

# Station News

Georgia Tech Engineering Experiment Station

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## ATDC Gets Underway With December Meeting

A kick-off ceremony for the establishment of an Advanced Technology Development Center (ATDC) on the Georgia Tech campus will be held on December 17th in the Garden Room across from the State Capitol.

Governor **George Busbee**, the prime mover behind the ATDC, will be on hand to talk about the center and its importance to Georgia's economy. A cross section of Georgia dignitaries and chief executive officers of high technology companies are expected to attend.

A study team from Georgia Tech and EES has been working with the governor for several years on the establishment of the ATDC. The center will serve as a catalyst for stimulating a strong high technology industrial base in Georgia. As envisioned by its planners, the ATDC will be housed in a three-story, 90,000 square foot building on the 10th Street side of the Georgia Tech campus.

To help stimulate a high technology industry in the state, the ATDC will provide low-cost work space for fledgling companies. Georgia Tech will:

- Make available its technical resources to foster entrepreneurial high technology development.



Governor George Busbee talks to the press about the Advanced Technology Development Center.



This rendering shows what the Advanced Technology Development Center may look like when built on 10th Street near the Georgia Tech campus.

- Undertake an active campaign in cooperation with other groups to recruit to Georgia domestic and foreign firms which deal in advanced technologies.

- Assist existing Georgia industries in expanding into high technology product lines.

- Educate students, businessmen and financiers in high technology venture development and management.

EES will play an especially active role in the educational programs of the ATDC. Beginning this month, seminars will be hosted by EES' Area Offices at locations throughout the state. The seminars will encourage entrepreneurs and existing businesses to participate in the ATDC.

Through these and other efforts, the ATDC will benefit Georgia in much the same way that Silicon Valley has benefited California. Since the 1930's, more than 800 advanced technology companies employing more than 70,000 people have sprung up in Silicon Valley. Many of these companies owe their successes to technical assistance provided by the

faculty and staff of nearby Stanford University. The relationship between Georgia Tech and the ATDC has been planned so that similar development can occur in Georgia.

The ATDC is well underway. Funds have been appropriated by the State Legislature for the initial stages of its development. Several venture capital conferences have been held and an active industrial recruitment campaign is about to begin.

Several staff members from EES have assumed key roles in the planning and development of the ATDC. TAL Director **Jerry Birchfield** is acting director of the center. **Rudy Yobs**, EES associate director/resources laboratories, and EDL Director **David Clifton** are serving on the Internal Steering Committee. EES' Area Office Directors will also be involved in the project when the state-wide industrial recruitment and education campaign begins this month.

A project of tremendous importance to Georgia and Georgia Tech, the ATDC is anticipated to boost the state's economy by \$1.7 billion annually by the year 2000.

# Busbee Dedicates Gasifier Built With Help of Station Engineers

Engineers from EES' Wood Energy Systems Division experienced a proud moment on October 24th when Governor George Busbee unveiled a gasifier which they had helped to create for a hospital in Rome, Georgia.

During the dedication ceremony at the Northwest Georgia Regional Hospital, Busbee proclaimed that, "If widely adopted, this system has the potential to supply up to 10 percent of the state's annual energy needs, excluding transportation and utilities."

Believed to be the largest of its kind in the country, the gasifier will supply 80 percent of the hospital's heating and cooling needs. It converts green wood chips into a combustible gas which powers the hospital's steam boilers. The 25-foot-tall gasifier, which cost \$400,000 to plan and build, is expected to save the hospital \$250,000 a year in energy costs.

The hospital's gasification system was created through the cooperative efforts of EES' Wood Energy Systems Division, the Georgia Forestry Commission and the Applied Engineering Company of Orangeburg, South Carolina.

Members of EES' Wood Energy Systems Division served as consulting engineers for the project. Division Head **Bill Bulpitt** and members of his staff wrote the specifications for the gasifier, supervised the selection of the

construction vendor, and worked with the vendor in solving design problems. They also designed the gasifier's wood handling and receiving system, and part of the equipment's instrumentation. An extensive undertaking, the gasifier has been a primary project of the Wood Energy Systems Division for the past two years.

**Built with EES' help, the 25-foot-tall gasifier will supply 80 percent of the hospital's heating and cooling needs.**



Governor George Busbee (center) greets visitors on his way to the podium during the gasifier dedication ceremonies in Rome, Georgia.

## Yuletide Celebration Planned For Employees

All Station employees are invited to attend a special Christmas party at the O'Keefe School on Friday, December 19, from 2:00 to 4:30 PM. The party will be held in the cafeteria of the school located off Fowler between 6th and 7th Streets on campus.

This annual Station-wide holiday celebration promises to be a festive affair marking the official beginning of the Christmas holidays. Hosted by the Research Public Relations Office, the party offers an excellent opportunity to renew old acquaintances and share a memorable event with coworkers. Punch, hors d'oeuvres and other delectables will be served.

A highlight of the party will be the traditional presentation of the ABOU

Award, a trophy crowned by a facsimile of an Arab's head. The ABOU is said to have the power to protect its owner from adversity. It is annually given to the staff member who has experienced the "greatest degree of suffering" while promoting the research interests of Georgia Tech.

Beginning at 5:00 PM on the same day, Station personnel will be on official holiday leave through December 26th. Offices will be reopened on December 29-31, then closed again on January 1 and 2, 1981.

Make your plans now to attend the festive holiday kick-off. See you at the party!





Attending the Artech book presentation at the library are, from left: Stephen Johnston, editor and Tech alumnus; Frederick Dyer, chief scientist, Systems Engineering Lab, EES; Mark Walsh, editor, Artech House; Walter Bloom, associate vice president, academic affairs, Georgia Tech; Graham Roberts, director of libraries, Georgia Tech; James Wiltse, EES associate director/electronics laboratories; and Ed Reedy, director, Radar and Instrumentation Laboratory, EES.

## Artech Donates Radar Books

A publishing house and a Tech alumnus set an example in November which, if followed by others, could result in more gifts of technical books to the Price Gilbert Library.

On November 7, through the efforts of alumnus **Stephen L. Johnston**, Artech House, Inc., donated 23 books on radar to the library. Johnston, who had edited two of the books, originally suggested that copies of his works be given to the library. Artech House editor **Mark Walsh** expanded the idea by donating 21 additional publications.

## Electronics Experts Present CE Courses

Engineers from EES' electronics laboratories will be presenting three continuing education courses on campus in the coming months.

"Millimeter Wave Systems and Technology" will be held on February 2-4, 1981. Also scheduled are "Laser Technology and Systems Applications," March 9-10, and "Infrared Technology and Applications," March 11-13, 1981.

Station personnel interested in attending these courses should contact Tech's Department of Continuing Education at 894-2400.

"The library particularly appreciates these kinds of books because they are highly technical and in-depth," said **Graham Roberts**, director of Georgia Tech libraries, during the official book presentation ceremony.

"If other Tech alumni and staff members worked with their publishers as Johnson did, we could acquire many more technical books for research activities at Georgia Tech," Roberts said.

One of Johnston's books, "Millimeter Wave Radar," includes 12 papers authored or coauthored by 17 different EES researchers. The papers were selected from leading engineering journals and the proceedings of numerous technical conferences.

The EES authors whose work appeared in "Millimeter Wave Radar" are: **Frederick Dyer, Jim Wiltse, Lucien Bomar, Clark Butterworth, Nick Currie, George Ewell, W. S. Forester** (retired), **Robert Goodman, Robert Hayes, William Holm, David Ladd, Gene Loefer, M. W. Long** (retired), **Robert McMillan, W. K. Rivers** (retired), **James Scheer, and Robert Trebits.**

While in Atlanta, Walsh spoke with several EES authors about books that may be published by Artech House.

## Police Sponsor Slogan Contest

Tech's Police Department is sponsoring a slogan and logo contest as part of a public awareness campaign aimed at curbing crime on the campus.

Sargeant **Danny Brown** says the contest is open to all employees and students at Georgia Tech. The winning entrant will receive a \$50 gift certificate from the campus bookstore. The selected slogan and logo will be used on posters, pamphlets, stationery and other crime prevention materials used in this public awareness campaign.

EES personnel interested in competing in the contest should submit an idea for a crime prevention slogan and a logo which artistically represents the slogan. Send your ideas on a card with your name, campus address and phone number to Sargeant Brown, Georgia Tech Police. The deadline for all entries is February 1, 1981.

## Travel Policies Changed By Regents

The Board of Regents adopted new travel policies at its August meeting which affect all University System employees.

**Betty Yarborough**, EES personnel services department manager, says most of the changes involve travel within Georgia. The major changes for in-state travel are:

- The maximum reimbursement for three meals a day is now \$16.
- The noon meal will no longer be reimbursed unless overnight lodging or unusual circumstances are involved.
- Meals obtained within a 30 mile radius of a person's home or office will not be reimbursed.
- Breakfast expenses can only be claimed if departure occurs before 6:30 AM.

The Personnel Office will be distributing full information on all of the new travel regulations. In the meantime, if you have any questions, call Betty Yarborough at 894-3445.

# Professional Presentations Enhance EES' Image

## ECONOMIC DEVELOPMENT LAB

In October, **William Spain** presented lectures on "OSHA and NIOSH Rules and Regulations" to a class of nurses at Emory University. **Edwin Bethea**, director, Georgia Tech Technology Utilization and Commercialization Center (TUCC), has coordinated two major meetings in Atlanta: a "National Innovations" conference for minority inventors and the fourth annual TUCC Advisory Council Workshop/Seminar.

## ELECTROMAGNETICS LAB

**Ron Bohlander** and **Bob McMillan** attended the SPIE conference on Millimeter Optics in Huntsville, Alabama in October. Bohlander chaired a session on atmospheric propagation. McMillan presented a paper on millimeter wave beamrider and radar systems.

Lab Director **J. W. Dees**, **Jim Gallagher**, **Bob McMillan** and **Jim Wiltse**, EES associate director for electronics, recently traveled to Wurzburg, Germany to participate in the Fifth International Conference on Infrared and Millimeter Waves. Dees and Gallagher also presented papers at the Military Microwaves Conference in London, England. Wiltse went on to Israel

## New Lab And Director-Designate Are Named For ESS

A new name has been chosen for the laboratory created by the merger of the Computer Science and Technology Lab and the Electronics Technology Lab, says **Jim Wiltse**, associate director for EES electronics research. On November 15, the new lab was renamed the Electronics and Computer Systems Laboratory (ECSL).

**Fred Cain**, former associate director of ETL, has been named director-designate of the newly formed laboratory. A principal research engineer, Cain was selected for the laboratory directorship from a field of highly qualified candidates. Cain will assume this new leadership post as soon as the Board of Regents approves his selection as director of ECSL.

where he presented an invited paper and conducted a workshop on millimeter waves at the annual Eastern Mediterranean IEEE Meeting.

## ELECTRONICS & COMPUTER SYSTEMS LAB

**Richard Moss** was an invited panel member at the "FCC Conference of Field Supervisors" held in Washington, D.C., in mid-October.

Two articles by **Jim Mchaffey** were recently published in the "Annals of Nuclear Energy": "An Experimentally Measured Relationship Between Flux Tilt and Excess Reactivity" and "Enhanced Computer Reliability for Nuclear Power Applications." **Ralph Duncan** also recently published a book review of "The Territory of the Historian" in Technology and Culture magazine.

In September, **Jim Coleman**, attended the Rome Air Development Center/State University of New York conference on "Decision Aids for Managers" at Eglin AFB, Florida.

## ENERGY & MATERIALS SCIENCES LAB

ACTF Solar Site staff members **Tom Brown** and **Hamp Teague** attended a seminar on Management for Engineers sponsored by the Continuing Education Department of Georgia Tech on October 15 & 17. **Bob Cassanova**, **Steve Bomar** and **Doug Neale** attended the DOE/Sandia Solar Thermal Energy Semi-Annual Meeting held in San Francisco, California in October.

**Kathryn Logan** of the Materials Characterization Branch was initiated into Keramos, the ceramic engineering honor society, in November. **Jim Hubbard**, a staff member from the same branch, coordinated a continuing education course on "Asbestos: Abatement and Control" in early December.

## RADAR & INSTRUMENTATION LAB

On November 3-7, Associate Lab Director **Jerry Eaves** coordinated EES' twelfth annual course at Tech on "Principles of Modern Radar."

## SYSTEMS ENGINEERING LAB

Director **Bob Zimmer**, **Lloyd Lilly** and **Charles Wakefield** recently attended the Association of Old Crows convention in Anaheim, California.

## SYSTEMS & TECHNIQUES LAB

Several members of STL's Defense Electronics Division attended the "Principles of Modern Radar" course held at Tech on November 3-7. Among the attendees were: **Homer Cochran**, **Rob Muzio**, **Gene Toph**, **Doug Devine**, **Ron Wallace** and **Tom Thompson**.

**Sam Alford**, STL associate director, attended the Microprocessor Design Course given by Pro-Log, Inc., in Atlanta on October 28-31. **Robin Parks** and **Cindy Chappell** also attended a grammar course for secretaries held at Tech in October.

## TECHNOLOGY APPLICATIONS LAB

**Rich Combes**, associate lab director, chaired a session at the Third World Energy Engineering Congress held in Atlanta in mid-October. **Jim Clark** presented a paper at the same conference on "Solar Energy Applications in the Food Industry." **Hank Jackson** and **Ralph Lamade** conducted two energy conservation workshops in Atlanta and Macon for Georgia Vocational Technical School personnel in October. **LuAnn Rocket** and **Bill Himmelfarb** have published a book entitled, "Building and Marketing the Energy Conserving Home."

Several TAL staff members participated in a Tech seminar on "The Economics of Wood Energy Systems For Industries" on November 5. Presentations were made by: **Carol Aton**, **Grant Curtis**, **Badarinath Dixit**, **Bob Didocha**, **Steve Drucker**, **Mike Brown**, **Tom McGowan** and **Bill Bulpitt**.

**Tom McGowan**, Wood Energy Systems Division, presented a paper on November 7 at the ASME meeting in Chicago, Illinois. The paper was on "An Economic Comparison of Wood and Fossil Fuel Processing Systems." "A Solar Greenhouse or How To See The Night Sky in Winter," an article written by McGowan, will also soon be published in "Solar Age" magazine.

**Badarinath Dixit** and **Bill Bulpitt** coauthored a paper which was presented in August at the Intersociety Energy Conversion Engineering Conference in Seattle, Washington. The paper was entitled, "The Economics of Wood Energy Systems for Industries."

# Southcon/81 Electronics Show Opens On Jan. 13

The electronics industry will inaugurate a new tradition in the Southeast on January 13-15 when Southcon/81 debuts at the World Congress Center in Atlanta.

Southcon/81 is actually two events: a three-day exhibition of high technology electronics products and systems, and a program of professional presentations by the foremost experts in the field of electronics. The show will be held annually, alternating in successive years between Atlanta and Orlando, Florida.

Tech President **Joseph M. Pettit**, Southcon chairman of the board, says, "By serving as a focal point for electronics in the Southeast, Southcon will operate as a catalyst for the orderly development of the electronics industry in this region."

Georgia Tech has been intimately involved in the planning and development of the show which is expected to attract design and specifying engineers in electronics from throughout the region.



## Exhibition:

9:30 AM - 6 PM

January 13 & 14

9:30 AM - 5 PM

January 15

## Professional Program

### Sessions:

9:30 AM, 1 PM, & 4 PM

January 13 - 15

The professional program, organized by EES Associate Director **Jim Wiltse**, features over 30 sessions and 100 presentations on topics ranging from satellite communications to fiber optics. EES/EML Director **J. W. Dees** is serving as vice-chairman of the Program Committee. **Gordon Harrison**, EES senior staff, and other Station employees are also playing key roles in the technical program.

EES researchers who are participat-

ing as session organizers and/or chairmen, include: **Bennett Teates**, **Richard Moss**, and **Hugh Denny** of ECCL; **Walter Cox**, **Jim Schuchardt**, and **Fred Dixon** of EML; and **Tom Elfe** and **Hamp Teague** of EMRL. **Dale Covington**, **Charlie Rucker**, and **Joe Newton** of EML are presenting papers along with **Bob Rice** of ECCL. **Ray Moore** and **Elinor Plowden** of the Research Public Relations Office are serving respectively as chairman and vice-chairman of the Public Relations Committee. ETL's **Ron Seaman** is also a member of this committee.

Southcon/81 is sponsored by several Southeastern units of the Institute of Electrical and Electronic Engineers (IEEE) and the Electronic Representatives Association (ERA).

EES personnel interested in attending this event should call the Southcon/81 registration office at 938-2469. A free shuttle bus, leaving every 20 minutes from Tech's Basketball Coliseum parking lot, will carry registrants to the show at the World Congress Center.

## EES Engineers Win New Research Contracts

### ECONOMIC DEVELOPMENT LAB

**J. Jackson**, Residential Space Heating Energy Use Analysis, Union Carbide Corp., \$48,095. **J. Komaki**, Productivity Specification and Reinforcement of Desired Performance in City Government, U.S. Office of Personnel Management, \$24,135.

### ELECTROMAGNETICS LAB

**G. R. Loefer**, Seeker Target System Investigation, USAF/AFSC, \$91,041. **J. A. Gagliano**, RMR/AMMS August 1980 B-57 Mission, NASA-Goddard Space Flight Center, \$70,698. **B. R. Livesay**, RADC Post-Doctoral Program (C-E Systems), USAF, AFSC, \$22,800.

### ELECTRONICS & COMPUTER SYSTEMS LAB

**R. L. Seaman**, Electromagnetic Detection of Agricultural Products in Travelers' Baggage, U.S. Department of Agriculture, Science and Education Admin., \$80,075. **E. E. Donaldson**, Millimeter Wave Electromagnetic Measurement Techniques, US Army Communications Research and Development Command, \$239,264. **R. W. Moss**, Vulnerabil-

ity/Compatibility of PLRS/JTIDS Hybrid: An Engineering Assessment, U.S. Army Signal Center, \$69,930. **K. R. Perry**, Hardware Design and Interface for the Modernization of AFFDL's Real-Time Hybrid Computer System, Atlanta University, \$43,250.

### ENERGY & MATERIALS SCIENCES LAB

**J. L. Hubbard**, Evaluation of Asbestos Sealant, Patton Assoc., \$6,500. **S. B. Smith**, Chemical Analysis of Carbon Samples, Cincinnati Water Works, \$20,000. **J. L. Brown**, Analysis of Samples, Sandia Laboratories, \$2,500.

### RADAR & INSTRUMENTATION LAB

**J. A. Bruder**, AN/MPS-36 Improvement Program, U.S. Army, \$94,710. **H. L. Bassett**, Survey of Electronics Research Programs of Interest to the U.S. Navy, Office of Naval Research, \$38,985. **J. L. Eaves**, Millimeter Wave Retroreflection Measurements, USAF, \$24,984.

### SYSTEMS ENGINEERING LAB

**C. J. Krebs**, RF Expendable Study, Naval Air Development Center, \$39,936. **J. L. Barkshadt**, AN/ALR-69 ISS, Warner Robins ALC, \$74,000. **L. D.**

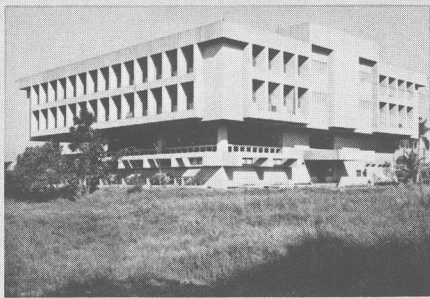
**Holland**, Collection System Analysis, USAF, \$769,381. **K. L. Schlag**, Investigations to Control Spurious Emissions From Microwave Tubes, Naval Ocean Systems Center, \$72,077. **J. V. Vogt**, Advanced Threat Simulator Requirements Research, Warner Robins ALC, \$74,500. **R. A. Newson**, SADS VI/M CLS Spare Parts, USAF, \$95,858.

### SYSTEMS & TECHNIQUES LAB

**O. D. Asbell**, Modifications to XM42S, U.S. Army Missile Command, \$344,809.

### TECHNOLOGY APPLICATIONS LAB

**Bo Hendrix**, Industrial Energy Extension Service, Georgia Office of Energy Resources, \$331,727. **W. Holcombe**, In-Plant Demonstration of a Machnozzle as a Fabric Predrying Device, Dept. of Energy, \$34,466. **R. Combes**, Georgia Poultry Industry Research, Georgia Dept. of Agriculture, \$240,000. **N. C. Wall**, Nonconventional Energy Development, AID, \$44,054. **P. W. Potts**, Local Manufacture of AID Pumps and Robo Devices in Ecuador, AID/Ecuador, \$97,099.



EES' Asia Office is located in the Institute for Small-Scale Industries (above) at the University of the Philippines in Manila. Director Ross Hammond and Esmeralda Bautista (right) run the office which oversees all of the Station's operations in several Asian nations.



## Papers Wanted For IEEE Meeting Led By Zimmer & Sears

SEL Director **Bob Zimmer** and **William Sears**, chief of SEL's Concepts Analysis Division, have been chosen for key roles in the IEEE "Systems, Man and Cybernetics Conference" to be held in Atlanta on August 24-28, 1981. Zimmer is serving as conference chairman and Sears is chairman of the technical program.

Abstracts of papers which might be presented at this conference are being solicited by Zimmer and Sears. Man-machine systems, biomedical systems, robotics and renewable energy systems are among 18 highly diverse research areas to be covered during this professional meeting.

EES authors should submit 200-word abstracts which define a planned 20-minute presentation on an unpublished paper emphasizing new research results. The abstracts should clearly state the purpose of the work, the manner and degree to which it advances the art, and specific results which have been obtained. Abstracts should be submitted to Sears by no later than January 15, 1981.

For more information on all of the conference topics, contact Bob Zimmer in SEL at 894-3519.

## Ranks Swell With New Personnel

### ECONOMIC DEVELOPMENT LAB

**Anthony DeCurtis** has joined EDL as the Laboratory's technical writer/editor. **Nickie Whitehead**, senior secretary, has also joined EDL's Basic Data Group.

### ELECTRONICS & COMPUTER SYSTEMS LAB

The Digital Signal Processing Branch welcomes **Scott Coleman**, research engineer I. The laboratory also celebrated two birthdays and the birth of a new baby last month. **John Passafiume** and **Doug Wrege** were fettered at an old fashioned birthday party and congratulations were extended to **Tony** and **Marcia Andruzzi** on the birth of their new daughter, **Elisa Kathryn**.

### ENERGY & MATERIALS SCIENCES LAB

EMSL welcomes Senior Research Engineer **Wally Shakun**, and Senior Research Scientist **Tom Starr**. Shakun is working in the Office of the Director. Starr has joined the Materials Characterization Branch. EMSL also extends its congratulations to **Rick** and **June Steenblik** on the birth of their daughter, **Lillian Elizabeth**.

### MECHANICAL SERVICES DEPT.

The Mechanical Services Department congratulates **Gene Dixon**, **George Bearce** and **Clyde Osborne** on their recent promotions. Dixon and Bearce are now senior level instrument makers and Osborne is now a research machinist. The department also welcomes two new employees: **Eliza**

**beth Lastro**, clerk typist I, and **Mark Burke**, technical assistant.

### SYSTEMS ENGINEERING LAB

**Philip Bloom**, a newly hired employee, is now directing SEL's Warner Robins Operations. The Concepts Analysis Division welcomes Senior Research Scientist **Theodore J. Doll** and **Linda J. Rothbauer**, research engineer I. **Steven P. Livesay**, research engineer I, joined the Defense Systems Division last month. The division also bid farewell to **Frank H. Vogler**. SEL also extends congratulations to **Armand Masse** and **Nancy Tucker** on their recent marriage.

### SYSTEMS & TECHNIQUES LAB

**Virginia Jory** has joined the Microwave Systems Division as a Research Scientist II. Ms. Jory is also serving as chairperson of Tech's Committee for the Handicapped.

### TECHNOLOGY APPLICATIONS LAB

**Bo Hendrix** has been appointed chief of TAL's Energy Conservation Division. **Ralph Lamade** has also been promoted to assistant chief of the same division.

TAL has welcomed seven new employees in the past two months. Joining the staff are: **Robert Beeson**, research engineer I, Energy Conservation Division; **John Adams**, research engineer II, Wood Energy Systems Division; and **Chuck Ross**, research engineer II, Applied Engineering Division. **James Colombo**, **Alan Pashkevich** and **Steve Harper** have also joined the International Programs Division, each as a research engineer I.

## Station News

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