

STATION NEWS

ENGINEERING EXPERIMENT STATION • GEORGIA TECH



VOLUME 4 NUMBER 4

MAY, 1975

New Director of Contract Administration

A distinguished Navy man, Edward E. "Ren" Renfro III (Rear Admiral, USN, Ret.), recently came aboard to serve as the Director of Contract Administration. Dr. Tom Stelson, Vice President for Research, announced that "Mr." Renfro, as he now prefers to be titled, came to Tech following his April retirement from the U.S. Navy after 32 years of varied service in the Supply Corps, the business branch of the naval service.

Ren's last duty station was Washington, DC where he was Deputy Commander for Contracts, Naval Sea Systems Command. He was responsible for policy, procedures and all operational aspects of contracting for the approximately \$6 billion annual Navy acquisition program for nuclear and conventional ships, missiles and all ordnance, major hardware, electronics, software systems, ship overhauls and the research and development effort. He managed a staff of over 350 people.

He also managed 18 Supervisors of Shipbuilding and 6 Navy Procurement Field Offices. He had a hand in reorganizing Navy contracting and redirecting NAVSEA as the leader in government contracting and acquisition.

In 1970-71 he was Commander, Defense Contract Administration Service Region, Chicago. During the period 1966 to 1970 he was the Navy's principal operating official responsible for all material support of the Pacific Fleet and Pacific area naval activities. He helped develop the U.S. Naval Supply Depot, Subic Bay, Philippine Islands, into the



E. E. "Ren" Renfro

largest naval support activity in Southeast Asia.

Ren also earned his MBA from Harvard Business School in 1947, attended the Armed Forces Staff College in 1961 and the Naval War College, 1965. During 32 years of active service he arose from the rank of seaman to Rear Admiral and among other awards received three Legion of Merit medals.

Mr. Renfro and his wife Shirley are just settling in their new home at Cove Island Way in Marietta.

Welcome aboard, Ren.

Field Office Slide Show

R. L. Hughey and Kay Powell, Augusta Area Office, IDD, presented a slide show on Louisville, Ga. to the Department of Industry and Trade representatives in Atlanta on April 21. The slide program was developed by the Augusta office to promote industrial development in Louisville. They also presented the same slide show to 25 members of the Louisville Kiwanis Club on April 29.

EES Staff Testifies at Government Hearings

Energy conservation and new sources of energy were the topics of the hearings held by the Senate Committee on Government Operations (Chaired by Georgia Senator Sam Nunn) on April 16-18 in Washington, D.C. At these hearings representatives from EES discussed contributions of our research work to energy conservation and the development of solar energy. A panel consisting of **Howard Dean, Jack Spurlock** and **John Tatom** described current Engineering Experiment Station research work.

Energy Technical Workshops

A series of technical workshops on in-plant energy conservation and management have been held for local area industrial concerns during April in Columbus, Albany, Macon, Athens, Brunswick and Savannah, Ga. EES is conducting the technical workshops for technical personnel of industrial concerns and for other personnel who may be involved in assisting management in establishing and operating energy programs. The workshops are designed to assist firms in establishing programs to meet rising costs of energy and shortages brought on by the current world situation. The overall objective is to assist management of industrial concerns to analyze the situation with respect to energy cost and availability and to furnish assistance and guidance in establishing in-plant energy conservation and management programs where desired. Representing EES have been **Howard Dean, John Murphy, John Tatom, Max Munoz** and **Eleanor Hancock**.

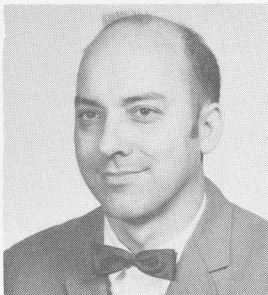
HONORED



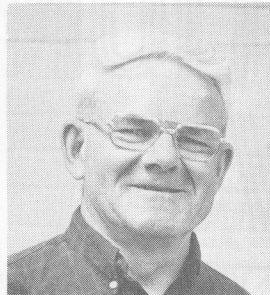
Ed Garrett



Barbara Allen



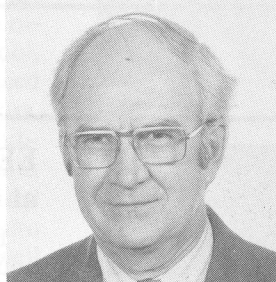
John Brown



John Coker



H. W. Huey



James Knight, Jr.



John Parker



New Projects

Marshall Space Flight Center to CD (**J. R. Walsh**) to define conceptual design of an on-board optical processor with components—Naval Air Systems Command to HTMD (**J. N. Harris**) for an investigation of reaction sintered nitride as a radome material—Environmental Protection Agency to TAG (**J. W. Tatom**) for development of a prototype system for pyrolysis of agricultural wastes into fuels and other products—Carpet and Rug Institute to TAG (**J. L. Birchfield**) for advantages of carpets in the conservation of energy—Sperry Rand to PSD (**N. W. Cox**) for fabrication of varactor diodes—Federal Aviation Administration to RD (**C. E. Ryan**) for consulting services—Naval Electronics Systems Command to RD (**J. J. Heckman**) for technical assessment of active devices.

Spurlock Chairs Study Group

The Bioenvironmental Systems Study Group sponsored by NASA Headquarters to provide technical management guidance on spacecraft life support systems development programs of NASA met in Atlanta, April 11-14. **Dr. J. M. Spurlock**, Energy & Materials Technology/ASD is Chairman of the study group.

Faculty Dinner

The annual Tech Faculty Dinner honors retiring faculty and staff, persons completing 25 years of service and outstanding teachers. This year's Dinner was held May 13 and honored several EES people. **Ed Garrett**, head of the Photo Lab, had his retirement acknowledged. The recipients of Gold T 25-year service pins were: **Barbara Allen**, Supply Services; **John L. Brown**, AIL; **John W. Coker** and **H. W. Huey**, Machine Shop; **James A. Knight, Jr.**, TAG, and **John F. Parker**, S&TD. Congratulations.



Cobb Site Complete

The Cobb County radar range is basically complete and ready for research activities. According to **Richard Moss** of Communications, the site will initially be used for the tornado tracking and warning instrumentation network. Other scheduled uses are for radio location and direction finding research and for a terminal point for propagation research communications link between the site and the campus. The range will also be applied to radar research to make measurements and calibrations for checking and testing concepts. Other applications are possible as different research needs arise.

At NASA Seminar

The interdisciplinary team working on the NASA/Lewis program, "Benefit Cost Methodology Study with Example Application to the Use of Wind Generators," gave a two day seminar (a final report presentation!) at NASA/Lewis on March 31-April 1. The team consists of **Bob Zimmer**, Project Director, **Bob Mason**, **Spurgeon Robinette**, **Peter Sassone (IM)**, **Jerry Justus (AE)**, and **Bill Schaffer (IM)**. The team has authored two papers, presented by **Bob Zimmer** and **Bob Mason** at the U. of Pittsburgh Modeling and Simulation Conference on April 25. The papers were entitled, "An Impact Analysis of a Micro Wind System" and "Macro Analysis of the Potential for Fuel Savings Using Wind Generators in a Utility Power Grid."

STATION NEWS

Vol. 4 No. 4 May, 1975
Published monthly for employees of the Engineering Experiment Station, Georgia Institute of Technology, Atlanta, Georgia 30332.

J. A. Donovan, Editor	3405
Bonnee Wettlaufer, Ass't Ed.	3405
Betty Yarborough, Assoc. Ed.	3445
Bettv Jaffe, Assoc. Ed.	3430
Ann Mintz, Assoc. Ed.	3516
M. A. Deadmore, Assoc. Ed.	3873
Albert H. Becker, Reproduction	3570

EES People on the Move



S. H. Bomar, HTMD, presented a paper at Southeastern Section of American Ceramic Society meeting in St. Petersburg, Fla. Mar. 20... **B. R. Livesay** and **E. J. Scheibner**, ASD, were in Las Vegas for Reliability Physics Symposium Mar. 31-Apr. 4... **T. F. Jones**, TSD, gathered ICSTF report data in Auburn Apr. 4... **R. A. Young** and **P. E. Mackie**, PSD, presented papers at the American Association of Dental Research Apr. 5-6 in New York... **J. L. Brown**, AIL, attended Scanning Electron Microscopy Symposium in St. Louis Apr. 7-11... **P. D. Koos** and **C. C. Wommack**, IDD, were in Clemson to attend Southern Conference on Applications of Solar Equipment Apr. 9-11... **G. W. Spann**, S&TD, presented an invited paper at the Remote Sensing Symposium in Hattiesburg, Miss. Apr. 9-12... **D. E. Wrege** and **C. G. Roby**, S&TD, attended the DECUS Symposium Apr. 14-18 in Miami... **J. W. Parker**, TAG, was in Syracuse for National Agricultural Waste Management Conference Apr. 15-18 and in New York Apr. 27-May 2 for American Society of Microbiology meeting... **H. H. Jenkins** and **B. J. Wilson**, CD, worked on tornado emissions experiments at Ft. Collins, Col. Apr. 17-25... **J. M. Spurlock**, ASD, participated in the Symposium on Catalytic Conversion of Coal at Mellon Institute, Pittsburgh Apr. 20-22... **S. W. Day**, PSD, was in Kansas City Apr. 20-23 for Environmental Design and Research Association conference... **H. A. Ecker**, **F. B. Dyer**, **N. T. Alexander**, **L. D. Holland** and **N. C. Currie**, S&TD, were in Washington Apr. 20-23 for IEEE Conference... **E. F. Greneker**, RD, attended Radar Meteorology conference in Houston Apr. 21-24... **R. B. Cassell**, IDD, participated in Industrial Park Seminar in Baton Rouge Apr. 22-23... **F. C. Apple** and **R. S.**

Kirkland, RO, participated in Student-Faculty Industry Conference at Callaway Gardens May 2-4... **W. C. Ward**, IDD, was in Boulder City, Nev. to observe pilot plant operations May 3-7... **N. W. Cox** and **C. T. Rucker**, PSD, attended IEEE Symposium May 11-15 in Palo Alto, Cal. ... **T. F. Craft**, NBSD, will be in Minneapolis June 8-13 for American Water Works Association conference...

Building Nears Completion

The new metal building in Area 2 is scheduled for completion on June 1. This new structure will add 8000 square feet of research labs and offices to the Station's existing facilities, according to Manager of Services **Tom Jones**. The space will be used primarily by the rapidly expanding Waste Utilization Lab. It has been under construction since September of 1974.



Governor Signs Productivity Resolution

On 18 April Governor Busbee signed a resolution passed by the 1975 General Assembly which designates EES as the Georgia Productivity Center. The resolution recognizes the importance of improved productivity for a stable, sound economy and the role of technology in efforts to increase productivity. It further recognizes the present EES Productivity Program and calls for its expansion.



Governor Busbee signs resolution passed by General Assembly designating EES as the Georgia Productivity Center.

Radar Division

Allen Ecker, Chief of the Radar Div. participated in the organization and operation of the first IEEE International Radar Conference which was held April 21 to April 23 at Stouffer's Inn in Arlington, Virginia. Dr. Ecker was a member of the Paper Selection Committee and served as a Session Chairman at the conference. Approximately 100 papers of the over 200 papers submitted for consideration were selected to be included in the conference.

Gene Greneker of the Radar Div. attended the Sixteenth Conference on Radar Meteorology which was held in Houston, Texas at the Shamrock Hilton Hotel from April 21 to April 24.

The May 4 issue of *The Atlanta Journal and Constitution* Magazine contained a five-page illustrated article about research being done in the Radar Div. on thawing of frozen organs by microwaves or electromagnetic radiation. **Allen Ecker** and **Cliff Burdette** were featured in the story.

Pat Burns, Radar Division and **Pete Rodrigue**, EE gave a talk to the Boston Chapter of IEEE Antennas and Propagation society, entitled "Near-Field Measurement Techniques for Phased Arrays," on April 9.

Award:

R. G. Shackelford and **J. R. Walsh** have received a cash award under NASA's New Technology Program for design and development of an Image Forming Light Modulator (Project A-1335). This innovation has been published as NASA Tech Brief No. B73-10182.

PERSONALITY

"Someone's Looking After Me"

Dr. Gordon R. Harrison feels very fortunate in his choices of college and professional careers. Fortunate enough, in fact, to feel as if "someone" were looking after his best interests. When he started college at an Arkansas teacher's school, a persuasive professor convinced him to be one of two physics majors. "Math was really my favorite subject, but I didn't want to be a math teacher. And the professor promised to train us so we could get into graduate school." Gordon felt well prepared for Vanderbilt's graduate school; even a little more competent because he had had opportunities to do special projects students from larger schools had not. When he arrived at Vanderbilt, he had no intention of getting his PhD, but was influenced by advisors and professors to stay on. "I was single and not firmly decided on what I wanted to do, so I stayed." That was also a wise decision because he met his future wife Barbara in a Nashville Sunday school class.

When Gordon received his PhD, he had the opportunity of going into nuclear propulsion research or solid state research. Again, "something" told him to choose the solid state research. This was in 1957 at the advent of the space age, and nuclear-powered aircraft research was competing with rocketry. The type of research he would have done has never been revived, and solid state research has become increasingly important.

Gordon went to work for Sperry Rand in Florida, researching microwave solid state components and materials for radar and military communications applications. "These perform signal generation, control and processing—the traffic control of microwave signals such as which way to go and how to detect them." Later, he moved into the microwave integrated circuit field, the printed version of transmission lines. This serves as a guide for miniaturized systems such as for spacecraft and aircraft where size and weight are of extreme importance.

In November, 1971, Gordon came to EES to head the Applied Sciences Department and to establish solid state research here. His interest now is in technical management which he feels is as challenging as technical research. "The



Gordon Harrison

challenge is to decide what you want to be successful and to balance activities in those terms. I'm able to participate in the preparation of technical proposals, the most exciting thing to me. It's the high point of technical administration. It gives you a chance to recycle yourself with the staff working in other fields and to define what others can do for you in the laboratory. But that's also a drawback. Because we work in so many technical fields, sometimes it's difficult for me to appreciate achievements or share the staff's enthusiasm. On the other hand, it is very satisfying and enjoyable to know that we can do research in such broad areas."

Outside activities for Gordon range from sports to church work. Barbara's degree in group work is a help to them in their position as youth coordinators for their church. He is also currently umpiring in a 10- to 18-year-old girls' softball league. "I don't have much trouble from the girls, but sometimes I do from their managers—all mothers." He also bowls very well and admits to playing golf infrequently enough for his game probably to be embarrassing. The Harrisons have four children, three of whom are teenagers. "Amanda, 4½, is the only one who still listens to us." Andy is 17; Melissa, 14½ and Lori, 13.

Gordon spends much time fixing things around the house, such as televisions and cars.

Gordon's goals are to make ASD a very strong, important and creditable research activity for the Station. He would like to see it become a bigger factor in the materials research area because the Station has excellent capabilities and facilities. These are composite materials, magnetic materials and semiconductor materials. Future areas would be lighter and stronger new materials with improved electrical properties and materials for energy in high temperatures or with energy storage capabilities.

He feels the future of EES depends upon improving total interaction, eliminating some of the barriers between operating units and putting teams together with the best capability of investigating the particular problem. He feels EES is well suited for new research areas such as energy. Although most of the individual researchers are discipline-oriented, there is a place for the multi-disciplined staff to address different research opportunities.

Gordon believes his decision to leave industry and come to EES was also wise. "The measure of a successful program here might be a good report that the customer is happy with, and the management of EES is happy with that output. In industry, management wants to see some product result to justify the cost of the program. One is more confined, and you accept the attitude of research support for profit's sake rather than for research's sake. Here we can concentrate on a broad range of study rather than be product-oriented with profit emphasis. That is not to criticize industry; most companies simply don't have the necessary financial resources to support long term research of our nature."

NEWS FROM IDD

Jerry Lewis, associate chief of IDD, is recovering at home after a recent major operation.

IDD staff members who recently completed the Office Procedures Course for Georgia Tech secretaries are Helen Blum, Mary Camp, Sheila Carson and Mildred Cole.

Sallie Daniell, R. L. Hughey and Ron Cornman of IDD attended the Basic Industrial Development Course which was held on the Tech campus April 13-18.

An article by Bob Cassell, IDD, entitled "Industrial Developers Need More Good Source Material," appeared in the March 1975 issue of Area Development magazine.

IDD held an International Development Seminar on April 8 where Dr. Loretta Fairchild of Cornell University presented a paper on "A Comparison of Foreign and Domestic Firms in Monterrey, Mexico — Performance and Sources of Technology."

Welcome to new employee James Lowry in TSD.

Condolences to Clarice Smith, ORA, on the death of her father.