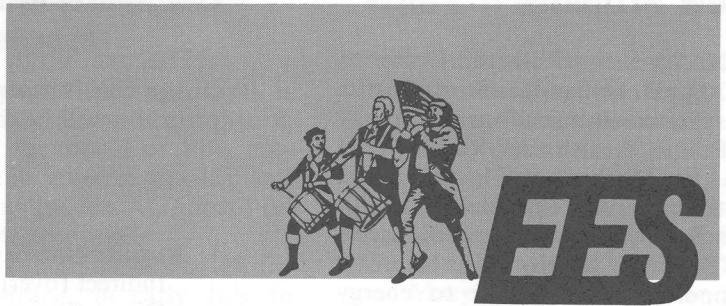


# STATION NEWS



ENGINEERING EXPERIMENT STATION • GEORGIA TECH

VOLUME 4 NUMBER 6

JULY, 1975

## Tech Shines in Solar Research

The EES is working with the Denver Division of Martin Marietta Aerospace on a project to produce a preliminary design of a ten-megawatt solar thermal power pilot plant for the Energy Research and Development Administration (ERDA).

The Station is a member of the Martin Marietta team which consists of Martin Marietta-Denver, Bechtel Corporation, Foster-Wheeler Energy Corporation and the Engineering Experiment Station.

ERDA has solicited industry for proposals for a design package which could lead to the operational testing within four or five years of a ten-megawatt electrical plant in the Southwest. Utilizing a central receiver concept, the plant is considered one of the most economical approaches to the production of electricity by means of solar thermal conversion.

Such a facility would have four basic subsystems: A field of solar radiation collectors, a radiation receiver-absorber and boiler, a thermal storage unit and a steam-to-electricity conversion cycle.

Work on the two-year project began in June, and the EES will be responsible for design of a Thermal Storage Subsystem whose purpose is to store a large quantity of heat while sunlight is available and release the heat for operation of turbogenerators after the sun goes down.

The research experiment will involve construction of a Thermal Storage pilot plant on the Tech campus to be followed by operation and testing experiments.

The EES is also working on another large solar energy development program with Martin Marietta involving construction and testing of a one-megawatt steam boiler which will be operational in 1976 at the CNRS Solar Furnace in France. The boiler is now being

built in Denver, and a full-scale test cavity and other parts are being produced in the EES Machine Shop. The test cavity will be used for heat flux measurements at the French Solar Furnace to verify design calculations.

The contract value of these EES research projects approaches \$1 million, and the program directors are Steve Bomar and J. D. Walton of EMTD.

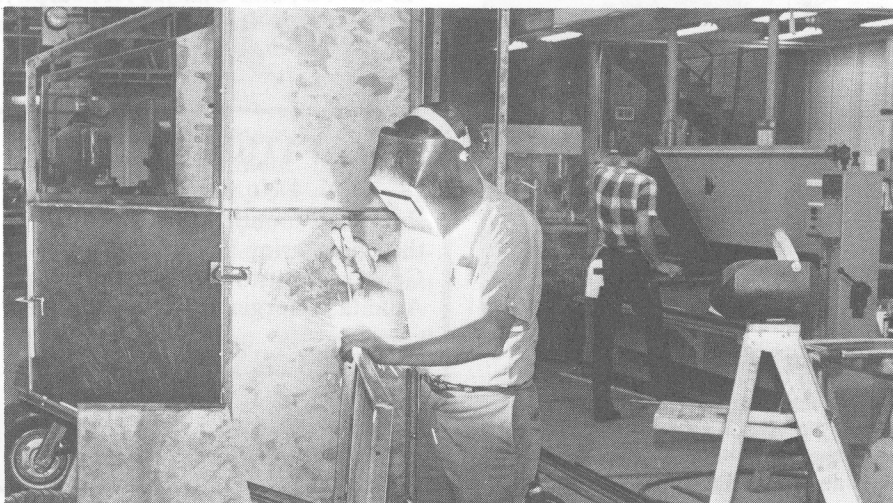
## Flower Fund

A flower fund serves a very useful purpose by providing a pool of money so that collections from staff members are not required in each case of death or illness; therefore, we are establishing an EES Flower Fund which will cover all personnel at EES.

The EES Flower Fund will be administered by the Office of Reports and Procedures and will be used for the purchase of flowers upon the death of a staff member or of any member of his immediate family, and the purchase of flowers for a staff member or spouse when ill and in the hospital.

Each department or administrative unit should appoint a person to be responsible for notifying the Reports and Procedures Office (extension 3445) of events that require action by the EES Flower Fund.

Donations to support the fund shall be entirely voluntary, but it is hoped that all staff members will want to participate. Contributions go to the Reports and Procedures Office, Room 113, Baker Building. Make checks payable to "EES Flower Fund."



The full-scale test cavity for the solar furnace steam boiler being fabricated in the EES Machine Shop.

## New Projects

NASA Lewis Research Center to RD (**L. D. Holland**) for cost benefits of space communications technology—Public Health Service to PSD (**P. E. Mackie**) for location and structural role of water in tooth enamel—GA State Energy Office to PSD (**G. R. Harrison**) for technical support and assistance to energy management and conservation programs—Columbia County Development Authority and Warren County and Warrenton to IDD (**R. L. Hughey**) each for economic development and technical assistance program—Naval Weapons Center to SSD (**H. P. Cotton**) for spares for radar trough scanner — Vitatron Medical B.V. and Intermedics to CD (**J. C. Toler**) for evaluation of pacemakers during exposure to electromagnetic environments and for determination of electromagnetic characteristics of implantable cardiac pacemakers—GA Forest Research Council to TSD (**J. L. Birchfield**) for improvements for gum naval stores industry—Monsanto to E&MTD (**B. R. Livesay**) for torsional mechanical characterization on fiber samples.

Welcome to Marie Harden, secretary for the Productivity/Technology Applications Group.



The operations of Blue Three waste converter are explained to Dr. Siroos Tamaddoni Jahromi, Head of the Forest Research Division of the Research Institute of Forests and Range, Ministry of Agriculture and Natural Resources, Iran. Explaining the wood waste pyrolysis process are, from left: Assistant Director Rudy Yobs, Head of the Technology Applications Group, Howard Dean, Dr. Tamaddoni and James Knight, TAG.

## Overhead & Fringe Benefit Rates for Calendar Year 1975

Effective July 1, 1975 Indirect (overhead) and Direct Charge (fringe benefit) rates used in conjunction with our sponsored programs will be modified as noted below:

	Rates Prior 6/30/75	Rates Effective 7/1/75
I Regular Non-Student Employees		
Indirect (overhead)	65.00%	62.00%
Direct Charge (fringe benefit)	8.77%	15.00%
	(retirement)	(retirement, social security, group hospitalization and life insurance)
TOTAL — (Non-Student)	73.77%	77.00%
II. Student Employees		
Total (Student)	65.00%	62.00%

(See T. E. Stelson memo of June 3 for additional details.)

## The Technology Applications Group Reassigned

Activities of the Productivity Program are being combined administratively with those of the Technology Applications Group. Effective July 1, the consolidated effort will be known as the Productivity/Technology Applications Group. Rudy Yobs will be head of the group in addition to his other assignments.

## Coats, Ties, Temperature

As an emergency conservation measure, the Physical Plant Dept. is raising central thermostats to mid-seventy degree range during the warm months. This may be less comfortable than some desire and individual discretion is encouraged in the wearing of coats and ties. — or halters and shorts?

## New Faces In ASD

James M. Akridge, transferred from SSD/S&TD to EMTD, Ralph F. Altman, Research Engineer is in EMTD, Dale W. Covington, Research Engineer, was previously with S&TD, Iris E. Mitchell, a secretary in EMTD, and Charles A. Murphy, is a Senior Research Engineer in EMTD.

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J. A. Donovan, Editor	3405
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## On the Road with the Communications Division

**D. W. Robertson, H. H. Jenkins, and R. W. Moss** visited the Army Foreign Science and Technology Center in Charlottesville, VA on June 17th to initiate Project A1747. Continuing their trip on June 18th, they visited the Training and Doctrine Command at Fort Monroe, VA.

**H. H. Jenkins and B. J. Wilson** were at Cape Kennedy during the week of June 23rd to continue airborne severe weather spheric data collection on Project A1716.

**R. W. Moss** of the Comm. Technology Group gave a special presentation to the Brazilian Ministry of Communications on June 5th and 6th in Syosset, NY, concerning design and development of a radio monitoring system.

**J. R. Walsh, CD, and R. G. Shackelford, ST,** visited several points on the West Coast during the week of June 23rd to collect design information for use on Project A1719.

**J. C. Toler** attended the "Electromagnetic Compatibility Symposium and Exhibition" in Montreux, Switzerland, May 20-22 and presented papers titled *Electromagnetic Environments in Major Medical Facilities and Energy Density: A Proposed Parameter For Assessing Performance of Demand Pacemakers*.

**F. Weijs and J. Schurmer** of Vitatron Medical Company, Derien, Holland visited the Electromagnetic Compatibility Group during the week of May 27, 1975. **B. Jenkins and D. Hobbs** evaluated the electromagnetic performance of 18 Vitatron pacemakers during this visit.

**J. C. Toler and J. A. Woody** traveled to Wright-Patterson AFB, OH and Naval Air Test Center, MD to discuss improved electromagnetic measurement techniques on June 19 and 25. They also participated in an Open Hearing on Pacemaker Interference From Anti-theft Devices in Washington on June 25.

**E. E. Donaldson** visited Naval Electronic Laboratory Center San Diego, California during the week of June 16 to discuss transient interference to shipboard radar systems.

## IDD Aids Foreign Counterparts

**Ken Stephens**, IDD and ISyE, is at Soong Jun University in Seoul, Korea, for the month of July, providing quality control training and assistance under the AID small industry grant program.

Four IDD staff members left for Tubarao, Brazil, in early July to assist another Georgia Tech counterpart, the Educational Foundation of Southern Santa Catarina. **Nelson Wall** is providing technical assistance, particularly with a proposal for establishment of a minerals laboratory at FESSC. **George Morelos** will assist FESSC with its program of management and technical assistance to small local industries, while **Edwina Udunka** will update the audiovisual documentation of these activities. She will prepare a videotape presentation to show the progress made in the small industry grant program since the first videotape documentary was made a year ago. **John Kaatz**, on a loan from the College of Industrial Management, will gather primary data for an economic analysis of small industry in the region.



## 1975 Annual Report

Production will soon begin on the published version of the *EES 1975 Annual Report*. All Divisions are encouraged to select their most interesting and representative photographs of research programs for possible use in the Report. Black and white prints, color prints or slides are acceptable. Submit to Jim Donovan at Publications Services. All photos will be returned to owners.

**Dr. Ray Hart** has published Chapter 5 entitled "Scanning Electron Spectrometric Microscopy" in *Principles and Techniques of Scanning Electron Microscopy*, Biological Applications, Vol. 4, 1975. The publisher is Van Nostrand Reinhold Company.

## Who's Where

With all the recent moves around the Baker Building, we thought you might appreciate a list of the current Who's Where.

In IDD, **Ben James, Nancy Mc-Han, Eric Berg** and **Lyn Tessner** are now in 339, A, B and C from 350, 351, 352 and 353. **Nelson Wall** and **Mary Camp** are in 351 and 352 from 325. **George Morelos** is in 353 from 349.

In ASD, **Jack Spurlock** and **Mary Ann Mayo** are in 325 from 275 and 276. **John Goodrum** is in 325 from 140A.

In TSD, **Pete Elston** is now in the Emerson Building. **Jim Donovan** and **Bonnee Wettlaufer** are in 275 and 276 from 223.

## New Office of Contract Administration

Effective 6 June 1975, the Office of Research Administration (ORA) was disestablished, and in its place a new organization, the Office of Contract Administration (OCA), has been established.

The new Office of Contract Administration has assumed all of the functions of the former ORA (including the GTRI relationship), is assuming responsibility for all other sponsored programs at Georgia Tech (grants and contracts), and in addition is working toward the expansion of service to all campus units.

## Professional Staff Development

**Bill Howard**, Chairman of the Professional Staff Development Committee, gave a report on the progress of the Committee at the EES Staff meeting on July 7.

He proposed a professional staff preliminary policy: "the EES shall have a Professional Staff Development Program, the purpose of which is to provide opportunities and incentives for members of the staff to develop their capabilities and interests to the fullest extent in ways which meet their own needs and desires as well as those of EES." There was an instructional film and discussion of the topic.

## PERSONALITY

### Irish Eyes

Mary Ann Clarke of Sensor Systems Division has bright eyes which twinkle and dance at the mention of Ireland. "My maiden name is Kavanaugh, which should explain my interest in Ireland. Lately, I've been reading Irish history and plays; and I'm hoping to travel to Ireland in the near future with my children. I'm only half joking when I say I would like to retire there some day. Dublin offers many cultural pleasures and the sea is nearby. I miss living near the ocean."

Mary Ann is a Savannah native who has lived in the Atlanta area since 1960. Although she was never able to fulfill her dream of being a stewardess ("I'm too short"), she gets to travel to Savannah to see her father, to Florida to see other relatives and to California to visit her sister. And since her home is in Marietta, she travels into Atlanta for the Symphony and Alliance Theatre performances.

Mary Ann is a former Lockheed employee. She left Lockheed to spend a "very interesting" year in the social service section of the Georgia Retardation Center working with parents of the retarded. She was secretary to the Travel Investment Representative in the State's Tourist Division for three years. Her section's duties there were to investigate and promote possibilities for first-rate tourist attractions in Georgia. Lion Country Safari was the major attraction added while she was working in the Division. Mary Ann joined Georgia Tech in the office of the Associate Dean of Engineering, and assumed her present position as secretary to Robert Goodman, Chief of the Sensor Systems Division, in May 1974.

"My job is interesting and challenging—interesting because of the people I work with and the variety of my assignments, and challenging in a sometimes frustrating way because of the very technical field we are in. Wherever I work, I like to get as involved as possible, to know as much as I can about the operation of the business, and that's pretty difficult to do in this field. Working for the State offers some real advantages; one in particular I enjoy is the freedom to take a day or two of vacation when I have the need—or just the urge.

"I call myself a realistic idealist. I care about people and about trying to make things a little better in this



Mary Ann and her touch of Ireland, a shamrock plant.

world. Although I did serve as secretary for the Cobb County Council on Human Relations, I feel I'm better acting on a one-to-one basis. I was active, too, in the Democratic Women's Organization of Cobb County, until I began working for the State."

Mary Ann carries her liberal feelings over to her children: Tony, 18; Lisa, 16; Michele, 14, and Therese, 13. "I have my own views and, without infringing on my children's freedom to make their own judgments—and make their own mistakes—I hope to pass on some of my values to them. Perhaps in that way each one will be inclined to make his own contribution. So far, we haven't experienced any of the 'terrible teen' years. I enjoy spending as much time as possible with the children. They are interesting individuals, and the years we'll be together as a family under one roof are getting short."

The leprechaun-size Mary Ann likes outdoor activities such as white-water rafting, sailing and swimming. For relaxation, she is taking piano lessons, practices transcendental meditation, and reads. "History and historical novels and psychology are most interesting to me. I can't claim any noteworthy talents; probably my best talents lie in listening—to people and to music, and appreciating—a work of art, a cool, bright autumn day, a good friend."

And spreading Irish sunshine.

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### Publications Office Moved

The Publications Services-Public Information office has moved from Room 223 to Room 275, down the hall in the Baker Building. Visitors with news items, gossip or good ideas are always welcome.

### IDD Personnel Attend Conferences

George Dodson presented the 1975 Certified City awards to seven Georgia municipalities at the Georgia Municipal Association (GMA) Annual Meeting in Savannah June 25. George administers the community evaluation and improvement program, sponsored by IDD, GMA and Georgia Power Co. Since the program began 11 years ago, 31 cities have been certified.

Phil Koos was in Cartagena, Colombia, June 21-27 attending a conference on surface bonding techniques for low-cost housing sponsored by the U.S. Agency for International Development, the Southwest Research Institute and the Instituto de Credito Territorial.

Bob Cassell gave a speech on "Industrial Planning and Development in Georgia" on June 26 at the Annual Meeting on the Southeastern Community Development Association in Williamsburg, Virginia.

Ross Hammond attended the World Congress on Engineering Education, sponsored by the American Society for Engineering Education, in Estes Park, Colorado, June 9-12.

Dick Johnston was an invited participant in a planning workshop dealing with information acquisition processing and dissemination held at the East-West Center in Honolulu, Hawaii, June 9-20. Sponsored by the Center's Technology and Development Institute, the workshop was held to facilitate information/document exchange among the universities involved in TDI's low-cost housing and regional adaptive technology networks in Asia and the Pacific.

Tze Chiang attended the 1975 International Mechanical Pulping Conference June 16-20 in San Francisco, sponsored by the Technical Association of the Pulp and Paper Industry (TAPPI). During a week's vacation following the conference, Tze and his wife toured Los Angeles, San Diego, Disneyland, Sea World and Yosemite Park.

Welcome to new IDD employees Ray Manoff and Marty Price. Both will be in the International Branch.