

the GTRI connector

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FY 1987: A Year of Transition



The Cobb County crowd listens intently to the report on GTRI's present and future status at the employee meeting on October 13. (Photo by Anita Edwards)

GTRI Director Donald Grace characterized FY 1987 as a year of transition in his look at 'GTRI—Present and Future' during the GTRI employee meetings held October 13-16.

"But we're in much better shape than a year ago. I'm more confident about the shape we're

in, where we are, where we're going, and the role we all will play in it," he said.

He stressed that GTRI had come through the year successfully despite painful, but necessary, changes in the way it does business. GTRI is growing in every way—in research contract volume, research quality, personnel, and in other assets, he said.

Dr. Grace first focused on the causes for this transitional state: the death of President Pettit, with its fallout of administrative changes; implementation of the new cost recovery system; the delay in final government approval of the new overhead rate; uncertainty and fluctuations in major programs, such as SDI; and trends toward larger, broader, more interdisciplinary contracts.

Turning to positive results, he revealed: "We experienced more benefits than we expected at the end of the first year of the new cost recovery system. Instead of the \$5 million in cost overruns

we expected in the changeover, they totaled only \$1.6 million. And we had more than \$1 million left over to spend on capital equipment—the most we've had since 1983."

Another new direction is a deliberate effort to get researchers more involved in management decision-making. The nine cost reduction task forces have made their recommendations, Dr. Grace said. He expects the committees to go on with implementing their recommendations—probably with significant changes in committee memberships.

Other important committees at work are a task force for the development of new broad-based contract vehicles and the Senior Technology Guidance Council, which has developed a list of underpinning technological thrusts that will be targets for internal research support.

GTRI has submitted a \$1.25-million request for increased continuation funding to the legislature that would bring that component of State funding to \$10.75 million. At least one half is required for increased out-of-pocket costs, such as utilities, increased retirement benefits, and pay raises. The other half would be used for internal research and capital equipment.

Touching on objective measures of growth, Dr. Grace said total GTRI expenditures were \$75.1 million in FY 1987 and are projected at \$85.5 million for FY 1988. Sponsored personal services were \$25.4 million in 1987 and are estimated at \$29 million in 1988.

Total GTRI staff stood at 1,370 at the end of FY 1987, the first

Vital Statistics

How did GTRI fare in FY 1987? Here is a comparison with FY 1986:

Expenditures

Sponsored Personal Services:
1986 - \$22.8 million
1987 - \$25.4 million
Total Expended:
1986 - \$65.6 million
1987 - \$75.1 million

Proposal Activity

Submitted:
1986 - \$266.4 million
1987 - \$273.6 million
Awarded:
1986 - \$75.5 million
1987 - \$60.3 million
Pending:
1986 - \$168.1 million
1987 - \$257.4 million

Sponsors

Department of Defense:
1986 - 62.9%
1987 - 65.8%
Other Federal Government:
1986 - 12.7%
1987 - 9.1%
State & Local Government:
1986 - 0.8%
1987 - 0.7%

Industry:

1986 - 23.6% (includes 10% for industrial subcontracts from federal money)
1987 - 24.4% (includes 12.7% as above)

Employees (June 30)

Full-Time Professionals:
1986 - 559
1987 - 586
Full-Time Support:
1986 - 301
1987 - 305
Part-Time Staff:
1986 - 140
1987 - 153
Students:
1986 - 273
1987 - 326
Total Staff:
1986 - 1,273
1987 - 1,370

time this figure has risen above 1,300 since 1983. FY 1988 total employment is 1,422 as of September 30.

See "Meeting," page 4



GTRI Director Donald Grace fields questions at one of the employee meetings. (Photo by Anita Edwards)

Christmas in June?

There will be no GTRI-wide Christmas party this year. Instead, GTRI will have a social event—probably a picnic—involving entire families in the spring or early summer. It promises to be a super new tradition!

Why no Christmas party? The GTRI administration asked the administrative network representatives to poll the labs and service groups. They asked employees how they felt about the Christmas party and what alternatives they would suggest.

Back came the consensus of replies: Schedules are already

too full in December. Most units have their own smaller parties. The GTRI party involved employees only—families weren't included. It didn't accomplish its goal of getting the Cobb County and campus folks together.

The most prevalent suggestion for an alternative function was a picnic or similar event. People said they wanted the GTRI party to be at a time of year with a less crowded social calendar. They also suggested that it be on a nonworking day so the employees' families could participate. A picnic, they pointed out, would be something that the

entire family could enjoy. And its informality would be more likely to foster interaction among the GTRI staff.

Committee to Plan Social

A committee chaired by Lee Hughey soon will begin exploring what kind of event will replace the Christmas party as well as how to proceed with planning it.

If you are interested in participating in this effort or have ideas to propose for consideration, contact Lee Hughey. Write him at GTRI-RCO, 227 CRB; send him a PROFS note, or call him at 4-3444.

Technology Areas Selected

The following areas have been selected by the Senior Technology Guidance Council as targets for internal research funding. A full report on these areas and the Technology Area Guidance Teams appointed to define research programs within each area will be in the next *Connector*.

- Low observables
- Software computer technology
- Coherent radar technology
- Antenna development
- EW techniques and technology
- Multispectral sensors
- Compressive receivers
- Environmental sensing
- Applications of coherent sources
- E/O materials and applications
- Space power
- Process chemical technology
- Strategic materials

Chemical Vapor Deposition:

A New Way to Make Less Brittle Ceramics

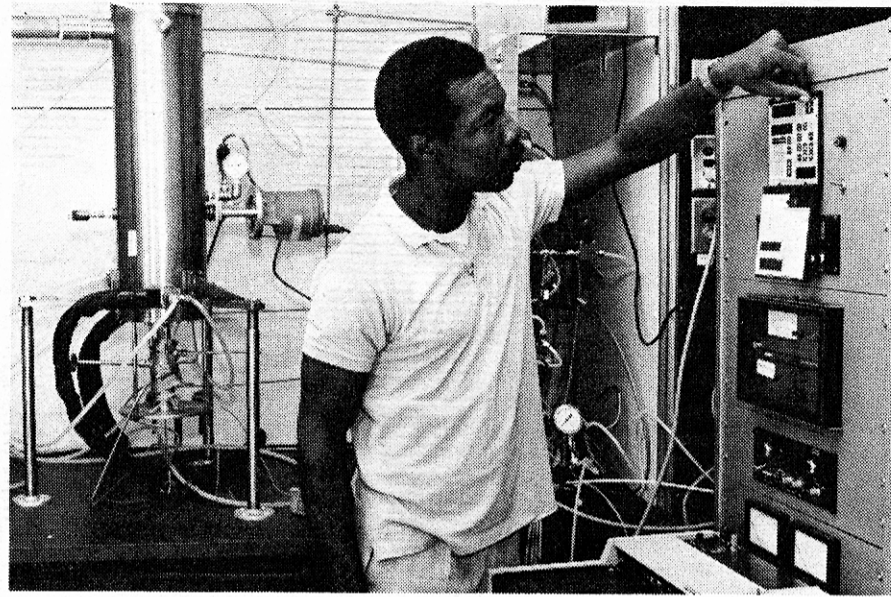
by James E. Kloeppe, RCO

Imagine never again changing your car's engine oil, or worrying that your radiator may overheat. In the future, engine lubrication and cooling systems may become unnecessary, thanks to recent advances in ceramics technology.

Ceramics are remarkably useful materials. Install a ceramic component in an aircraft engine, and it keeps its shape at temperatures that would melt metal. The part is also less susceptible to fatigue and wear, doesn't corrode in the presence of moisture, and is relatively lightweight.

But one major drawback has limited the industrial use of ceramic materials. If struck sharply, they often shatter like glass. Because of their brittleness, ceramics cannot be trusted for many high-stress applications.

To make ceramics more durable, research scientist Jack Lackey in the Energy and Materials Sciences Laboratory is using a process known as chemical vapor deposition. In CVD, two or more chemicals in gaseous form flow into a furnace, where they are heated. When they get hot enough, the gases react and produce a solid deposit on a substrate located in the furnace. While CVD has been used in the manufacture of such familiar items as cutting tools and optical coatings, the technique has been applied only recently to ceramics.



EMSL technician Geoving Gerard adjusts temperature controls for the chemical vapor deposition furnace during a recent experiment. The cylindrical stainless steel housing of the furnace is in the background. (Photo by Joe Schwartz)

Before establishing a structural ceramics CVD research effort at Tech in early 1986, Lackey was a researcher at Oak Ridge National Laboratory. There he developed a faster technique, now patented, which cut the CVD infiltration time from weeks to hours. At Tech, Lackey is continuing his research into the deposition process, and developing a variety of ceramic coatings and composites that can survive in such structural applications as turbine blades, missile nose cones, and piston rings.

Fiber-Reinforced Composites

For example, Lackey's group is creating innovative fiber-reinforced composites by chemically depositing a ceramic material onto, around, and within

a fibrous form. "As the coating deposited on the fibers becomes thicker and thicker," explains Lackey, "the voids become smaller and smaller."

The fibers making up the form strengthen the composite, much like a steel reinforcing bar strengthens concrete. Fiber-reinforced composites formed by CVD are denser and stronger than those generated by conventional techniques.

Superconductor Components

In a similar approach, Lackey's group is investigating the possibility of using CVD for mass-production of special superconductor components such as magnets. "Because the new high-temperature superconducting material is a brittle ceramic,"

explains Lackey, "it is difficult to fabricate intricate shapes by conventional means."

Under a recently awarded grant from the National Science Foundation, Lackey is teaming up with Brent Carter and Norm Hill of Tech's School of Materials Engineering to explore the feasibility of depositing the new superconducting material by CVD.

Built-in Lubricants

Another type of ceramic composite Lackey and his coworkers are experimenting with is called a dispersed-phase composite, created by depositing a number of materials simultaneously onto a substrate. One extremely useful application of this technique arises when boron nitride—which acts as a solid lubricant—is one of the deposited materials. By incorporating such a built-in lubricant, these new composites could be used under conditions where normal oils break down, such as at high temperature and in space.

High-Temp Engine Parts

"There is a lot of interest right now in developing ceramic piston rings and cylinder liners for diesel engines," says Lackey. "These ceramic parts could operate at higher temperatures, increasing engine performance and efficiency, while thermally insulating the metal engine block from the severe heat."

Because a considerable portion of an engine's energy goes into circulating the lubricant and coolant, an ultimate goal is to do away with engine lubrication and cooling systems altogether. While not yet rolling off the assembly line, with continued ceramics research the cars of tomorrow may be just down the road.

Library Supports GTRI Research Needs

by Karen Pedersen, Library

As part of the Georgia Tech Library's continuing effort to support the research activities of GTRI faculty and staff, the position of GTRI liaison librarian has been created within the Research Information Services (RIS) department. I recently was hired to assume these duties.

Access to a wide range of up-to-date information is essential to GTRI's ongoing research and development operations, and the Library uses a variety of computer-based information resources to provide exactly that. The Library's Online Information System, which is available through the campus computer network, comprises the Georgia Tech Library Catalog plus several periodical databases—*Magazine Index*, *Management Contents*, *Trade and Industry Index*, and *Computer Database*. The Library also plans to load some technical databases in the near future.

In addition, the Library houses

several compact disk searching systems that provide demographic and business/financial data. These easy-to-use, interactive systems utilize a microcomputer to search databases contained on compact disks.

The mission of RIS is to provide information services to campus researchers. One service is online searching of computer-readable databases. Database searching may be used to locate journal articles, technical reports, patents, standards, statistical data, federal contracts, information about corporations, news items, and much more. There are databases covering virtually all subject areas and types of material.

The advantages of database searching are in-depth retrieval of information and the option of obtaining your results in machine readable form for later manipulation by a word processing program. Some databases also allow downloading data into Lotus 1-2-3. For example, the Wharton

Econometrics databases contain time series data that are suitable for spreadsheet presentation. Search results from DMS Contract Awards, a database of all unclassified U.S. government prime contracts of \$25,000 or more, may be downloaded in a format compatible with software packages like Lotus or dBase.

Through the LENDS service, RIS will deliver library materials, including books, photocopies of journal articles, and microfiche copies of technical reports to campus locations. RIS also will request photocopies or loans of library materials not available at Georgia Tech from off-campus sources. You may request this service by calling RIS at 894-4511, by campus mail, or by using VMAIL, PROFS, or the electronic messaging feature of the Library's Online System.

RIS can support your research through a whole range of other information services. Please contact me at 894-4511 about your library research needs.

GTRI to Have Open House

GTRI will hold Open House, along with the academic colleges, as part of the activities offered during Alumni Homecoming Weekend. The Open House will be Friday, November 6, 2-4 p.m.

GTRI activities will center in the Baker Building. Nick Faust will demonstrate Landsat geographic image processing; Garth Freeman will demonstrate applications of the scanning electron microscope; and Paul Wine will show how lasers are used in atmospheric chemistry research. Tours will begin every 20 minutes from the Baker auditorium.

Also in the auditorium, the new laser disk program, "Research at GTRI," will be shown continuously and refreshments will be served. All GTRI staff members are invited.

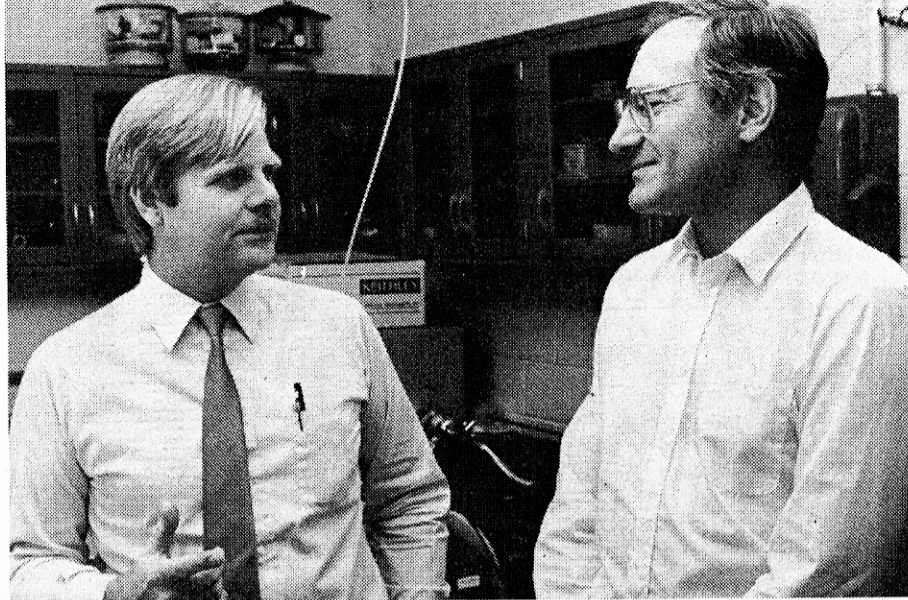
Norwegian Scientist at EML for Sabbatical Year

Dr. Rolf B. Haugen, a visiting scientist from Norway, is spending his sabbatical year working in the Physical Sciences Division of the Electromagnetics Laboratory (EML).

Dr. Haugen is head of a group in the Norwegian Telecommunications Administration Research Department that performs research in the areas of fiber optics, microwaves and switching devices, as well as signal processing and satellite communications.

At Tech, Dr. Haugen is researching the physics behind optoelectronic devices, such as light modulators, lasers, switches and photo-detectors. He came to Georgia Tech because of its work in semiconductor growth techniques, specifically molecular beam epitaxy (MBE). "We are planning to build an MBE lab in Norway," Haugen says, "so my U.S. visit is focused around investigating this technique."

Dr. Haugen has already spent two months at Varian, the com-



Chris Summers (left) and visiting scientist Rolf Haugen discuss semiconductor growth techniques. Dr. Haugen will be at Georgia Tech for a year. (Photo by Joe Schwartz)

pany that built Georgia Tech's MBE equipment. "He's brought us a new technique from Varian that is working very nicely here," says Dr. Chris Summers, chief of EML's Physical Sciences Division. "It's an extremely precise

tool for measuring atomic layer-by-layer variations in very thin film crystal growth."

Dr. Haugen is participating in the work conducted by Dr. Summers' group in building superlattice structures based on layers

1,000 times thinner than a micron. (A human hair is approximately 100 microns in diameter.) This very thin film technology can be used to make a range of new devices to replace the present semiconductors.

Dr. Haugen has a master's degree in theoretical physics from the University of Oslo and his Ph.D. from the University of Colorado. In addition to being chief of research at the Norwegian Telecommunication Administration, he has held research positions at the International Center for Theoretical Physics in Trieste, Italy, and at ITT Laboratories in Madrid, Spain. He is a member of the Board of the Electronics Laboratories, University of Trondheim, and a member of the National Committee for Information Technology.

Haugen's wife, Margaretha, is a dietitian involved in research on the effects of diet on patients with arthritis. They have three children.



Software Review

by Pat Mathiasmeier, CRSD

The CRSD Information Center provides a software library checkout service to Georgia Tech employees and departments to help the Tech community make more informed software purchasing decisions. The Software Evaluation Library

contains software that has been purchased for the Training Facility and is not currently being used in CRSD, as well as software donated by the Office of the Vice President for Research and IBM. Georgia Tech employees may sign out this software for evaluation.

The library was established so that departments and individuals who are making software purchasing decisions will be able to test their data with several packages in order to make the best decision. Copies of older versions of some software also are available for those with old data and no way to read it.

Individuals signing out software will be given a copy of the President's letter of August 22, 1986, outlining the Georgia

Tech policy on software piracy. They will be asked to sign an agreement stating that the software will not be duplicated while in their possession. It is NOT to be copied or used by departments in lieu of purchasing.

Individuals may check out one piece of software at a time for a period of four weeks. If someone else requests the software during this period, the user will be asked to return it after two weeks. Lost or damaged software or documentation will be replaced by the responsible department.

Departments with software that is no longer in use can donate it to the Software Evaluation Library. This will give other units a chance to evaluate it.

If you are interested in a list of software available in the Software Evaluation Library, call the CRSD Helpdesk! at 4-7173. The categories in which software is available are listed below.

- Communication
- Database
- Demo
- DOS
- Graphics
- Integrated Software
- Language
- Printer Utilities
- Project Management
- Spreadsheet
- Utilities
- Word Processing

PROFESSIONAL ACTIVITIES

ECONOMIC DEVELOPMENT LAB

David Clifton has been appointed to the advisory staff of the Governor's Growth Strategy Commission.

Carol Aton has been named editor of *SWE News*, the newsletter of the Atlanta section, Society of Women Engineers.

In early October, **Art Brown** made a presentation on the Industrial Extension Division, the EDA University Center, and the Georgia Tech Procurement Center to the Congressional Black Caucus Forum.

John Nemeth recently spoke on "New Developments in Hazardous Waste Management" at the Association for Solid Waste Management Professionals Fall Conference in Athens (GA) and served on the panel for waste disposal and treatment options at the American Institute of Hydrology Annual Fall Conference in Atlanta. He also was appointed environmental control editor for *TAPPI Journal*.

EDL research engineers contributed significantly to the 10th World Energy Engineering Congress in Atlanta in late September. **Alan Pashkevich** made a presentation on "The Georgia Energy Analysis and Diagnostic Center," **Doug Moore** on "Energy Usage Modeling through Statistical Analysis," and **Mike Brown** on "Economic Efficiency of the Industrial Energy Extension Service."

In mid-October, **John Adams** and **Doug Moore** spoke on energy conservation technologies for the Naval Facilities Engineering Command in Charleston.

ELECTROMAGNETICS LAB

The Physical Sciences Division certainly

was busy during the summer. July activities included the following:

At the Third International Conference on Modulated Semiconductor Structures in Montpellier, France, **Chris Summers** presented a paper entitled "Resonant Tunneling Studies of Variably Spaced Multiple Quantum Well Structures in the AlGaAs System." Coauthors were **Kevin Brennan** (EE), **Abbas Torabi** and **Mike Harris**.

At the Third International Conference on II-VI Semiconductors in Monterey (CA), **David Benson** presented a paper entitled "Surface Nucleation Kinetics of Molecular Beam Epitaxial Doped (001) and (111) CdTe," coauthored by **Chris Summers**; **Brent Wagner** gave a paper on "Molecular Beam Epitaxial Growth and Characterization on ZnTe and CdTe on (001) GaAs," coauthored by **Jean Oakes** (MRC) and **Summers**; and **Rudy Benz** read a paper entitled "Molecular Beam Epitaxial Growth and Structural Characterization of ZnS on (001) GaAs," coauthored by **Poa Huang** (Mat. Eng.), **Stuart Stock** (Mat. Eng.), and **Summers**.

At the Polycrystalline Thin Film Meeting sponsored by the Solar Energy Research Institute, **Chris Summers** presented a paper on "The Avalanche Heterostructure and Superlattice Solar Cell," coauthored by **Ajeet Rohatgi** (EE) and **Kevin Brennan** (EE). **Summers** and **Ahmet Erbil** (Physics) were coauthors of a talk presented by **Rohatgi** on "High Efficiency Cadmium and Zinc Telluride Solar Cells." **Chris Summers** and **Kevin Brennan**

(EE) are coauthors of "New Resonant Tunneling Superlattice Avalanche Photodiode Device Structure for Long-wavelength Infrared Detection," published in the July issue of *Applied Physics Letters*.

Now for August: **Kevin Brennan** (EE), **Yang Wang** (Ee), **Abbas Torabi** and **Chris Summers** wrote a paper on "The Electron Ionization Rate in Multilayered Semiconductor Structures" that was presented in Chicago at the Third International Conference on Superlattices, Microstructures and Microdevices.

At the meeting on Integrated Optics in San Diego, **Kevin Brennan** and **Chris Summers** presented a paper on "Multiple Quantum-Well Tunneling Calculations for Asymmetric Superlattices," and **Abbas Torabi** and **Summers** gave a paper entitled "Molecular Beam Epitaxial Growth for Semiconductor Superlattices."

ELECTRONICS & COMPUTER SYSTEMS LAB

Linda Martinson is coauthor of an article, "The Transitional Bulk Power Market," accepted for publication in *Public Utilities Fortnightly*.

Hugh Denny, **Bruce Warren**, and **John Mantovani** (formerly of ECSSL) have received a patent for their invention of a passive interference source locator.

Hugh Denny's book, *Grounding for the Control of EMI*, has sold more than 4,100 copies, and the first royalty check has rolled in as a result. Published in 1983 by Don White Consultants, Inc., the book is considered a definitive exposition on electromagnetic interference.

ENERGY & MATERIALS SCIENCES LAB

Hans Spauschus presented an invited

plenary address, "Development in Refrigeration: Technical Advances and Opportunities for the 1990s," at the 17th International Congress of Refrigeration in Vienna, Austria, in August. At the meeting, he was elected an honorary member of the International Institute of Refrigeration (IIR) in recognition of his technical contributions and eight years of service as a member of the Scientific Council. He currently is a member of the IIR Executive Committee.

Spauschus also gave the opening address, on "Advances in Air Conditioning," at the First China Conference and Exhibition on Refrigeration and Air Conditioning, held in Beijing September 8-12.

Rosemarie Szostak presented a technical paper, "Framework and Non-framework Ion Contribution to Molecular Sieve Catalytic Activity," at the International Symposium on Innovation in Zeolite Materials Science, held in Nieuwpoort, Belgium, September 13-17. Coauthors were **V. Nair**, **T.L. Thomas**, **D.C. Shieh**, **D. Simmons**, **R. Kuvadia**, and **B. Dunson**.

On October 28 at the Interwire Convention of the Wire Association International in Atlanta, **Henry Chia** delivered the keynote address on "Implications of Superconductivity to the Wire Industry."

Tom Starr made presentations on "High-Temperature Materials" at the Focus on Aerospace Technology conferences at Georgia Tech September 10-11 and 21-22.

SYSTEMS & TECHNIQUES LAB

David Asbell presented a paper entitled "Positioner for the Ft. Huachuca Compact Range" at the Antenna Measurement Techniques Association Symposium held in Seattle September 28-October 2.

PERSONNEL NEWS

ECONOMIC DEVELOPMENT LAB

Norris Garmon is the new director of the Madison Regional Office, and **Rick Duke** has been named director of the Gainesville Regional Office.

Bob Lann now heads up the Applied Research Branch. He had been acting head after John Warden left. The branch has added **Richard Tate**, SRS, to its staff; **Melanie Meeker** and **Jaime Castro** are now working full time as RA I's.

The Rome Regional Office, now a Technology Center, has two new RE I's: **Melanie Largin** and **Phillip Wofford**.

Paul Beauregard is a new chemical technician III in the Analytical Instrumentation Branch, and **Susan Helm** is a new RE I in the Safety Group.

ELECTROMAGNETICS LAB

Charlotte Jacobs is a new RE II in the Millimeter Wave Technology Division. She has just completed her Ph.D. in industrial and systems engineering at Georgia Tech, and previously taught at the University of Alabama.

Joining the Artificial Intelligence Branch is RE I **Edward Soneat du Fossat**. He comes to Tech from Martin Marietta.

ELECTRONICS & COMPUTER SYSTEMS LAB

Theresa Brunasso has joined the Electromagnetic Effectiveness Division as an RE II. She formerly worked at Teledyne in Palo Alto (CA) in areas related to high-power microwave and millimeter wave amplifiers. She has a master's degree in electrical engineering from the University of West Florida. Her husband has joined the University of Georgia faculty, and their home is located halfway between the two schools. (Wonder where they'll sit at the Tech-Georgia game?)

Francis "Skip" Gross has resigned.

OFFICE OF THE DIRECTOR

Gay Farnsworth, former student assistant and staff assistant, has moved to Texas to begin her Air Force career.

RADAR & INSTRUMENTATION LAB

Congratulations to **Helen Williams** and **Phyllis Hinton**, both promoted to word processor specialists, and to **Annette Weinberger**, promoted to senior secretary.

Janice Dietz is a new clerk typist I in the Technology Development Division.

Welcome to GRAs **Kristi Jentoft-Nielsen**, **William Powell**, **Robert Stroud**, **Jeffrey Masley**, **Norman Anheier**, **Kenneth Harrison**, **Robert Vargo**, and **Michael Derr**; also co-op **Chance Glenn**.

SERVICE GROUPS

Human Resources welcomes **Paulette Clark**, senior secretary, and **Christopher Ruffin**, clerk typist II.

Good-bye to **William Brown**, Supply Services, and **Portia Hudson**, Facilities Management.

SYSTEMS ENGINEERING LAB

Walter Addison received a well-deserved employee-of-the-month award in August for successfully coordinating the writing and editing of a five-volume final report. The report was completed according to the original schedule despite a three-month halt in the project called by

the government sponsor and the resignations of the project director and the person originally charged with writing the report.

The Concepts Analysis Division welcomes seven new employees. In the Human Performance Branch, **Mike Kelly** is a new PRS and **Kathie Coogler** is the new branch secretary. Coogler received a B.A. (magna cum laude) in journalism from Georgia State University in August. In the Mission Analysis Branch, **Martin Ulehla** is a new SRS, coming to Tech from Huntsville. RE I **Robert Yohman** came on board after receiving his master's in electrical engineering from Georgia Tech. Industrial design major **Arthur Wilson** is a new student assistant in the CAD art department. Finally, **Tom Simmons** and **Bill Klein** have joined the Sensor Performance Branch as GRAs.

The Electronic Support Measures (ESM) Division welcomes EE majors **James Corbett**, **Rob Butera**, and **Jeff Dillon** as co-ops, and the following GRAs: **Philip Bergauer**, **Mike Childers** (transfer from ECSL), **Henry Hendrix**, **Mike McClamroch**, **Robert Raboud**, **Rich Warwick**, and **Allan Williams**.

Former co-ops **Byron Coker** and **Lee Evans** have joined ESM as RE I's. Coker is in the Surveillance Technology Branch, and Evans is in the Emitter Identification Branch.

Neil Lareau has joined ESM as an RE II in the Surveillance Technology Branch. He was an RE I in the Defense Systems Division a few years back.

SEL editor-in-chief **Bill Williams** has resigned. Also resigning is **Susie Drake**, who is getting married and moving to Arizona.

SYSTEMS & TECHNIQUES LAB

Wade Garnto has joined the Advanced Technology Division as an SRS. A U.S. Air Force retiree, he received his MSEE from the Air Force Institute of Technology, Wright-Patterson AFB. In his most recent assignment at Eglin AFB, he directed the procurement of threat simulators for the tactical air forces.

Terrie Parra has joined the Defense Electronics Division as an electronics technician I.

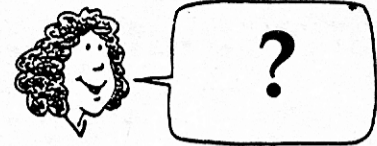
Vincent Luciani and **Linda Rachmat Seleh** are new GRAs.

James P. Jacobson resigned to serve our country as a second lieutenant in the U.S. Air Force.

REMINDER

Don't forget to circle **Thursday, December 3**, on your calendar. Come honor your coworkers who will be receiving GTRI Research Awards. Time: **3-5 p.m.** Place: **Student Center ballroom.**

QUESTIONS, ANYONE?



by Charles McCullough, HRD

"I keep seeing lots of paperwork transferring all our lab's GRAs to academic units. Is GTRI being evacuated?"

You think YOU have been seeing a lot of paperwork? Over here in HRD, we've had to stop using messenger slips and resort to bills of lading. As for any rumors about there being some lemmings-to-the-sea rush of GRAs out of GTRI, forget it. We now have far more than ever before. What you've been seeing are major changes in administrative procedures (and philosophy) about HOW our GRAs are employed.

Beginning in October, all graduate students employed at Georgia Tech (including GTRI) will be employed with their major school as their "home department"—the department ultimately responsible for them as an employee. GTRI will be recognized only as a "work department" for those graduate students employed by us. For example, if you have a GRA who's an Electrical Engineering major, EE is now, technically, the employer of that GRA, with the employment being shared with GTRI. GTRI can initiate paperwork on our graduate student employees, but any personnel action, be it employment, a pay raise, a change in the percentage of time worked, etc., is now subject to the approval of the student's school director. Fortunately, the effect this will have on our graduate students' project directors is practically

nil; the changes primarily affect those people that handle personnel paperwork (hence our bills of lading dilemma).

Another major change that has transpired concerns the fee schedule for graduate students employed as graduate research assistants (as well as graduate co-ops, who are actually recognized as GRAs). GRAs employed at a percentage of time of at least 33.33, who are employed no later than the first week of classes, and who are employed for the full quarter now register at greatly reduced fees for that quarter. In the past, GRAs who were registered as out-of-state students could get their out-of-state tuition waived. The reduced-fee schedule for GRAs now provides a significant incentive for in-state students to become GRAs, too. The change in fee schedule affects only those students employed with the title of GRA (or GTA, of whom there are none in GTRI); GAs (graduate assistants) are not eligible.

Finally, the vast majority of our GRAs have now been changed to a monthly-pay status instead of receiving compensation for each hour worked. When your GRAs wave white timesheets in front of you toward the end of the month, don't assume they have lost their minds: they are now salaried employees, just like the project directors for whom they work.

For those of you who are interested in little-known facts, here's one: GRAs who are not citizens of the United States can be employed by us, but they may not be paid with State funds.

Meeting

(from page 1)

Although the majority of this staff gain is due to an increase in student employment, Dr. Grace noted that one sign of real research growth is that GTRI added 27 net full-time professionals by the end of 1987. The number of graduate research assistants has risen from about 75 in 1984 to 170 currently.

"Our fiscal stagnation appears gone," Dr. Grace said. "The first quarter of FY 1988 saw total research awards amounting to \$26.8 million, more than twice as much as for a similar period in any year in the past. This figure represented 138 separate contract awards." He added that, as of August 31, 1987, the number of research proposals outstanding was up 40% and the dollar volume of proposals under review was up 50% from the same time in 1986—amounting to some

\$250 million! (See box, page 1.)

"In summary," Dr. Grace said, "The challenge before us is to ensure that:

- With the expanding backlog, we continue to emphasize high-quality research and hire only quality people.
- Our internal research expenditures are directed toward improving the center of gravity of our research capability.
- Our organizational structure enhances, and does not inhibit, our ability to work on multidisciplinary programs.
- We properly leverage our considerable investment in GRAs—to both their and GTRI's benefit.
- We never forget that our real strength is in our research and support staff—it is they who make GTRI a great place to work."

PERSONAL NOTES

EDL: **Gayle Warren** has been invited to join the Executive Round Table at Kenesaw College. Composed of students with high grade point averages and leadership qualities, the Round Table promotes interaction among students, faculty and community industry members.

Chris Thompson and **Cindy Hurley** were married September 19 and honeymooned in Greece.

ECSL: **Jeff Hopper** was married to **Elaine Swobe** August 29. Elaine is an administrator at Grady Hospital.

Janice and **Bob Utterback** welcomed **Deborah Michele** to their family July 14.

OOD: **Janice Manders** ran for the Powder Springs City Council in October, motivated by a desire to do something about spot zoning abuses. She made the runoff, which will be October 31.

RAIL: **Steve** and **Katherine Taylor** had their first child August 24—a daughter, **Brittany Mae**. **Denise** and **Rob Michelson** welcomed their second child, **William Stuart**, August 15. **Kathy** and **Bill Holm** had their third child, **Christopher William**, September 15.

Pat Winn is recovering from gall bladder surgery. Condolences to **Nick Currie** on the death of his sister.

SEL: Congratulations to second-time grandpa **Lloyd Lilly** on the birth of a grandson.

Rick Morrison completed his MSEE this summer.

STL: **Bill Joye** and **Susan Williams** received their MSEE degrees from Georgia Tech September 4.

JoBeth and **Doug Martin** have a new daughter, **Bethany Joan**, born September 22.

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