

Station News

Georgia Tech Engineering Experiment Station

Volume 8

Number 6

September, 1979

EES Reorganizes

The reorganization of the Engineering Experiment Station on July 1 brought a number of changes in both structure and personnel.

EES Director Grace now has responsibility for 11 laboratories — six "electronics" labs and five "resource" labs. He is assisted by three associate directors: Howard Dean, Associate Director for Administrative Services; Jim Wiltse, Associate Director for the Electronics Laboratories; and Rudy Yobs, Associate Director for the Resource Laboratories.

A senior staff within the Director's Office is responsible for contract development and for laboratory and program coordination. The staff consists of Jack Spurlock, R.C. Johnson, Gordon Harrison, Dan O'Neil, Archie Corriher, and J.L. Birchfield. In addition, the Director's Office is assisted by an administrative staff consisting of Ryan Mura as Director of Human Resources, Bill Ward as Director of Services, and Ray Moore as Director of Research Public Relations.

Major Changes

The Computer Science and Technology Division of RAIL qualified for laboratory status. Edith Martin was named Laboratory Director.

The Systems Engineering Division was also elevated to lab status to conduct all of the Station's electronic defense system work, including that previously done by RAIL. Bob Zimmer is Laboratory Director. The transportation work formerly done by Systems Engineering Division was transferred to the Economic Development Laboratory.

The Solid State Sciences Division and closely related activities previously housed in the Applied Sciences Laboratory were transferred to the Electromagnetics Laboratory. J.W. Dees is the Director of the Laboratory.

The Chemical and Material Sciences Division of the Technology and Development Laboratory also qualified for laboratory status. Jack Spurlock is Acting Director for the lab.

An Energy Research Laboratory was formed consisting of current programs

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President Carter (second from left) listens attentively to presentations from energy experts during the special energy seminar held at the student center on August 30. Seated with the President are: (L-R) Charles Duncan, Secretary of Energy, President Carter, Frank Press, Director of the Office of Science and Technology Policy, Georgia Tech President Joe Pettit, and Stuart Eizenstat, Assistant to the President for Domestic Affairs and Policy.

Energy Experts Brief Carter at Tech

President Carter and top Administrative officials came to Georgia Tech on August 30 for a special energy seminar held at the student center.

The seminar was organized by Dr. Frank Press, the President's Science and Technology Advisor, and featured a series of briefings by national experts on emerging energy technologies, including a presentation by **Dr. Thomas Stelson**, Vice President for Research of Georgia Tech.

President Carter took an active role in the discussion and quizzed speakers on the developing energy technologies. Carter said that governmental backing of "cost effective" energy technologies is necessary. He said that development of these energy alternatives coupled with a stronger effort by the American people to conserve energy will help the nation reduce its dependency on foreign fuels.

National figures participating in the seminar and their topics were: Dr. Edward G. Jefferson, Senior Vice President of E.I. duPont de Nemours and Company, "Industrial Conservation;" Dr. Henry R. Linden, President of the Gas Research Institute, "Unconventional Gas;" Dr. Lawrence

Ybarrondo, Director of Water Reactor Research of E.G. and G. Idaho Incorporated, "Nuclear Safety;" Dr. Douglas Balcomb, Assistant Division Leader for Solar Programs at Los Alamos Scientific Laboratory, "Conservation and Passive Solar in Buildings;" Dr. Norman Hackerman, President of Rice University, "Enhanced Oil Recovery;" Dr. Lawrence E. Swabb, Jr., Vice President of Synthetic Fuels Research, "Coal Synthetics;" Dr. Thomas Stelson, Vice President of Research at Georgia Tech, "Biomass;" Dr. William Menard, Director of the U.S. Geological Survey, "Frontier Oil Regions;" Dr. W. Dale Compton, Vice President for Research of the Ford Motor Engineering Center, "Automotive Advances;" Dr. John V. Goldsmith, Vice President of the Solarex Corporation, "Photovoltaics."

Directly following the presentations Carter met with five mayors, including Atlanta's Mayor Maynard Jackson, representing the National Conference of Democratic Mayors. While Carter met with the city officials to discuss urban issues, Mrs. Carter, Georgia Tech's President Dr. Joe Pettit, Charles Duncan, the newly appointed U. S.

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Station to Station

As you know, the Station began the new fiscal year with a major reorganization. It was based on a study of several months, during which inputs were solicited from a quarter of EES and dozens of individuals were interviewed in depth. As a result, none of the existing units remained the same; some were reallocated, others were created. Now there are eleven laboratories, four new lab directors and two directorships still open. We also have six associate lab directors and two chief scientists, more than total of 22 divisions, 10 branches and 8 groups.

The EES Director's Office (OOD) underwent considerable revision as well. I have three associate directors and six senior staff members to strengthen laboratory interaction. Three new offices have been created in OOD — Director of Services, Director of Human Resources and Director of Research Public Relations.

So what have we accomplished? We have accommodated some immediate and pressing growth decisions and have come up with an organizational framework that will permit significant expansion. We have redefined major thrusts in an effort to reduce administrative competition and created some new entities for technical areas which need additional emphasis. We have added new opportunities for individual growth in management and technical positions.

As Director of EES, I sincerely solicit your communications and constructive criticism.

Don Grace

EES Reorganizes

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in solar research, biomass conversion, gasification technology and other alternate energy systems. Bob Cassanova is Laboratory Director.

A Technology Applications Laboratory was also formed with mission areas in energy conservation, technology transfer, mechanical process studies and rehabilitative engineering. Rich Combes is Acting Director.

An Economic Development Laboratory was formed consisting of the economic, productivity and community development work formerly done by the Technology and Development Laboratory, and the transportation work formerly in the Systems Engineering Division. David Clifton is Director of this Laboratory.

The Office of International Programs and the Industrial Extension Division merged to form the Engineering Extension Laboratory. Gerald F. Hein was appointed as the Director.



J. Reigh, General Dynamics, and Charlene Hayden, GTE Sylvania East, try out Ada, the new computer language, as Frank Belz, TRW, looks on during a hands-on session in the Baker Building.

New Computer Language Introduced at Tech

The computing community was introduced to the new computer language developed by Honeywell Bull of France for the Department of Defense (DoD) during a week-long course held at Georgia Tech this summer.

The new language has been chosen as the DoD standard programming language. It will be called "Ada," after Ada Augusta Byron, Countess of Lovelace (1815-1852), who is known as the first computer programmer for her pioneering work with the Babbage machine, the mechanical forerunner of today's computer.

Over 100 participants representing 65 organizations attended the conference which was organized by the Software Research Division of the Computer Science and Technology Laboratory. Georgia Tech participated actively in the review of several language designs submitted to DoD and is the only non-military installation in the U.S. where the course will be given.

Carter

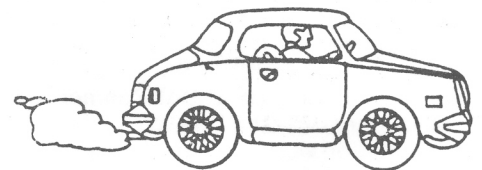
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Secretary of Energy, and the energy speakers toured Tech's energy research facilities.

Dr. Jack Spurlock, EES Senior Staff, **Dr. Bob Cassanova**, Director of the Energy Research Laboratory (ERL), and **Tom McGowan** were on hand to describe Tech's projects in solar and biomass energy at the high temperature solar test facility site.

Representatives from companies such as Sperry Systems Management, McDonnell Douglas Automation, and Hughes Aircraft Company, who design hardware for DoD, tested and evaluated the new language during the course. Their comments were sent directly to DoD to aid the process of refining and debugging the new language.

Ada promises to substantially change programming and communications for the better. Jean Ichbiah, of Honeywell Bull, commented, "Languages in use today — BASIC, COBOL, FORTRAN — were developed in the Sixties. Many new developments have been made and Ada incorporates those plus many new ones. Ada will be known for its reliability, readability and maintainability." Cost effective changes incorporated in Ada are expected to save DoD considerable computer costs annually.



Two's Company, Three's a Carpool

With gas prices still on the rise, car pooling makes more sense now than ever. Starting next month, Station News will feature a column with names of those who wish to start car pools to and from Georgia Tech. Send your name, route, telephone number, and any other pertinent information (smoking/non-smoking, type of car, etc.) to Elinor Plowden, 226 Hinman Building, and it will be included in the next issue.

Ray Young Receives Honorary Degree

Dr. Ray Young recently received an honorary doctoral degree from the Institut National Polytechnique de Toulouse. Professor Gerard Montel, President of the Institut, awarded Young the degree for his research in calcium phosphates and for facilitating international cooperation in this area.

Young, who is head of the Applied Physics Branch of the Electromagnetics Laboratory, began working with calcium phosphates at Tech in 1963. During the past 13 years, he has worked in collaboration with Montel's laboratory in Toulouse to study the characteristic properties of these phosphates. His studies deal with the crystallography of these materials, and utilize X ray and neutron diffraction techniques.

Young has helped characterize atomic scale mechanisms of calcium phosphates which may lead to a better understanding of how the body uses these substances to form bones and teeth. Improved dental care methods and biomedical materials for transplants are expected to result from the research.

Dr. Young was cited for his personal contributions to the study of calcium phosphates and for the friendship which he brought to the Institut and the people of Toulouse, Atlanta's sister city in France.

Young serves as Chairman of the USA National Committee of Crystallography, is a member of the governing board of the American Institute of Physics, is a fellow of the Institute of Physics (U. K.) and also of the American Physics Society. He is also Chairman of the Atlanta Sister Cities Committee which promotes goodwill between Atlanta and its foreign sister cities such as Toulouse.

Hein Joins EES

Dr. Gerald F. Hein has joined the EES staff as the director of the newly formed Engineering Extension Laboratory. He will be responsible for international programs and industrial extension projects.

Hein comes to Tech from the NASA Lewis Research Center in Cleveland, Ohio, where he was manager of the Solar Energy Market Development. Hein received a Ph.D. in Systems Engineering from the University of Toledo, and has an extensive background in energy related research applications.

GERALD F. HEIN →



Jerry Birchfield, EES (Right), explains the Georgia Tech pyrolysis concept to Senator Herman Talmadge (Center) as Tom Stelson, Vice President for Research (Left), and Bob Cassanova, Director, Energy Research Lab (Far Left), look on.

Talmadge Pushes Energy Legislation

U. S. Senator Herman Talmadge came to Georgia Tech in August to announce a major legislative push to develop agricultural energy and wood fuels.

During a news conference held on the steps of the Tech student center, Talmadge outlined a multi-point agricultural energy development program with emphasis on wood fuels, coupled with tax credit incentives for biomass energy production.

At a breakfast held prior to the conference, Jerry Birchfield of EES gave a brief update on Tech's wood energy research program for the Senator.

Talmadge is Chairman of the Agriculture, Nutrition, and Forestry

Committee, and Vice Chairman of the Finance Committee. He will be presenting an energy package to these committees during the current session of Congress to speed usage of abundant agricultural and wood resources in the U. S.

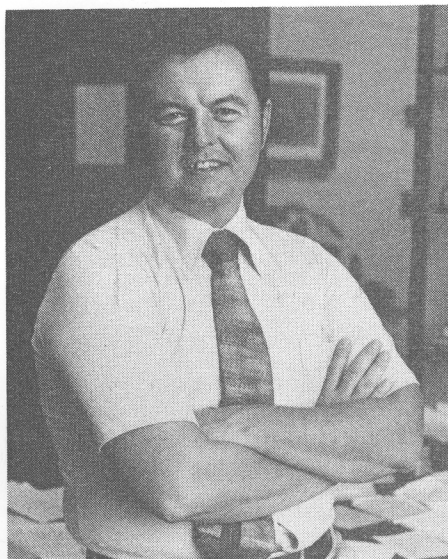
The Senator refers to Georgia's biomass resources as a "new cash crop" which will promote industrial expansion and rural development and create new jobs here in Georgia and across the nation.

Directly following the news conference, Talmadge toured Tech's solar furnace, solar agricultural collectors, and the Biomass Research Facility.

Free Energy Lecture Series

In an effort to assist the public in understanding the realities and myths of energy issues, Fernbank Science Center and Georgia Tech are co-sponsoring a seven-part lecture series presenting balanced energy information. *Future Power*, the series title, is a program of free public events.

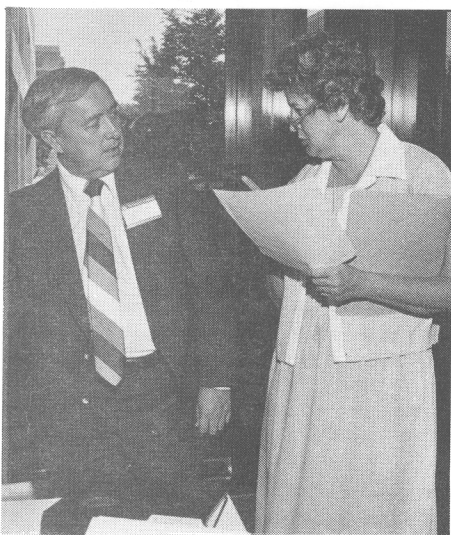
Future Power opens at the Blake R. Van Leer electrical engineering building auditorium on Wednesday, October 3rd at 7:30 pm and will continue for six weeks through November 14th. Mr. David Cohen, president of Common Cause, kicks off this series with "Energy as a Challenge to Democratic Governance." For more information, please contact Fernbank Science Center at 378-4311.



Awards/ Presentations

CSTL **Edith W. Martin** spoke on "Computer Architecture Standardization - Impact on Major Users" at the American Institute of Aeronautics and Astronautics Embedded Computer Resources Conference in Los Angeles.

EDL **Judi Komaki** was recently appointed to the Board of Editors of the *Journal of Applied Behavior Analysis*. She gave a presentation entitled, "Attainment of Intermediate Goals Using the Behavior Analysis Approach: Measurement and Improvement of Preventive Maintenance," at the Institute of Management Sciences, Honolulu, Hawaii.



Bill Howard (Far Left), EDL, recently gave a presentation to the Georgia Chapter of the American Society of Safety Engineers entitled, "Is Georgia Tech's Occupational Safety and Health Consultation Program Really Working?" Here Howard discusses the Tech Service with Dr. Eula Bingham (Center), assistant secretary of Labor for occupational safety and health, in Washington, D.C.

EML **Jim Gallagher** was cited by the Army recently as a source of expertise in near-millimeter wave technology. Gallagher assisted the Army Electronic Research and Development Command in establishing an Army-wide near-millimeter wave program. Major General Charles D. Daniel, Jr. stated that Gallagher's "strong technical support, professional cooperation, and personal commitment" to the program has brought the Army closer to achieving their goal of an all-weather tactical operations capability. Gallagher also presented a paper, "Military Systems Applications at Near Millimeter Wave Lengths," at the Infrared Instrumentation Systems Meeting held in San Diego, California, in May.

ETL **Bob Rice** visited the Federal Communications Commission in Washington, D. C. for a project presentation.

Fred Cain, Cliff Burdette, and Joe Seals were notified by Dr. Morthland of the Army Research Office (ARO) that their project "In-Vivo Determination of Energy Absorption in Biological Tissue" (A-1755) was selected as the best research program supported by the Biological and Chemical Sciences Division of ARO over the past three years. The project performance period was from July 1975 through December 1978.

RAIL The Electronics Warfare Open Loop Simulator (EWOLS) Mobility System and Integration effort was successfully completed and accepted this summer. **John Barkshadt** was project director, and on-site task leader was **Bob Newsom**, assisted by **Ken Trussell** and **Tony Morris**.

SEL **Fred Dyer** was elected as Head of the Computer Advisory Board for Fiscal Year 1980. Fred was also elected to serve on the Executive Committee for Computer Services. Dyer recently attended the Institute of Electrical and Electronic Engineers Antenna and Propagation Society Symposium held in Seattle, Washington.

STL **Gene Weaver** attended the 1979 International Institute of Electrical and Electronic Engineers/Antennas & Propagation Society Symposium at Seattle, Washington to present a paper co-authored with **C. E. Ryan** and entitled "Open Mast Scattering Investigation."

New Contracts

CMSL Quantitative Analysis of Metallurgical Specimens, **J. L. Brown**, George C. Marshall Space Flight Center, \$9,969.

CSTL ADA Language Research Synthesis and Test and Evaluation, **Stephen N. Cole**, U. S. Army Research Office, \$149,172. ADA Test Translator Laboratory, **Stephen N. Cole**, Defense Supply Service - Washington, \$5,600.

EDL Resource Handbook on Appropriate Technology in the Southeast, **J. S. Tiller**, National Science Foundation, \$4,000.

EEL Solar Energy Training Program, **R. Johnston**, Agency for International Development, \$6,150. Foreign Labor and Capital Costs for the Manufacture of Balance of System Components, **J. E. Jacobson**, NASA/Lewis Research Center, \$23,482.

ERL TVA Wood Stove Inspector Training Seminar, **Carol Aton**, Tennessee Valley Authority, \$16,132. Energy Analysis & Diagnostic Center, **G. B. Curtis**, University City Science Center, \$79,099.

ETL Biotechnology Program, **J. C. Toler**, Southeastern Center for Electrical Engineering Education, Inc. (SCEEE), \$43,114. Passive Modulated Expendable (PME) Optimization, **J. J. Wang**, AFSC Aeronautical Systems Division, \$231,374.

TAL Energy Conservation in the Textile Industry — Part III of Phase III, **W. W. Carr**, U. S. Department of Energy, \$87,692.

Personnel Announcements

CSTL **John F. Passafiume** has joined EES as Associate Laboratory Director. Passafiume came to Tech after retiring from the Army as a Colonel.

EML **J. M. Newton** was promoted recently to Senior Research Engineer. **J. H. Rainwater** and **R. C. Rogers** were promoted to Research Engineer II.

ETL **Thomas M. Pearson**, Research Engineer I, is working with **Chuck Ryan** in the Electromagnetic Effectiveness Division. Pearson recently received a BSEE from Auburn University.

RAIL **Scott Faulkner** began working at the end of June as a Research Engineer I. He has an MS in Nuclear Engineering and Electrical Engineering from Georgia Tech.

STL **David A. Keith** of STL transferred to the Industrial Extension Division. He will be working in the Northwest Georgia Area Office in Rome, Georgia, but will continue to work with STL on a part-time basis for several months while completing his current assignments.

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