

The GTRI Connector

Thought for the month

Murphy's law of research:

Enough research will tend to support your theory.

Young's law:

All great discoveries are made by mistake.
Corollary:
The greater the funding, the longer it takes to make the mistake.

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Grace reports on GTRI's health

By Martha Ann Stegar, RCO

"We're going to make it through this year, and next year will be better," promised Director Donald Grace in presenting the status of GTRI to employees at four meetings in late October and early November.

Restructuring helps in tough times

"This will be a tough year," he said, "but I believe our restructuring has already helped us in getting through these hard times. Our difficulties have nothing to do with restructuring—times are tough all over. It's a lean period for our state and our country. Our restructuring is helping us cope with changes that would have happened anyway. The pay-off will only begin this year on our new emphases, like program development, quality assurance, and strategic planning, but they will help us enormously."

Executive Associate Director Bob Shackelford added: "There's been more uncertainty this year than at any time during the past 10 to 15 years. We have a limited amount of money, but help will be forthcoming to the labs. Our performance during the first three months of this fiscal year has been excellent—so far, we're ahead of projections in all indicators. But this will be a lean year; the bottom line looks pretty thin."

"We were able to reduce our overhead rate by 4% (to 50%)," said Shackelford. "This decreased our income by over \$1 million, but it increased our competitiveness. Furthermore, when we compare our salary multiplier with those of other not-for-profit research institutions, we're 10% lower than our closest competitors. Our multiplier now stands at about 2.7."

Shackelford also said that, in response to the request that state agencies voluntarily reduce their budgets by 3%, GTRI put \$500,000 in reserve to fund the 3% cut and to provide insurance in case the economy continues to decline.

In answer to a question about how the new defense budget will affect GTRI, Dr. Grace said that all three services intend to protect R&D, but that Operation Desert Shield reduces that certainty. He announced that Jerry Carey heads a Georgia Tech-wide committee that is tracking defense funding. Dr. Grace added

that GTRI now has 22 Indefinite Quantity Contracts. "This can be a protective cushion," he said. "Another way we can ensure our future is to keep doing great work."

Employment climate stabilizes

Dr. Grace replied to several questions dealing with "layoffs" by saying that there had been about five terminations of researchers from lack of funding, none of which were due to the restructuring. "In fact," he said, "they generally represented multi-year coverage problems for the individuals. The restructuring simply made coverage problems that had been there all along more visible. We were successful in getting most people with support problems placed in other units, and we don't anticipate many more terminations."

Jerry Carey pointed out that GTRI has been impacted less by DoD funds cuts than other research labs and high-tech industries. "We're trying to broaden our base—get work from agencies like NASA as well as DoD. We need to be in the right technologies and do quality work."

Bob Shackelford summed it up: "The desire to establish a stable employment environment is shared by all of us. OOD has a small contingency reserve, although it is much smaller than in the past. One reason is that we allocated contract development funds earlier this year, due to changes in the sponsor community."

Development funding stresses investment return

In discussing program development, Shackelford said that each lab will get about 12.5% of its sponsored personal services for contract development. "The total we have to spend is about the same as last year," he said, "but the way you will get it is totally different."

Continued on page 2

GTRI is meeting the challenges of recessionary times with the aid of new strategies.



Director Don Grace reports on GTRI's status at one of the GTRI—Present and Future meetings. (Photo by Joe Schwartz)

Observed & Noted

GTRI smoking policy announced

Based on the specific recommendation of several Quality of Life committees, our determination to provide a comfortable and healthy working environment for our employees, and our personal concern about the adverse effects of secondary smoke on both smokers and nonsmokers, we are instituting a policy of NO SMOKING IN ANY BUILDING, OFFICE SPACE, OR LABORATORY CONTROLLED BY GTRI.

This policy is effective immediately for all employees and visitors to these facilities. We appreciate and expect your full support of this policy.

(Signed) Donald J. Grace

Tech starts a new optical research center. *Read about it on page 2.*

Government inspectors compliment Tech on its improved security program. *Details are on page 3.*

Doug Moore—unsung hero. *Read the exciting story of his*

help in an emergency on page 3.

TQM—what is it and what is GTRI going to do about it? *For some insight on the subject, see page 4.*

A profile of the MAPS groups is on page 5.

Who won the "unique employees" contest? *Some surprising preliminary results are on page 6.*

And for the usual news of employee activities, turn to pages 7 and 8.

Happy holidays to everyone!

News & Notes

GTRI Future

From page 1

Ten Program Area Development (PADC) committees have been established along the lines of broad research areas, with each lab director serving on an average of three. These committees will look at the overall effectiveness of each program development request in deciding where to allocate funds.

Future outlook is bright

Dr. Grace closed on an upbeat note. "Overall, we're in good shape," he assured the staff. "Morale is generally good, and there are a number of factors that position us well for the future.

"The Georgia Tech administration is beginning to get settled in with its new people and new structure, making it easier for us to interact with them.

"They've finally secured full formula funding from the legislature that is more appropriate to Resident Instruction's needs.

"Our relations with the Chancellor's Office and with state government are excellent, and we're paying attention to the national and international arenas.

"Getting the Olympics will have a wonderful impact on Georgia Tech. GTRI people had a lot to do with winning the Olympics, and we want to be positioned to take advantage of the benefits it is bringing.

"Finally, we expect great things from the recently formed research alliance among the state's four flagship universities (Georgia Tech, the University of Georgia, Georgia State University, and the Medical College of Georgia), as well as the Atlanta University complex, and Emory University." □

Vital Statistics

How did GTRI fare in FY90? Here is a comparison with FY89:

Expenditures

Sponsored Personal Services:

1989 - \$32.8 million

1990 - \$34.0 million

Total Expended:

1989 - \$100.5 million

1990 - \$95.8 million

Research Awards

1989 - \$88.5 million

1990 - \$88.6 million

Contract PS Backlog (June 30)

1989 - \$20.0 million

1990 - \$19.9 million

Sponsors

Department of Defense:

1989 - 81.5%

1990 - 80.1%

Other Federal Government:

1989 - 3.9%

1990 - 4.7%

State & Local Government:

1989 - 1.1%

1990 - 0.9%

Industry:

1989 - 13.5%

1990 - 14.3%

Employees (June 30)

Full-Time Professionals:

1989 - 671

1990 - 672

Full-Time Support:

1989 - 354

1990 - 337

Co-ops & GRAs:

1989 - 254

1990 - 240

Total Staff:

1989 - 1,543

1990 - 1,462

Tech launches new optical research center

By John Toon, RCO

Georgia Tech has launched a new Center for Optical Science and Engineering (COSE) to coordinate interdisciplinary research and education programs in optics. These programs include nearly 70 faculty members and more than \$6 million a year in research. The effort formally began with an inaugural symposium November 2-3.

Organizers expect the Center to broaden educational opportunities in the expanding field of optics, increase interaction among faculty, provide for shared facilities, expand research activities—and give potential research sponsors easier access to a broad-based research program. This program includes optical materials, classical optics, photonic sensing, telecommunications, holographic storage of computer data, optical computing, electro-optic sensors, and a host of other disciplines.

"The Center will allow us to facilitate the transfer of students between various academic programs, and it will provide an umbrella for a number of activities involving all units on campus that are involved in optics," says Dr. Carl Verber, a professor of electrical engineering and one of the Center's co-founders. "The whole idea is to be a facilitator throughout Georgia Tech."

Tech's educational programs in optics are found primarily in the School of Electrical Engineering and the School of Physics, but also include units such as the College of Computing and School of Mechanical Engineering. Sponsored research programs take place in the academic units, as well as in the Georgia Tech Research Institute.

Verber believes Georgia Tech's diverse research program allows it to offer an integrated approach to many optical science problems. "In the integrated optics area, we offer not only the people who can design the devices, but we also have people who understand the systems in which the devices will operate, and the facility in which to make them. It's a very good combination."

In addition to the optics-oriented work, Tech researchers use optical technology for sensing and measuring in other disciplines,

notes Devon Crowe, GTRI's associate director for Strategic Planning and Internal Research. "Optics is part of a very large and growing fraction of the research activities going on at Georgia Tech," he says. "The interdisciplinary nature of the center will help researchers from different fields gain collaborative help to 'fill in the gaps' for their work."

Unlike many research centers launched to start up new research efforts, the new Georgia Tech center was founded to improve on existing efforts, according to Dr. Donald O'Shea, professor in the School of Physics and another co-founder. "It grew together slowly over time," he says. "There were people who recognized that optics was interesting, and they found like-minded people on campus who could work together."

Because optical science and engineering involves so many disciplines, students hoping to receive a broad optics education must take courses in several departments, O'Shea notes. To gain research experience, he adds, those same students often work in other departments or GTRI. The Center will facilitate such interdisciplinary work, while boosting cooperation and the sharing of resources.

O'Shea sees a growing demand for graduates as optical science and engineering becomes more important with the widespread use of bar-code readers, videodisc players and fiber optic communications.

Current research areas include acoustic charge transport devices, chemical lasers, electro-optic waveguide modulators, fiber optic switching networks, holographic data storage, integrated optical sensors, laser acoustics, machine vision, optical materials, optical image processing, optical sensing, photodetectors, semiconductor lasers, sensor fusion, synthetic images, and 3-D imaging.

Recent projects at Georgia Tech include:

- The world's largest lidar system, dubbed "Megalidar," with the U.S. Air Force (GTRI).
- Optical sensors for the detection of chemicals (GTRI).
- Analysis of the chaotic output of widely used laser devices (Physics).
- Laser acoustics for the noncontact monitoring of vibration and sound (ME).
- Chemically powered visible light oscillators and amplifiers (Physics).
- Low-cost, high-efficiency solar cells (EE).
- Laser-induced fluorescence of the silicon deposition process for semiconductor and optical fiber manufacture (GTRI). □



A view of the crowd at one of the GTRI meetings in Cobb County. (Photo by Kay Lindsey)



The dedication program for the Center for Optical Science and Engineering kicked off November 2 with a luncheon sponsored by the Physics and Astronomy Group of the University Center in Georgia. The speaker was Dr. Donald Osterbrock, immediate past president of the American Astronomical Society and professor of astronomy and astrophysics at the Lick Observatory, University of California-Santa Cruz. Dr. Osterbrock (left) is shown with Bob Hyde (GTRI), who, as retiring chairman of the Physics and Astronomy Group, hosted the luncheon. The University Center is an association of 18 Atlanta-area universities and colleges. (Photo by Joe Schwartz)

GTRI in the news

Below is a summary of significant GTRI national publicity that appeared during August.

- The world's largest outdoor compact range, developed by GTRI for the U.S. Army, was the subject of articles in *Defense News* (40,000 circulation), *Machine Design* (185,000), and *Mechanical Engineering* (112,000). Articles about the project have appeared in publications with a combined circulation of 400,000.
- Ergonomics research in GTRI was described in the *Chicago Tribune* (774,000) and the *Dayton Daily News* (190,437). This work, by Dan Ortiz, Mike Kelly, Ted Courtney, and others, has now reached 1.7 million readers.
- A laser-induced fluorescence technique for understanding the silicon deposition process was explained in *EDN* (137,000), *Lasers & Optronics* (50,059), and *American Ceramic Society Bulletin* (17,000). This work, by Tony Hynes, has reached 324,000 readers.
- *Design News* (170,000) and *Chemical Engineering* (70,000) published articles on Kathryn Logan's work with thermite reactions for the production of ceramic powders.
- *RF Design* (34,000), the German publication *Flug Revue* (60,000), and *The Electron* (50,000) described the sensor fusion simulator developed in GTRI. □

Tech complimented on security program

Representatives of the Defense Investigative Service (DIS) conducted a security inspection at Georgia Tech October 10-19 and complimented Tech on the continued improvement of its security program.

The DIS team found only three deficiencies during the inspection: computer disks not generated on a DIS-approved computer, computer audit trails not properly maintained, and safes that could be accessed by people without a valid need-to-know for the material. Correction of these deficiencies is in progress.

In its closeout letter to GTRI Director Donald Grace, DIS recognized Richard Ingle (ENSL), Gene Lowe (ENSL), Cynthia Wierchem (ENSL), Phyllis Christopher (RSD), and Jenny Tate (RSD) for their exceptional knowledge, attitude and support of the security program at Georgia Tech. Security Director Bob Lang commented: "The Research Security Department would like to extend its thanks to these Tech professionals and all others who make security a part of their job and, therefore, make Tech all it can be in its role as a government contractor."

DIS is the cognizant office responsible for ensuring that "procedures, methods, and physical safeguards employed by contractors are adequate for the protection of classified information entrusted to them." Its inspectors assess the adequacy of Tech's security system by reviewing records maintained by responsible Tech employees, interviewing employees on their security knowledge, and ensuring that Tech is in compliance with the regulations of the Industrial Security Manual. □

GTRI employees contribute \$59,219 to Charitable Campaign

By Maggi Harrison, HRD

The Charitable Campaign is over for another year, with 53% of GTRI employees making contributions in the form of payroll deduction, check, or cash. The total amount collected from GTRI is \$59,219, a \$3,000 gain over last year.

Sincere thanks to each one of you who were able to make a contribution this year. With prices rising all the time and the uncertainty in the economy, it is hard to find spare money. Your generosity is super!

Many thanks also to the 31 volunteers in GTRI who helped with the Campaign: distributing and collecting the pledge cards, answering questions, etc. Your assistance was highly appreciated!

Following is GTRI's final report as of November 8:

Unit	Donation	Total Employees
AST	\$1,398	21
ATL	460	16
CAL	3,590	30
CMDL	1,382	26
COM	1,547	16
CSIT	2,341	31
EDL	3,237	76
EEE	1,310	24
EMST	2,223	24
EOL	3,087	39
ESL	1,910	23
ESML	1,856	38
ESTL	2,448	61
FMD	886	30
HRD	671	19
MAL	4,126	36
MAPS	1,136	22
MATD	1,920	50
MSD	349	21
MSTL	1,285	21
OOD	7,481	49
PSL	1,395	19
RAD	597	12
RCO	1,325	12
RIDL	1,216	41
RPM	305	5
RSA	2,095	31
RSD	713	15
SSD	813	16
STL	2,484	18
TSDL	3,633	99
Totals	\$59,219	941

Wreck and rescue

By Lincoln Bates, ESTL

A few weeks earlier, Doug Moore had read about it — a rescue attempt from a burning car. In late October on a darkened road, he lived it.

Assigned to visit an apparel machinery manufacturer in Syracuse, New York, EDL's Moore was trying to find his way back to his motel about 8:30 p.m. on October 24. He turned the bend on a lightly traveled two-lane road and noticed a car on the shoulder that had struck the post at the end of a guard rail. As he passed, he saw flames flickering from under the crumpled hood.

He pulled off the road and ran back to see if anyone was in the car. As he approached,

he noticed the passenger side of the Toyota wagon had virtually disappeared, crushed like a tin can when the car became wedged beneath the guard rail.

The driver and sole occupant was conscious but dazed. His face and mouth were a bloody mess. "The interior of the car looked like a bomb had gone off," recalls Moore. "The steering wheel was broken and bent and the instruments were hanging by wires from what was left of the dash."

The car's hood had popped open, and the driver could see the fire in the engine, says Moore, who tried unsuccessfully to open the door. He sprinted to a nearby house and asked the residents to call in the emergency. He then ran back to his rental car, grabbed the tire iron and tried to pry open the jammed door, again to no avail.

An 18-wheeler stopped and the trucker jumped out. "We both tried the door but couldn't budge it. Then a pickup stopped and that guy had a small fire extinguisher. He emptied it and slowed the fire but didn't put it out."

Flames and oily smoke invaded the vehicle's interior. The injured driver, a prisoner in the compressed space, could feel the fire approaching. "We stood there, feeling helpless," says Moore. They heard the driver moan, "God, I'm going to die!"

He craned his neck and stuck his head out the broken window to gulp some air, his face covered with sweat and blood. "He somehow got his arms out, too, and when I saw that it suddenly occurred to me we could possibly drag him out through the window. I knew if we couldn't, he'd die."

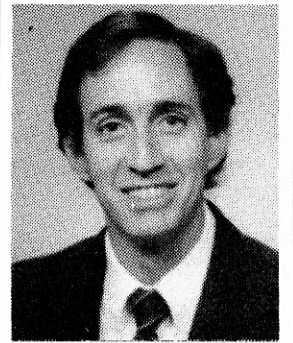
The sense of urgency and danger had increased as the fire grew, Moore recalls. Up to that point it seemed as if the rescuers had a minute or two to work, but it quickly became too hot to remain near the car. They made a last effort.

"We pulled him free, and saw that his pants had started to burn. In another 30 seconds, the entire car was in flames. We realized it could blow any second."

A fire truck and police cars arrived at the scene. An emergency medical crew administered first aid and took the still-conscious motorist to the hospital. As for Moore, he finally did get back to his motel. He called a friend to recount the events. "It was pumped for a couple of hours after it happened."

He wonders about the timing. If he'd taken that road the first time he'd seen it, he might have passed the site before the accident occurred. And then there was that story he'd read in *Reader's Digest* only weeks before about a fellow who chanced upon an auto wreck and pulled a passenger to safety.

Coincidence, yes. Heroics, no. At least that's how Moore sees it. "We saved his life, but it's nothing more than what others would do. I just hope someone would do the same if I were in a crash like that." □



Doug Moore, EDL, saved an accident victim from a fiery death.

"We pulled him free, and saw that his pants had started to burn. In another 30 seconds, the entire car was in flames. We realized it could blow any second."

Environmental speaker

The Georgia Tech Environmental Forum invites the campus community to hear Bryan Hager of the Sierra Club speak on "Water Use and Abuse" on Thursday, December 6, at 11 a.m., 3rd floor, Student Center. He will focus especially on the Chattahoochee River. Call John Schendel, 377-2235 (home) or 938-7710 (work) for details.

**Profile
&
Insight**

*"We believe the people who do the actual work are best qualified to look at what they do and suggest how the process can be improved."
—Fred Cain*

*"TQM will make us more competitive in areas where we want to compete. This is our key to survival in today's market."
—Don Grace*

GTRI Focuses on Quality

By Martha Ann Stegar, RCO

GTRI has embarked upon a program of total quality management in all aspects of the research organization's operations. But what do we mean by total quality management (TQM), and why the need to focus on it? And how does GTRI plan to implement TQM?

What

"Total quality management is a way of life," says Fred Cain, who heads GTRI's newly created Quality Assurance Office, assisted by Milton Bennett. "Traditional quality control is just a tiny part of it. If we build quality in up front, then we won't have to worry about problems or rejects at the end."

To achieve TQM, Cain explains, "every individual and every working unit in GTRI must be involved in continually examining every step in our work to find ways to eliminate problems, to improve what we do, and to have more fun doing it. If we couple the results of that kind of involvement with effective systems for fixing problems and for making improvements, we then will have the most essential ingredients for achieving a continual upgrade of quality in every aspect of GTRI operations. We are talking about quality not only in our project work, but also in our managerial performance, in our administrative processing, in our technical performance, in our research support functions, in our contract development, in our planning, and in every other function and attribute of GTRI."

Why

But, first, why total quality management? Cain explains: "No matter how good an organization is—and we're the acknowledged leader in a number of fields—there's always room for improvement. There's no such thing as standing still. In this business, you either constantly strive to go forward, or you fall back."

There are always ways to do something better, more efficiently, with less time, effort and expense, to produce an improved product, Cain explains. "All these things make us more competitive in the research market. Even in an adverse economic climate, the competitor who can give the client what he wants and provide a quality product faster and cheaper than anyone else will prosper. Even more specifically, some of our DoD sponsors already have asked us for evidence of our policy and commitment to quality."

"TQM is no mysterious new panacea," he adds. "We're just talking about the normal practices of any successful enterprise. What a TQM program does is bring these practices into sharp focus, formalize an organization's commitment to quality as a priority concern."

"Improving the quality of what we do and how we do it will also make our jobs more enjoyable. It is always more satisfying to work on tasks that move GTRI ahead than to be continuously putting out fires, only to have a new flare-up appear."

How

GTRI Director Donald Grace says, "We are committed to an ongoing, continuous

process of improvement in all aspects of our work life. If we're going to make this thing work, everybody at GTRI has to 'buy into it.' Every employee from top to bottom must be totally committed to making GTRI the best it can be in every way—on every level. So we're working to create a climate that will encourage folks to identify areas that need improvement and to suggest what needs to be done to solve problems affecting quality. We in OOD also will be alert to ways to do things better."

Feedback arrangements are being made so that improvement needs that exceed the scope of the work unit (lab or service group) to handle can be passed to a network that can solve the problem or make the improvement.

pate in a two-day workshop early in December.

Within the next several months, each work unit will work with OOD to start an ongoing process of self-examination to determine what steps it needs to take to achieve at a higher level. OOD has appointed an ad hoc group to draw up guidelines to assist laboratories in developing their individual laboratory plans for the TQM process. The model will provide a common basis across GTRI, but allow each lab to tailor its plan to its unique needs. The advisory group also will suggest objective measurements labs might use to track performance. Members of this group are Jim Cofer, Larry Holland, Josh Nessmith, and Chris Summers.

The lab plans will involve personnel at the grass-roots level. "We believe the people who do the actual work are best qualified to look at what they do and suggest how the process can be improved," Cain says.

"TQM has two aspects," he explains. "First is doing our best with what we've got to work with. But we must also look at the assets we need to improve—such as data bases, management information systems, staff, and equipment—so that we can achieve at an even higher level."

Dr. Grace gives the bottom line: "The final measure of quality is customer satisfaction. TQM will make us more competitive in areas where we want to compete. This is our key to survival in today's market." □

GTRI Policy on Quality

The GTRI management and staff are fully committed to achieving the highest possible quality in all of our research and service activities.

Providing innovative, high-quality output involves all elements of the GTRI community; therefore, continual self-improvement and success require total quality management. GTRI will continually strive to meet or exceed both internal and external customer needs and expectations. This goal is to be achieved by creating an organizational culture embracing concepts, tools and techniques to cause the continuous improvement in the performance of all functions as well as providing a means of measuring the improvement in quality of everything accomplished at GTRI.

Total Quality Management is an integral part of our operation, intellectual climate, and culture. We are all committed to strive toward excellence in research, and all its related functions, through implementation of TQM as a way of life.

This is how the network will be organized: Each lab and support unit will have its own quality council or group with members representing all aspects of its operations. Several GTRI-wide councils will focus on concerns of lab directors, project directors, and technical quality issues. These councils and groups will assist in collecting and forwarding improvement requirements to the Director's Office for assignment to an action team.

When a significant problem is identified, a Corrective Action Team (CAT) will be appointed to examine it and recommend a solution that can be turned over to implementers. "A CAT is an ad hoc team formed to handle one-of-a-kind problems that affect customer satisfaction, whether it be an internal or external customer," Cain explains. So far, three CATs have been organized on the GTRI level. Laboratories and support units also will appoint CATs as needed.

When

GTRI management issued a formal policy statement on quality in late September. This was no empty gesture of lip service, however. The first evidence of its seriousness of purpose is the establishment of the Quality Assurance Office. Cain has been busy visiting all 22 research laboratories to brief employees on TQM philosophy and why GTRI needs it. Briefings are being scheduled for service group employees as well. Steps are already under way to implement the concept, with some activities already in place and others planned for the near future.

To help GTRI prepare for the planning and start-up of the TQM process, lab directors and other managers, along with OOD, will partici-

Essentials for TQM Success

In an effort to learn what others are doing in the total quality management area, OOD personnel have attended seminars involving several winners of the Malcolm Baldrige National Quality Award—Milliken, Motorola and Xerox—as well as workshops by NASA, the Air Force, and AT&T. They also have attended a TQM seminar by Georgia Tech ISyE Professor Jane Ammons and a tele-video conference by Dr. Edward Deming. Here are some key points for success gleaned by Fred Cain:

1. There must be total commitment to TQM from the top to the bottom of GTRI.
2. Everyone has a stake in the success of TQM and must be involved in the process.
3. TQM involves a cultural change—creation of the right environment.
4. TQM takes time and patience; change can't be accomplished overnight.
5. TQM is a continuous process (there's always room for improvement).
6. TQM focuses on preventing problems rather than merely correcting them.
7. Benchmarks must be established to compare GTRI's performance with that of its competitors.
8. GTRI must develop measurement techniques to determine how well it is meeting its goals.
9. GTRI must cultivate a deep understanding of the customer's needs and requirements.
10. It must develop close partnerships with customers that guide the generation of improvements back into the system. □

MAPS at your service

By Martha Ann Stegar, RCO

One of the more prominent changes due to the restructuring is the creation of the MAPS groups. As their name—Management and Project Support—implies, these new administrative units were established to provide budgetary and management information assistance to project directors and all levels of GTRI management. They are located in each of the four major GTRI buildings on campus and in two buildings at the Cobb County Research Facility.

"We have three main, and equally important, functions," says MAPS Manager Carolyn Mahaffey. "First, we are the means for the Office of the Director to get clear, uniform and reliable data from the labs so that OOD can assess the overall health of GTRI and assist in providing a stable employment environment. Before the restructuring, the labs were reporting data in a thousand different ways. Now the MAPS units are working together to develop more efficient systems and tools, as well as to help determine which data will be meaningful. We are helping to field the Resource Management Program (RMP), software developed by Tom Brown and Ron Creswell for proposal and project planning. The management module of this tool is being developed in ORACLE and will be capable of accessing the GTRI Accounting data for use in management-level report generation. This work will help to bring GTRI into the ORACLE standard that President Crecine has set for the campus."

The second function, Mahaffey says, is "to assist lab directors in getting the information they need to manage their labs. Our goal is to provide consistent, reliable data to help them determine the financial status of their lab and plan for the future—such details as project backlog, staff funding coverage, staffing projections, and deliverables status. The third function is to provide similar data to project directors, and to help them cut through some of the red tape that can make their work so frustrating."

Team spirit

As would be expected in a new entity, MAPS is still evolving. "We're a work in progress," Mahaffey says. "It's like starting a new company. It takes a lot of trial and error. We start to implement an idea and see the need for adjustment. It probably will take a year to work out the 'bugs'—to adapt as lab needs and our role are further defined. In the meantime, we bring to GTRI a nicely working team skilled in financial and data analysis and with a broad range of expertise."

The backgrounds of the six MAPS group managers vary from electrical and textile engineering to industrial management. Three either have or are working on business administration degrees, and two have master's. One manager has a Ph.D. in ministry administration and came to GTRI from the Baptist Home Mission Board. They meet weekly for an exchange of ideas and skills. "They have an attitude of 'Let's share and succeed together,'" Mahaffey says. "In fact, our entire staff is dedicated, determined to do a good job, and above all, service-oriented."

She sees MAPS as an important cog in the new GTRI thrust in quality assurance. "We provide information that helps managers see where the problems are so they can be easily corrected before the situation reaches the

crisis stage. One of our goals is to provide monthly status reports for lab directors, and for project directors on request. We help researchers draft accurate budgets for proposals and hope to help project directors track project performance; these are important factors in avoiding cost overruns. We also are working closely with the project directors and OCA to resolve problems relating to deliverables. We track every deliverable in every lab, and are starting to send out lists of what's due the following month (rather than what's late)."

A glimpse at a MAPS team

How does all this work? Each MAPS group consists of a manager and two assistants. They are:

- **Baker Building:** David Benham (manager), Sharon Mattson, Joanna King
- **Cobb I:** Cynthia Rogers (manager), Helen Hunton, Carey Floyd
- **Cobb II:** Yalcin Peker (manager), Marsha Braswell, Faye Carpenter
- **CRB:** Richard Odom (manager), Judy Fitzpatrick, person to be hired
- **ERB:** Jerry Lett (manager), Mary Redish, Janice Davis
- **O'Keefe:** Gayle Warren (manager), Jan Lewis, person to be hired

"We coordinate just about everything for the labs and units assigned to us," say Marsha Braswell and Yalcin Peker in explaining the scope of their office. Some of their duties include doing most of the budgeting for proposals, running cost estimates, verifying charges with Accounting, and tracking deliverables from project initiation to final delivery.

To keep up with personal services status, Faye Carpenter coordinates all timesheets and checks them for accuracy. Each proposal and white paper is assigned a number and entered in a computer database maintained by Peker. He tracks each project from its proposal status through assignment of project number. He sends a weekly report on all new proposal and project money via PROFS to everyone in his assigned laboratories.

"Our job is to give managers the tools they need to do a good job," Mahaffey sums up. "Whatever data gathering and reporting tasks we can take off their shoulders we are glad to do. But we are not a one-stop shopping center for all kinds of support. Our focus is to increase the efficiency of generating and handling of managerial and financial information."

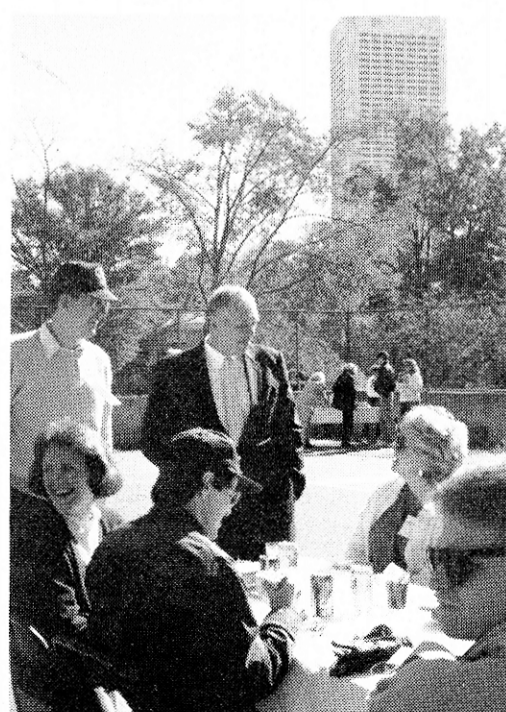
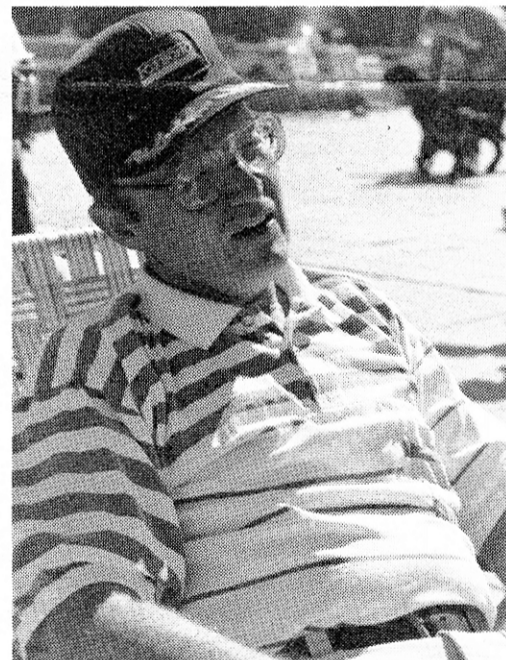
An interesting career path

As a side benefit, Mahaffey sees MAPS as providing some interesting new career paths for non-research personnel at GTRI. She, herself, has an interesting career path. After the death of her first husband, she helped his cancer surgeon, Dr. Edgar Grady, start the Medical Research Foundation, which was housed at Tech's Neely Nuclear Research Center. She wrote grant proposals, raised money, and worked herself into a paying job, learning to manage budgets in the process.

This attracted the attention of managers at GTRI (then EES), who hired her in 1979. She got some more on-the-job training from Doug Robertson, director of the old Electronics Technology Lab, then was hired by Edith Martin to handle the budgets for the Computer Science and Technology Lab. These two labs later combined to form the Electronics and Computer Systems Lab, headed by Fred Cain. The expertise she developed there was appropriated by GTRI's Director's Office

about five years ago, and she moved over to become a financial associate for the Research Operations Modeling and Analysis Group, headed by Barbara Walsh. During the GTRI restructuring study, Mahaffey chaired a committee to study the support functions performed in the labs, particularly the areas of budget and finance, with an eye to how they could be performed in a better way under the emerging new structure. MAPS was the result.

When asked to what she attributes her successful career, Mahaffey replied, "There are a number of people along the way who have served as mentors to me—Barbara Walsh, Bob Shackelford, and Pat O'Hare, to name a few—and their help has been invaluable. But the strongest influence in my life was undoubtedly my father, who instilled in me a strong moral ethic, a deep sense of self-worth, and a belief that I could do anything I set out to do." □



MAPS 6 sponsored the first annual SALMALARIDLAST OLYMPICNIC October 20 at the Cobb County Facility, getting together the four labs for which they serve as support. The festivities included softball, volleyball, barbecue and delicious homemade goodies. Ed Reedy and the lab directors introduced the attending labs' nominees for the GTRI awards. Top left, Amette Weinberger and Evan Chastain look at their award plaques. Bottom left, Ed Reedy rests after a big lunch and a hard game of softball. The door prize, a large pumpkin, was won by eight-month-old Julie Byrum. (Photos by Brian Hudson)

The Economic Development Lab hosted students and community leaders from the seven-county Griffin area for a "Tech Showcase" on campus October 27. The visitors not only received information about Georgia Tech's educational opportunities and service to the state, but also attended the Homecoming game against Duke. Macon Office Director George Lee (left) and President Crecine are shown here talking to guests.

Focus on Folks

GTRI: who are we?

The response to our unique employees contest has been underwhelming so far, but here are some preliminary results. If you or someone you know can top any of these winners, please let us know. It may be your only chance for 15 minutes of fame.

Tallest Person

We have a basketball team in CRB: Tom Autrey, ESML, is 6 feet 5 1/2 inches tall; Ben Slocumb, CAL, 6 feet 5 inches; Mike Begley, CAL, 6 feet 4 1/2 inches; Joe Brooks, ESML, and Tom Pratt, CMDL, 6 feet 4 inches. But TSDL's Jon Hoffmeister beats them all—6 feet 5 5/8 inches in his stocking feet (minus .032 inch for socks).

Shortest Person

At exactly five feet tall, Supply Services Manager Martha Farley claims this honor. Anybody shorter?

Most Children

Charlie Crawford, ASTL, wins this one with eight children. Martha Farley gets honorable mention for five stepchildren.

Longest Commute to Work

Alan Freeland of the Design Services Group in TSDL commutes daily 75 miles each way to Cobb County from Cherry Log, Georgia. Runner-up is John Toon, RCO, who lives in Barnesville, 62 miles from CRB.

Highest Mileage on Vehicle Driven by Original Owner

Harris Johnson, director of the Carrollton Regional Office, wins with a 1969 Pontiac Firebird convertible with 292,646 miles. He says he still has the original warranty card.

Running him a close second, and with a higher average yearly mileage, is his fellow regional office director, George Lee of Macon. His 1971 Volkswagen Beetle has 291,163 miles. "I've had it since grad school," George says. "It's still used every day and dependable...usually."

Special mention should be made of Richard Neidert, HRD, whose 1987 Chevrolet Cavalier has 118,200 miles (must be that 56 miles each way he commutes from Senoia), and Jerry Webb, RCO, whose 1981 Datsun has 209,800 miles.

Oldest Living Retiree

Harry Vaughan, who turned 90 this year, lives with his wife in an apartment at a retirement complex in Augusta, Georgia. Mr. Vaughan received his bachelor's degree in engineering chemistry from Georgia Tech in 1923, later headed the Ceramic Engineering Department, and founded the Engineering Experiment Station (now called GTRI) in 1934.

Most Years of Service

Steve Bomar, ASTL, has worked here 33 years. He's an expert in high-temperature materials.

Most Moves

In his 28-year Tech career, RCO's Jerry Webb has made nine moves from one building to another; multiple moves within a building swell his total to 12. The editor, who disqualifies herself, has moved 12 times in 27 years, eight of which were from one building to another.

Oldest Employee Still on the Job

Bob Collier, HRD, who celebrates his 73rd birthday this month!

Youngest Full-Time Employee

Gwen Moore, RCO, who celebrated her 20th birthday in September.

Least Sick Leave Taken (related to length of service)

Martha Farley, SSD, wins hands down

with only 63 hours of sick leave taken in the 18 years and three months she has been at Georgia Tech.

Most Unusual Hobby

Charles McCullough, HRD, collects safety razors and related objects plus electric toasters manufactured prior to 1955. (Ed. Note: *There must be a story in this.*)

Woman with the Longest Hair

Cynthia Rogers, MAPS Cobb I, can sit on her hair, which is 35 inches long!

Man with the Least Hair

It was a close call, but Dave Flowers, CMDL, edges out Bill Youngblood, ESL, by a hair! Nominator Neal Alexander attached a page from the 1988 GTRI Photographic Directory as proof. "For proof positive," he wrote, "see him in person; but be sure to wear sunglasses—the glare could be hazardous to your vision!"

Best Brush with Greatness

On Friday, April 4, 1986, Mary Ann Burke, RCO, stood in for Dr. Sally Ride, the United States' first woman in space, who was in Atlanta to give a Sigma Xi Centennial Lecture at Symphony Hall. The stage manager noticed that Mary Ann and Dr. Ride were approximately the same size and suggested that Mary Ann "stand in" for the staging so that Dr. Ride could continue her discussions with other dignitaries. (Mary Ann nominated the RCO staff who worked for Ray Moore, "the Walter Cronkite of Georgia," for this category.)

While working in the EE School, Kathie Coogler Prado, CAL, fell into interviewing the folk singer, Donovan, for WREK, as no one else knew who he was. "This sparked my interest in journalism," Kathie says, "introduced the first female voice on WREK, and because an actual celebrity had come to the station, efforts were begun to improve its appearance." She enrolled in formal journalism studies at DeKalb Community College, where her first beat was the Agora Ballroom, leading to an interview with Kim Simmons of Savoy Brown. She also had dinner with Phil Ehart of the band Kansas and his wife.

Open Category

David Bryant, ATL, nominated himself as the employee with the longest interruption in employment. He came to work at the old EES as a student assistant in 1957, joined EES full time upon graduation from EE School in 1958, left in August 1961, and returned as a senior research engineer in November 1988.

D W Senn, RCO, claims to have the shortest full name: six letters. When his parents named him simply "D W," they innocently let him in for a lot of grief with the federal government. The Navy made him put his name in quotation marks. "When I told the Social Security Administration my name was written 'D' only 'W' only, that is, without periods, they sent me a card listing my name as Donly Wonly," D W sighed. "When I objected, they said I must resubmit the form using (IO) after each initial to indicate 'Initial Only.' Back came the card imprinted 'Dio Wio!'"

Editor's Note: We're extending our contest deadline to January 8, not only to give you a chance to 'top the winners', but also to submit entries in categories where we had insufficient response. They are:

- Most grandchildren
- Most supervisors in GIT career
- Most different jobs in GIT career
- Man with the longest hair
- Most helpful
- Most unforgettable (current or former) employee

You may nominate yourself or someone else. Be sure to send in sufficient information to judge your entry—actual numbers in the first four categories and a paragraph or two describing why you think the nominee is the most helpful or unforgettable in the last two categories. Send to Martha Ann Stegar, RCO, 227 CRB; PROFS MSTEGAR; or call 894-6988.

Who's the tallest at GTRI? The shortest? The oldest? The youngest? Travels the greatest distance to work? Has the car with the highest mileage? Can you beat any of these winners?



A large group of runners from GTRI and Georgia Tech participated in the Manufacturers Hanover Corporate Challenge road race September 12. The GTRI/GIT team, captained by Sherri Odom, finished third—behind EDS and Boeing. The overall individual race winner was Jim Cooper from GTRI-Cobb County. Tech runners included (left to right)—Front row: Joel Ruda, Rusty Roberts, Ronald Puent, Sherri Odom, George Whitley, Jill Butterfield, Christie Belcher, Steve Warner, David Asbell; Back row: Bob McMillan, Bradley Newton, Jim Cooper, Gary Lunsford, Vincent Camp, Tom Autrey, Homer Cochran, Tim Dodd, Tom Wells, Larry Corey, Jim Cofer, Neal Alexander, Bill Holmes, Julian Price, Doug Devine, Don Esper, Frank Sawyer, Tom Cotter. (Special Photo)

Professional Activities

Aerospace Lab

Charles Crawford was the keynote speaker at the American Helicopter Society's Specialist's Meeting on Innovations in Rotorcraft Test Technology for the 90's in Scottsdale (AZ) October 9-12. His subject was "Flight Test's Role in the Technology of the Product and the Technology of the Process."

Krish Ahuja chaired a plenary session at the 13th AIAA Aeroacoustics Conference held at Tallahassee October 22-24. He and his students—**Clarke Stevens** (EE) and **Jack Manes, Kevin Massey, and Andrew Calloway** of AE—presented the following papers: "Controlling Plume Deflection by Aeroacoustic Excitation" (Ahuja); "An Evaluation of Various Concepts of Reducing Supersonic Jet Noise" (Ahuja, Manes, Massey, Calloway); "Recent Advances in Active Noise Control" (Stevens, Ahuja); "Jet Mixing Enhancement by Hydrodynamic Excitation" (W.H. Brown, Ahuja).

Communications Lab

Eric Barnhart was interviewed by WGST radio on telecommunications security and privacy in connection with a story on wire-tapping and unauthorized recording. The story aired October 29.

Concepts Analysis Lab

Mike Kelly presented a paper, "Mistakes and Pains: Recognizing When the Job Doesn't Fit," October 13 at the conference of the National Society for Performance and Instruction at Georgia State University. He also gave a paper on "Ergonomics in Manufacturing Workstation Design" at the Conference on Control and Prevention of Repetitive Motion Trauma held at Auburn University October 23.

Economic Development Lab

Art Brown became a Certified Industrial Developer in October, passing the exam administered by the American Economic Development Council.

Ned Ellington recently spent a week in Guatemala helping ICAITI (a Central American research institute for industry) develop a strategic plan for the initiation of a Quality Management Center to serve the needs of regional industry.

On October 18, the Central Savannah River Area Regional Development Center presented a plaque to the Augusta Regional Office for service to the area's economic development. **Elliot Price** accepted the award.

Electro-Optics Lab

Jim Beletic gave a paper entitled "Monitoring Dust Storms on Mars with Speckle Imaging" at the Division of Planetary Sciences Meeting in Charlottesville (VA) October 23-24.

Dave Schmieder and **William Owens** taught the Infrared/Visible Signature Suppression short course at Cobb County October 23-26.

Modeling & Analysis Lab

Mike Tuley taught a Radar Cross Section short course October 26 at Patuxent River (MD).

Physical Sciences Lab

A paper by **Ed Daykin** and **Paul Wine** entitled "Rate of Reaction of IO Radicals with

Dimethylsulfide" appeared in the October 20 issue of *The Journal of Geophysical Research (Atmospheres)*. Wine presented invited seminars at the NOAA Aeronomy Laboratory in Boulder (CO) October 24 and at North Carolina State University in Raleigh November 9.

A paper by **David Hughes** and **Robert Feeney**, "Intentional Overstress Trimming of Active Semiconductor Devices," was published in the November issue of *IEEE Transactions on Electron Devices*.

As a member of the Program Committee, **Chris Summers** helped to organize the U.S. Workshop on the Physics and Chemistry of HgCdTe, held in San Francisco October 2-4. His group presented two papers at the meeting: "Reflection High Energy Electron Diffraction Studies of CdTe and HgTe Grown by Chemical Beam Epitaxy," presented by **Rudy Benz II**, coauthors **Brent Wagner, Raj Rajavel**, and Summers; and "Characterization of CdTe, HgTe and Hg_{1-x}Cd_xTe Grown by Chemical Beam Epitaxy," presented by Wagner, coauthors Rajavel, Benz, and Summers.

A paper coauthored by **Chris Summers**, "MOCVD Growth of Novel Epitaxial II-IV Solar Cell Structures," was presented at the International Conference on Electronic Materials, held in Newark (NJ) September 17-19.

Radar Systems Applications Lab

Guy Morris, Bob Trebits, Ben Perry, Sam Piper, Eric Sjoberg, and Jim Byrum participated in the Principles of Modern Radar short course November 7 at the Cobb County Research Facility.

Guy Morris and **Mel Belcher** presented a short course on Pulse Doppler Radar at Carl-Cranz-Gesellschaft, Oberpfaffenhofen, Germany, October 23-26. Students were from Germany, Sweden and Denmark, representing both industry and government.

Research Communications Office

"Spanish Nights," a short story by **Mark Hodges**, was published in the Winter 1990 issue of *The Chattahoochee Review*.

An article by **Jim Kloepfel** on "The Confederate Submarine H. L. Hunley" appeared in the Fall 1990 issue of *Alabama Heritage*, a quarterly publication of the University of Alabama.

Research Security

Bob Lang has been appointed the 1991 chair of the Standing Committee on Government Security by the American Society for Industrial Security.

Regional offices spearhead downstate media effort

An effort to disseminate technology-related stories to downstate Georgia newspapers via the regional offices will mark its first birthday at the end of December.

"The effort has produced a lot of results in a short time," says the Macon Regional Office's David Chatham, a leader of the Media Resource Committee which launched the "Living With Technology" columns in January 1990.

Over a 10-month span, according to Chatham, 109 articles have been published in 25 different newspapers, with a combined circulation of some 408,000 readers for all articles published. Most of these papers are weeklies serving rural or suburban communities. The publications range from the *Warrenton Clipper* and the *Darien News* to

the *Rockdale Citizen* and the *Bryan County Times*. The committee hopes soon to begin marketing the columns to daily papers and increasing the monthly mailout from three stories to four.

The purpose of the effort is to inform readers about technologies that affect their daily lives, at home or at work—from bar coding and instructional TV to solar power and statistical process control. It also helps project Georgia Tech downstate. The stories not only go out from the regional offices, they frequently reference Georgia Tech research and service. "We haven't been getting into these regional newspapers on a consistent basis until now," says Chatham.

Numerous people have contributed stories, including John Toon and Ginger Pinholster from RCO, Pam Rountree at the News Bureau, Claudia Huff and Stephanie Babbitt of ESTL, and EDL's Mike Brown, Doug Moore, Chris Downing, and Carol Aton. Bonnie Lann handles production and distribution. Lincoln Bates is editor. □



At a recent meeting of the Senior Technology Guidance Council, **Bob Shackelford** (right) presented a plaque of appreciation to **Jim Gallagher**, who was retiring as co-chairman of the group. (Photo by Joe Schwartz)

Research involving human subjects requires review

All research activities involving human subjects, regardless of source of funding, must be reviewed by Georgia Tech's Institutional Review Board (IRB). The IRB holds meetings the third week of each month to review research proposals involving human subjects. Researchers should submit six copies of the proposal and six copies of the subject consent form to the IRB chair no later than the first day of the month. His address is: Dr. Michael Kelly, Concepts Analysis Laboratory, GTRI, MC 0800.

Review required for research involving animal subjects

All research activities involving animal subjects must be reviewed by the Georgia Tech Animal Welfare Committee (AWC), regardless of whether the research is conducted on or off campus. The AWC meets on an as-needed basis to review research proposals that involve animal subjects. Researchers should contact the AWC chair to obtain the appropriate form to be submitted with the research proposal. His address is: Dr. Phil Kennedy, Bioengineering Center, OIP, 325 CRB, MC 0130.

Focus on Folks

Personnel News

Aerospace Lab

Doug Neale has terminated.

Computer Science & Information Technology Lab

The Software Engineering Branch, formerly of SEL, has joined CSIT. It is headed by **Fred Cox**. Also joining CSIT is the Artificial Intelligence Branch, formerly of EML. It is headed by **John Gilmore**.

CSIT welcomes new students **Molhem Aref**, **Bill Easom**, **Dan Ganser**, and **Kevin Hawkins**.

Economic Development Lab

Norris Garmon, head of the Madison Regional Office, resigned in November.

Electro-Optics Lab

Jerry Zadnick has joined EOL to help develop the high-speed, low-noise CCD camera system. He is a third-year graduate student who will do his PhD thesis research using the camera system.

First-year graduate student **Darlene Hart** has joined EOL to write data processing software for the speckle imaging project.

Menelaos Poutous, a first-year graduate student in physics, comes to GTRI after teaching at Hunter College in New York. He is working on the binary optics project with Dr. James Beletic and Prof. Don O'Shea.

Engineering Sciences Lab

ESL has reorganized and renamed its three branches based on a changed focus. **Dick Ingle** has been promoted to head the Engineering Technology Branch, **Bill Miller** heads the Applied Engineering Branch, and **Gene Lowe** heads the Systems Technology Branch (previously the Systems Requirements Branch).

The Software Engineering Branch and its staffers—**Fred Cox**, **Bryan Williams**, **Susan Liebeskind**, **Jim Allison**, **Jeffrey Murray**, and **Karin Hartzell**—have transferred to the Computer Science and Information Technology Lab.

John F. Maguire joined ESL July 2 as an SRE and was promoted to acting associate lab director effective October 1. He worked previously with ARINC Research Corp. in Annapolis (MD) as manager of systems engineering. His qualifications include a BSEE from Cornell and an MSEE from Ohio State. His current fields of interest include electronic warfare and avionics systems analysis, test and evaluation, and integration; radio frequency and data communication systems; sensor fusion techniques; command and control; and effectiveness and military worth analyses.

Dean Spencer, head of the Simulation and Instrumentation Branch, retired September 6.

Jonathan Eppstein left GTRI in September.

GRA **Brian T. Tgo** began work September 26 for the Applied Engineering Branch, and co-op **David T. Boyd** started work September 21 in the Systems Technology Branch. **David A. Brown** is a new student assistant in the Applied Engineering Branch.

Staff assistant **Vernessia Massey** transferred to the Signature Technology Lab August 23.

Environmental Lab

Gary Burdett, a visiting asbestos researcher, finished his stint at GTRI in October and returned to Great Britain.

David Mayer, manager of ESTL's Training Programs Office, has resigned.

Modeling & Analysis Lab

Matt Cobb has terminated.

Physical Sciences Lab

Mr. **Kenji Maruyama** joined Chris Summers' group in early October to start a one-year visiting scientist fellowship sponsored by his company, Fujitsu Laboratories, Ltd., Atsugi, Japan. He is working on the chemical beam epitaxy of HgCdTe.

Dr. **Shouzhi Wang**, an associate professor for Dalian Institute of Chemical Physics, has started a one-year fellowship in Paul Wine's group, working on atmospheric chemical kinetics and photochemistry.

PSL welcomes GRAs **Christie Shackelford** and **Tuyen K. Tran**.

Printing & Photographic Center

Best wishes to former PPC manager **Paul Thomas**, who has become director of human resources at Louisiana State University. His Georgia Tech career also included a stint at HRD in GTRI.

Radar & Instrumentation Development Lab

Gloria Holden and **Julie and Bruce Huitt** have terminated.

Joe McKee has transferred to the Information Technology Technical Services Department on campus.

Research Communications Office

Derrick Johnson joined RCO as a student assistant November 1.

Threat Systems Development Lab

New RE T's **David Camp** and **Thomas Tapp** began work October 11.

Judy L. Parks is a new senior secretary in the Systems Development Branch.

Helen Hunton has been promoted to information analyst I and has joined MAPS 5 (Cobb County), replacing **Sharon Mattson**, who transferred to MAPS 2 (Baker Building).



Pat O'Hare was one of 11 Georgia Tech administrators who volunteered to experience Tech from the viewpoint of the physically impaired on Disabilities Day, October 18. (Photo by Gary Meek)

Personal Notes

Achievers

Janet Nelson, a former co-op for Charlie Crawford in ASTL, was named Ms. Georgia Tech at the homecoming game October 27. Chosen in recognition of her outstanding scholarship and leadership abilities, the industrial engineering major is the first junior to win this honor.

Janice Manders (OOD), who has changed back to her maiden name, Janice Porter, has been chosen by the Cobb County Chamber of Commerce as a 1991 Honorary Commander at Dobbins Air Force Base. In this capacity, she will make about one trip per month to a different military base for a briefing and tour.

Tonya Lashley, a graphics technician II in PPC, has been a competitive powerlifter for five years. She holds five current Georgia state records and is ranked nationally in the top three in her class (165 lbs.). Her best competitive lifts are the 425-lb. squat, 211-lb. bench press, and 340-lb. deadlift.

Wedding Bells

Raj Rajavel, a materials engineering GRA in PSL, recently was married to Kavitha Swaminathan in Maduri, India.

Cradle Roll

Lee Hughey (RCO) welcomed a second grandchild, Austin Lee Hughey, November 2.

Charlotte Irvine (ATL) became the proud grandmother of Tyler Andrew Douglas Queen on October 25.

Our Sympathy

Our sympathy to **Pat Burns** (MATDL) on the death of his father October 31.

Serving our Country

Sharon Neu's (CMDL) son-in-law, Cpl. Carlos A. Fonseca, has been stationed in the Middle East since September 2. He is with the Headquarter Battalion/1st Marine Division Service Company.



Gwen Moore, RCO, and her daughter, Olivia Christine, visited GTRI in mid-November. Olivia was born October 22. (Photo by Martha Ann Stegar)

Women's Club events

The Georgia Tech Faculty Women's Club welcomes all faculty members and spouses to the following:

Dec. 5 Festival of Trees (volunteer project), World Congress Center

Dec. 11 Holiday Wine and Cheese Party, 5-7 p.m., Faculty Club

Jan. 26 A Family Affair, 12 noon lunch, followed by Women's Basketball game, Coliseum

For details, call Rosalind Ho, 633-3830.

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EDITOR

Martha Ann Stegar, RCO
894-6988

DESIGN

Martha Ann Stegar, RCO
894-6988

PHOTOGRAPHY

Joe Schwartz, RCO
894-6980

EDITORIAL REVIEW

Patrick O'Hare, OOD
894-3490

ASSOCIATE EDITORS

Lincoln Bates, O'Keefe
894-6091

Marsha Braswell, Cobb I
528-7750

Janice Davis, ERB
894-8229

Carey Floyd, Cobb I
528-7012

Joanna King, Baker
853-0460

Janice Manders, OOD
894-3401

Charles McCullough, Services
894-3445

Kathie Coogler Prado, CRB
894-7268