being developed at EES are composites of thermoplastics and ceramics. They are intended for structural applications such as walls, ceilings and tiles, as well as for thermal energy storage. The structural strength and dimensional integrity of the building materials will be retained during passive solar heating and cooling cycles.

On the basis of a cost-to-volume strength ratio comparison, Dr. O'Neil forecasts that the Tech-developed materials will show a 2-to-1 advantage over comparable conventional building materials, while providing a five to tenfold advantage in thermal energy storage capacity.

Phase One has been funded as a 12-month feasibility study, while Phase Two is expected to result in engineering development of about four designs. A demonstration phase also is projected which will involve commercialization of the designs with private sector participation.

The EES project is one of six contracts issued by DOE's Passive and Hybrid Solar Energy Division following a nationwide solicitation for new and innovative concepts in passive solar energy.

MINICOMPUTER NEWS

The VAX 11/780s at the Electronics Research Building and at the Cobb County Research Facility now have a 56 kilobit connection. This high-speed Digital Data Service line lets users work on a remote machine as easily as on a local machine, with effective throughput of 9600 baud whether local or remote.

This dataline presently is used with DECNET, Digital Equipment's networking for the VAX 11/780s. Users logged on their local VAX can use the SET HOST (node) command to log on the remote machine. This capability should be helpful in allowing users to switch to a lightly loaded VAX to do their work. File transfers are quickly done, so remote development can be used, but results still can be printed or delivered to local sites.

The Cobb County VAX, in particular, often has only a handful of users compared with the many on the ERB VAX. Establishing an account on both VAXes can allow for flexibility and balancing of computer usage.

In the future, this 56 kilobit line will be used to support the Ungermann-Bass implementation of Xerox Corporation's

ETHERNET. This will not only maintain the link between the ERB and CCRF VAXes, but also tie them into the campus-wide ETHERNET, making the VAXes easily accessible from many locations.

This new inter-VAX connection is an important link in our network. To discuss how it can be used in your group's program development and applications, call 894-3175 (ERB) or 424-0898 (CCRF).



ANITA EDWARDS

SEL awarded Lydia Geeslin a Master of Maternal Logistics and Linguistics degree at a retirement reception on August 23. Lydia retired August 31 after 21½ years at Georgia Tech, about half of them at EES. She had been an administrative secretary at SEL's Cobb County location since January 1979. Lydia and her husband are retiring to Florida.

Strictly Personal

ECONOMIC DEVELOPMENT LAB

Willie Coleman Duncan and Donna Fong-Taylor have resigned.

The Analytical Laboratory has two new chemists, Zhanna Geskin and Berta Shteynberg.

Industrial Extension Division: Eliot Price is a new research associate II in the Douglas office. Keith Nelms is a new research engineer I in the Atlanta office, transferring from TAL.

ELECTRONICS & COMPUTER SYSTEMS LAB

Barbara Call has been promoted to administrative secretary in the Command and Control Division. Joan Bunch and Tommy Thompson have resigned.

ENERGY & MATERIALS SCIENCES LAB

Welcome to Jerry Lett, research associate II, and belated welcomes to John Bearden, research engineer II, and Dave Henderson, research engineer I.

Dan O'Neil has transferred from the Technology Applications Lab.

RADAR & INSTRUMENTATION LAB

Faye Carpenter has transferred from SEL to work in the Instrumentation and Measurements Division.

SERVICE GROUPS

Accounting: Nancy Kelly lost her mother on August 9.

Facilities Management: Brenda King and Jerry Hill (EML) were married on August 11.

Personnel Services: Welcome to Diane Trimble, personnel assistant I. Debbie Coleman is transferring from the Office of Computing Services as an administrative assis-

tant. Kay Clark has resigned. Cynthia McCree has transferred to OOD as administrative secretary for the new Training and Staff Development Program. Chris Gaddis was married on August 4 to Tracy Smith (GIT Personnel).

Research Property Management: Sandra Alford has transferred from OCA as an administrative assistant.

Supply Services: Diane Kelly was married on August 5 to Mark Collins.

SYSTEMS & TECHNIQUES LAB

Constance Green has transferred from SEL to the Microwave Systems Division.

David Price has been promoted to research technologist I.

Tom Vincent has resigned.

SYSTEMS ENGINEERING LAB

New employees are Rod Beard, research engineer I, and Betty Mitchell, word processor operator.

Former GRAs Dennis Folds and John Scholz have received professional appointments as research scientist I and research engineer I, respectively.

SEL recently said good-bye to Adrienne Harrington, Bill Weatherford, William Allen, and Jon Gedymin.

Alexis and Steve Livesay had a daughter, Elizabeth, on July 18. Barbara and Mike Linebarger had a son, Thomas, on July 9.

Ron Strickland was married to Suzynne Beliam on August 20.

SEL has started a new outstanding employee monthly award program. Honorees for July were Robin Poole (Cobb County) and Neil Lareau (ERB).

TAL Training News

Training programs are an important component of the activities of the Technology Applications Lab (TAL). Here are some of the latest offerings:

The Federation of Arab Scientific Research Councils sent 11 administrative leaders of research departments and laboratories in 11 Arab countries to Georgia Tech July 23-August 3 to participate in a training program on Management of Research and Development and Information Centers. In addition to hearing lectures by 12 Georgia Tech research leaders and professors, they visited various industries, government agencies, and research institutes. Bob Kyle coordinated the program.

The Industrial Education Department (IED) hosted its 17th Annual Industrial Training Conference at Jekyll Island on August 13-16. More than 100 industrial trainers and human resources personnel heard 15 industrial leaders discuss such topics as ergonomics, quality control, interactive video in training, robots in industry, and employee motivation.

IED also recently conducted a three-day training program in modern techniques of supervision for more than 90 first-line supervisors at the Ford Motor Company auto assembly plant in Hapeville, Georgia.

Finally, the Technology Transfer Branch is assisting the U.S. Department of Energy, along with Battelle Pacific Northwest Laboratory, in conducting a High-Temperature Waste Heat Recovery Conference in Chicago on September 28.

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Vol. 15 No. 2 September 1984

Published monthly for employees of the Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Georgia. Georgia Tech is a unit of the University System of Georgia.

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