

# The GTRI Connector

## Finagle's First Law:

- If an experiment works, something has gone wrong.

## Laws Attributed to Murphy:

- Firmness of delivery dates is inversely proportional to the tightness of the schedule.
- Any system which depends on human reliability is unreliable.
- If a test installation functions perfectly, all subsequent systems will malfunction.

(From the collection of Barry Rosenberg)

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## GTRI awards may be higher than last year

**G**TRI contract awards rose to the \$12-million level in May, the third month in FY91 that the organization reached this threshold.

Calling May "a fantastic month," Executive Associate Director Bob Shackelford said that GTRI now has received approximately \$92 million in awards this year, a figure which is almost \$10 million ahead of the FY90 pace.

He added that "a normal June" of business would allow GTRI to finish FY91 with nearly \$100 million in total awards—an annual increase in the range of 8% to 10%. At the beginning of FY91, such an accomplishment seemed unlikely, as the U.S. contract research community braced itself for a round of federal budget tightening.

Speaking at the June 3 senior management and administrative staff meeting, Shackelford commended GTRI laboratory directors on "an absolutely marvelous job. All of your staffs," he said, "have done exceedingly well this year."

He added that OOD has released the last equipment funds that it will be able to disburse in FY91. He said that during the fiscal year, GTRI laboratories received about \$2 million in equipment funds, thanks to recent equipment awards by the Tech administration through the GTRC lease program.

In other business at the June senior staff meeting, Jack Dell, associate director of OCA, reported that GTRI is likely to begin

FY92 with a provisional overhead rate at or near the current 52% level. Dell explained that with government auditing still in progress, GTRI's final fixed overhead rate probably will not be set until near summer's end. □

## Merit raises granted to part of research staff

**A**fter several months of uncertainty, GTRI has received permission from the Chancellor of the University System of Georgia to grant yearly merit raises to a portion of its research staff.

Approximately 38% of research-titled employees engaged in non-state-sponsored research are being awarded 4% annual salary increases. No other employee of GTRI will receive a raise for the coming fiscal year.

In approving the GTRI salary increases, Chancellor Dean Propst insisted that they be used strictly to reward merit. To reflect this mandate, the Director's Office decided that all raises should be a flat 4% and should consider performance, salary equity, and increased responsibility.

The pool of raises for instructional faculty in the University System equaled 1.5% of their total current salaries, and GTRI's salary increase pool followed the same constraints. Using 1.5% of the personal services budget for qualified research-titled employees, enough funding was available to give 38% of this group raises. Salary increases were made on the basis of recommendations from the laboratory directors. □



Hijinks at the GTRI Spring Fling picnic. For more pictorial highlights, turn to pages 4 and 5. (Photo by Joe Schwartz)

## OOPS!

Sheron Meyers was inadvertently left off the list of people receiving 10-year certificates that appeared in the May CONNECTOR. Sheron says it took her 31 years to reach that milestone. She came to Georgia Tech to work for Dean of Student Affairs Jim Dull in 1960 and left four years later to raise a family. Sheron joined the GTRI staff in 1983, working for two years at Cobb County until she and her husband moved away. She has been back at GTRI since 1987, working for EMSL until becoming Dan O'Neil's secretary last July. □

## Observed & Noted

Since it started up 3 1/2 years ago, the Senior Technology Guidance Council has funded 55 internal research projects for \$5.8 million. *Read about it on page 2.*

Millimeter-wave pioneer and Regents' Researcher Jim Gallagher died June 5 after a long

and distinguished career at GTRI. *Read tributes from his friends and peers on page 3.*

*Turn to the centerfold* for exciting pictures of the GTRI Spring Fling! How many people do you recognize?

Is PROFS going away? If so, when?

*To find out, see the DIALOGUE BOX on page 6.*

This month, we inaugurate a new column, FOCUS ON QUALITY, that will keep you informed of GTRI's plans, accomplishments and activities in Total Quality Management. *See page 6.*

Georgia Tech Executive Round Table President Amol Joshi describes the recent Student-Faculty-Industry Conference *on page 6.*

Who got promoted this year? *To find out, look on page 7.* Congratulations to all!

GTRI's flight crew flew its last flight testing mission earlier this month, and its two airplanes have been sold. *See page 7.*

If you like to sing, *read the Special Interest Ad on page 7.*

Congratulations to Jan Porter, who has been appointed to the Cobb 2000 Commission. *Read the news about her and other GTRI staffers on page 8.*

**News  
&  
Notes**

**STGC working  
to support  
GTRI research**

By Lea McLees, RCO

An idea expressed at a GTRI lunch meeting in the late 1980s is today a program that has invested nearly \$6 million in GTRI research since 1988.

The idea, brought up at the now-distant luncheon by past GTRI principal research scientist and Regents' researcher Jim Gallagher—and evolved into a program concept by former GTRI associate director Howard Dean and others over the years—was to provide internal funding for some cutting-edge research projects.

The program is the GTRI internal research program overseen by the Senior Technology Guidance Council (STGC), which has funded GTRI researchers' proposals each year since March 1988, about six months after its 1987 creation. A total of 55 projects have been funded for \$5.8 million, according to STGC chairman Devon Crowe.

GTRI's investment in its own research is important for several reasons, say those who have received STGC funding over the past three years. Senior research engineer Nile F. Hartman is entering his second year of STGC funding of a project on semiconductor integrated optics for phased-array radar.

"The problem is that you have to show some sort of track record in a technology," he said of pursuing outside funding and contracts. "If you have some experience, a publication, or can present some real data, you are much more convincing to potential sponsors."

Dr. W. Jack Lackey led a one-year project on diamond deposition that won STGC funding about two years ago. The money paid for some equipment that allowed researchers to become proficient in depositing diamond coatings on various substrates for electronic applications. The coatings provide erosion and wear resistance for optical and mechanical components.

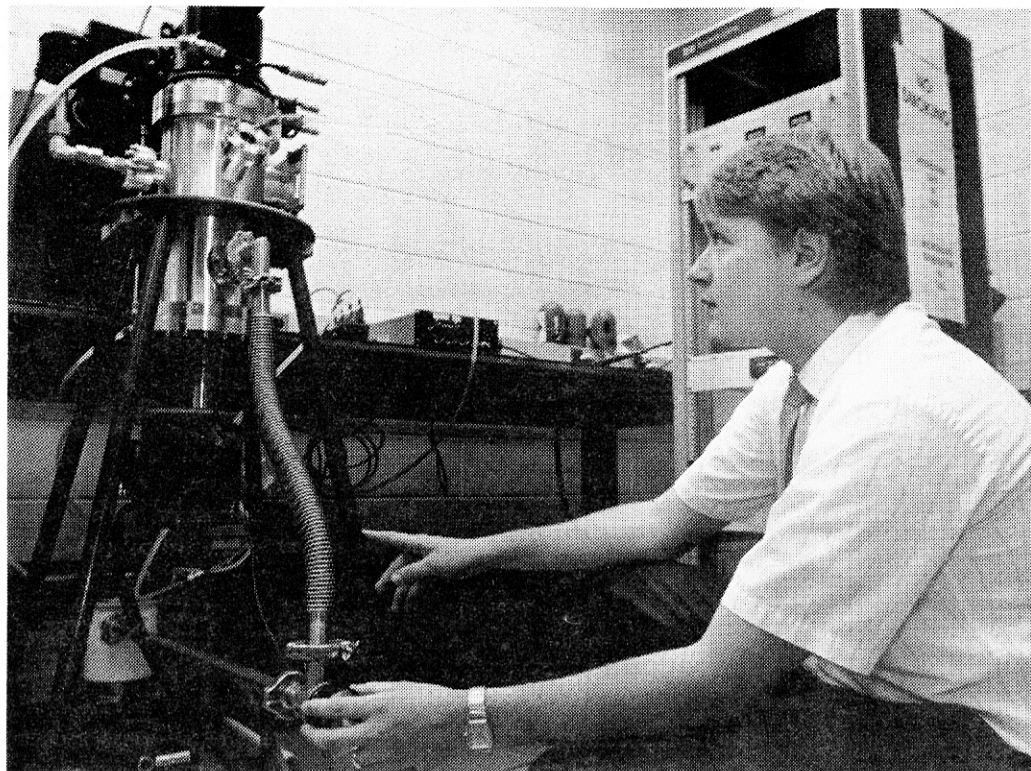
"We were able to get a contract that used the equipment," Lackey said. "That is an example of how that STGC investment paid off."

The funds come from portions of GTRI earned overhead on externally funded projects, Crowe explained. "It really is quite a significant investment, especially when you consider it has represented 25% of our discretionary expenditures at the GTRI director's office level," he said.

Systems and subsystems projects account for about 66% of the total spent so far on STGC projects, according to Crowe. Amounts spent in various groups range from \$364,266 in materials sciences to \$1.04 million in radar. Eleven projects chosen from 85 proposals were newly funded during the current fiscal year at a cost of \$1.47 million.

The funding process begins each year with a call for project proposals from GTRI's 657 research faculty members.

Proposals are submitted to STGC, a group including principal research engineers and scientists working in a variety of fields. They are appointed to three-year terms by the GTRI Executive Council. The 11-member



**John Hanigofsky monitors the chemical vapor deposition instrument used to form diamond coatings. This research won STGC funding about two years ago. (Photo by Joe Schwartz)**

STGC also includes a chairman and one to three non-GTRI members who are of principal rank or are full professors.

Council members divide into groups of two, getting help from non-council members in reviewing proposals. The top 20 proposals are scored based on technical merit, competitive advantage, credibility of proposal and cost/benefit ratio. Scores are then normalized and ranked. The proposals are funded in rank order until all available money is assigned.

Among the projects currently being funded by STGC money is one that could give Georgia Tech a unique capability. Dr. James W. Beletic and other researchers are studying binary optics design and fabrication, designing ways of doing complete production at on-campus facilities. Although research into isolated aspects of binary optics fabrication is being pursued in many organizations, the entire process is not being done on any other single university campus.

Hartman's research into integrated optic waveguides, using planar substrates instead of conventional fiber optics, led to applications of the idea outside of phased-array radar. "We are focusing on its use in phased-array radar, but we're finding that we are generating other ideas and uses for this technology," he said.

Council members are actively following up on the return on GTRI's investment, Crowe said. Among the indicators being studied are

the number of new contracts, publications, white papers, proposals, graduate student research projects, dissertations and degrees internally funded research has supported. □

**"You have to show some sort of track record in a technology. If you have some experience, a publication, or can present some real data, you are much more convincing to potential sponsors."**

**—Nile Hartman**

**Senior Technology  
Guidance Council**

**Chairman**

Devon G. Crowe, OOD

**Council**

- Krishan K. Ahuja, ASTL
- Larry E. Corey, MATDL
- David C. Flowers, CMDL
- John C. Handley, ASTL
- Thomas M. Miller, CAL
- Josh T. Nessmith, RSAL
- Thomas L. Starr, MSTL
- Laura J. Turbini, OIP
- Carl M. Verber, EE
- Paul H. Wine, PSL

**Executive Assistant**

William C. Howard, OOD

**Senior Advisor**

Albert P. Sheppard  
Department of Mathematics  
Florida Southern College

**GTRI in the news**

GTRI received the following national publicity during March:

- *Industry Week* (300,000 circulation) published a brief story and photograph of the new class of microstrip antenna developed by Vic Tripp and Johnson Wang. The story also appeared in *Design News* (170,000), *Industrial Communications*, and *Inside R&D*.
- The Olympic multimedia presentation system continued to attract attention with articles in *Electronic Engineering Times* (121,537) and *Radio-Electronics* (190,000). Information on this project has now reached more than 2.8 million readers.

- The microwave precipitation radiometer developed by Joe Galliano was the subject of an article in *Microwaves & RF* (60,500).

- *Chemical Engineering Progress* (50,000) and *Civic Public Works* (13,500) carried articles on the ESTL study of the use of old tires in wastewater treatment facilities.

- *Design News* (170,000) reported on Jack Lackey's research to develop superconducting wire. □

## Jim Gallagher: Research Pioneer and Mentor

By Martha Ann Stegar, RCO

**J**ames J. Gallagher, one of the most highly respected and dearly beloved scientists in the Georgia Tech Research Institute (GTRI), died June 5 after a long and valiant bout with cancer. He left behind the accomplishments of 40-plus years of pioneering research that earned him international recognition as one of the "fathers" of millimeter wave science, as well as the affection of countless Georgia Tech students for whom he was a matchless mentor and friend.

### A millimeter wave pioneer

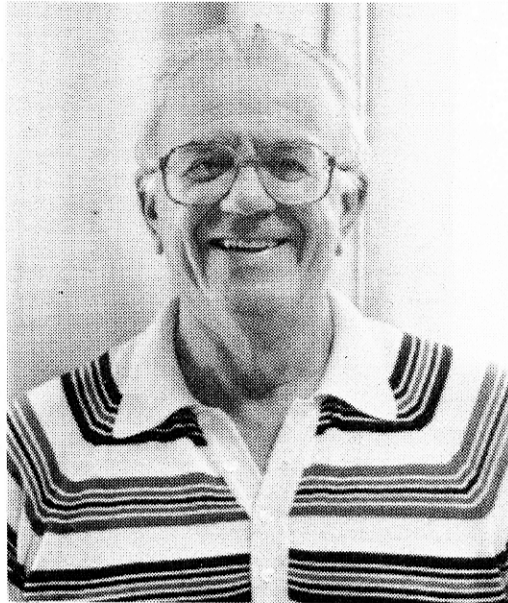
Gallagher's experience in the millimeter wave (MMW) part of the electromagnetic spectrum began when he studied under Nobel Laureate Charles Townes at Columbia University in the 1950s. Those times were especially exciting because Townes was doing the work in molecular spectroscopy which eventually led to discovery of the laser. Gallagher's interest in molecular and solid-state spectroscopy carried over to his studies at Johns Hopkins in the late 1950s, where he worked at the Applied Physics Laboratory.

In 1959 Gallagher went to work for Martin Marietta Aerospace in Orlando, Florida, continuing his MMW spectroscopy efforts. According to long-time friend and colleague Robert W. McMillan, while Gallagher was at Martin, he began using some sophisticated techniques, including molecular beams, optical absorption cells, and innovative detection techniques. He also did some pioneering work in magnetic resonance spectroscopy, contributing to the design and construction of a sophisticated superheterodyne paramagnetic resonance spectrometer. Other significant work was in cyclotron resonance spectroscopy and in characterization of new laser materials.

Some of the work he did then which is of great interest now is the spectroscopy of ozone in the MMW bands. Ozone is a very difficult material to make and handle, and measurements of its characteristics are difficult as well. Gallagher contributed to the development of the apparatus for making these measurements. He also contributed to the development of newer instrumentation and techniques to extend MMW measurements into the frequency range of several hundred gigahertz.

After moving to Georgia Tech in 1970, Gallagher continued his MMW work by winning and working on programs involving miniature CO<sub>2</sub> lasers, spectroscopy, and optically pumped lasers. He once directed a program which attempted to determine if moths were attracted by the radiation from a far-infrared laser. He also did significant work in atmospheric physics by building a four-band MMW transmissometer for Harry Diamond Laboratories.

At Georgia Tech, his work necessarily became more systems oriented because federal agency support for spectroscopy became increasingly difficult to obtain. However, Gallagher never gave up on his efforts to bring in work related to MMW spectroscopy, which was his first love.



Gallagher played a prominent role in establishing GTRI's internal research program in 1987 and served as the first chairman of the Senior Technology Guidance Council, which manages the program. He also was a tireless and effective contract developer.

His talents as an innovator earned the admiration of his peers. Physics Professor Frank C. De Lucia of Duke University observed that Gallagher's millimeter-wave electric resonance experiment utilized "an extraordinary instrument, years ahead of its time, and it was used to make scientific measurements of unprecedented accuracy."

Vernon E. Derr, director of the Environmental Research Laboratories of the National Oceanic and Atmospheric Administration, says, "There are many examples of his breakthroughs. One that comes to mind is that he and his colleagues were the first to heterodyne widely separated frequencies in the microwave region with infrared radiation. This experimental method opened up much of the frequency-standard development."

In 1982, the Institute of Electrical and Electronics Engineers (IEEE) named him a Fellow "for original and sustained contributions to molecular spectroscopy and frequency control and for the advancement of millimeter wave technology." He also was elected a Fellow of the American Association for the Advancement of Science in 1966, and was a member of the task force on superconducting electronics of the National Academy of Sciences in 1984. In 1989, he was named the first Regents' Researcher (a rank comparable to Regents' Professor) in the University System of Georgia. He also held the titles of Chief Scientist and Principal Research Scientist in the Physical Sciences Laboratory at Georgia Tech.

He chaired the first, second and fourth international conferences on submillimeter wave technology and applications, and was general chairman of the sixth and eighth international conferences on infrared and millimeter waves. He was general chairman of a similar conference in Beijing, China, in 1990.

Gallagher had more than 200 technical papers to his credit and was co-inventor of two patents. The patents are for a phase-locked far-infrared laser and a wideband tunable coherent source.

### A mentor to students

The above accomplishments would represent an enviable record by themselves, but Gallagher's greatest legacy lies in the innumerable students and young scientists he helped and encouraged in his 21 years at Georgia Tech. "Jim was the most unselfish person I have ever known," says GTRI Ex-

ecutive Associate Director Robert G. Shackelford. "Many of us have benefitted directly from his generous gifts of friendship, encouragement, insight, and compassion. Jim was well known for sharing his ideas and the credit for his seemingly inexhaustible wealth of intellectual concepts."

According to long-time associate Gail Tucker, Gallagher often befriended the students who had personal or financial problems and made a special effort to see that they had what they needed to pursue their dreams. "Many of them owe their degrees to the help and inspiration they gained from Jim," she says.

Bob McMillan puts it this way: "I have known Jim Gallagher since 1962 when I went to work at Martin Marietta in Orlando. Jim was a physicist on the research staff and I was a lowly engineer starting my work on a master's degree at Rollins College, where Jim was an adjunct professor. Jim became my thesis advisor, and I will never forget the tremendous amount of time that he gave me after hours showing me how to operate the equipment and helping me make actual measurements. He was present when I (we) obtained the results that I used as the basis for my thesis."

But Gallagher was no sanctimonious saint. This "genial giant of a leprechaun," as he has been described, was noted for his sense of humor, and he loved to tell stories on himself. "Jim was never one to stand on ceremony or worry about the appearance of his desk top," says co-worker Ronald A. Bohlander. "For instance, he told about the time at Martin Marietta when one of his colleagues came by and said, 'My, Jim, with a desk like that I can't imagine why you haven't won the weekly Pig Pen Award!' To which he replied, 'Oh, I have: it's buried on my desk someplace.' And there was the time here at GTRI when some well-meaning senior executive suggested that all the GTRI males should wear a coat and tie to work. Jim was not fond of ties, so at the next notable gathering of some of the GTRI leadership, Jim arrived wearing a tie, but it was burned off about midway up: 'These things are a hazard when you lean over a laser,' he said."

His humor and optimism sustained him during a life filled with problems. Tucker says he shrugged them off with a smile, saying, "It's just part of sliding down the razor blade of life."

John Cotton, another GTRI colleague, sums it up: "The problem with telling the truth about Jim Gallagher is that it all sounds so exaggerated; no one person could possibly be at once so strong, so gentle, so inspirational, so authoritative, so kind, so giving, and so damned smart. But he was all these things and more. When I first met Jim at Johns Hopkins in 1957, he was only a few years my senior, but seemed light years ahead in knowledge, confidence and the mastery of the art of being a true teacher. When you were with Jim, you were always learning and enjoying it; he was helping you climb the ladder, not pulling it up behind himself. He shared life with the world and you found yourself sharing his magnificent Irish enjoyment of it.

"His contributions to humankind are documented in the hearts and minds of people all over this country and the world; when he touched your life, he added to it, made it better, richer, fuller. To many of us, this is his true greatness, and we shall miss him." □

## Profile & Insight

*"Many of us have benefitted directly from Jim's generous gifts of friendship, encouragement, insight, and compassion. Jim was well known for sharing his ideas and the credit for his seemingly inexhaustible wealth of intellectual concepts."*

—Bob Shackelford

*"The problem with telling the truth about Jim Gallagher is that it all sounds so exaggerated; no one person could possibly be at once so strong, so gentle, so inspirational, so authoritative, so kind, so giving, and so damned smart. But he was all these things and more."*

—John Cotton

# GTRI Spring Fling Picnic 1991

Montage by G.K. Webb • Photos by Joe Schwartz





## Queries & Quotes

*Joining the DIALOGUE BOX is a new monthly column that will focus on quality issues in GTRI as part of our effort to achieve Total Quality Management.*

## Dialogue Box

**S**ome months ago, Bud Suddath sent out a memo about PROFS and the plan to replace it with some other e-mail system, as early as June 30, 1991. Later, at a senior staff meeting, Bob Shackelford stated that GTRI, one of the heaviest users of PROFS, was in discussion with Information Technology about that plan and we would hear more later. My question has two parts:

1. What is the status of that plan? and
2. What is the future of PROFS?

**I**t is a fact that we will be moving away from PROFS in the future; however, PROFS will not "go away" until such time as we have a suitable replacement system up and running and fully tested. Various people throughout GTRI are currently evaluating alternative e-mail systems, but we are nowhere near finalizing the solution. Therefore, we will keep PROFS until we have a verified and tested e-mail replacement, which might take as long as another year.

Those in GTRI who wish to input concerns and/or comments into the process may do so by sending e-mail to "gtrinet@csdvax.gatech.edu". The e-mail will be distributed to all members of a GTRI committee which is looking into this problem to define a solution for GTRI's future e-mail needs.

**Editor's Note:** Readers are invited to send questions and suggestions to GTRI CONNECTOR, RCO/GTRI 0800 or PROFS MSTEGER. □

## Focus on Quality

By Fred L. Cain, TQM Director

**G**TRI has made a commitment to build on and add to our achievements in the area of quality. To help reach this goal, the TQM Office was created to assist us, in various ways, to sharpen the leading edge of our activities by focusing on quality.

One of the many components that contribute to successful TQM (Total Quality Management), and perhaps the most important one, is the flow of information. Among the means that will be used to help open up the communications channel will be the regular publication of an article in the GTRI CONNECTOR under the heading "Focus on Quality."

An obvious question is: "What will the TQM Office do to help GTRI focus on quality?" Among the responsibilities of the TQM Office in assisting the executive leadership are five primary functions:

1. Lead the development, dissemination and perpetual propagation of the GTRI Policy on Quality;
2. Establish the GTRI TQM organizational vision, goals and approach;

3. Plan, guide and coordinate the TQM implementation at GTRI;
4. Coordinate management/faculty/staff involvement in TQM-related activities; and
5. Demonstrate commitment to the Total Quality (TQ) process.

TQM is a way of life that should not add to or create a bureaucracy; as a result, the TQM Office will not build up a large staff. Quite the contrary, as we build improvements into our organization, costs should decrease, due to increased efficiencies. Much more about this aspect of our operation will be said in future articles.

The implementation of GTRI's Quality Program is intended to occur at the "grass roots" level. To start the process, I, as TQM Director, have several major goals for the coming year (FY92). Among them are the following:

1. Finalize a GTRI-wide TQM strategic operational plan;
2. Work with labs to establish lab TQM plans;
3. Establish lab-director user-support councils in each geographical area;
4. Implement existing CAT (Corrective Action Team) recommendations;
5. Establish information flow channels—as depicted in the GTRI TQM plan—that will provide a way not only to suggest opportunities for improvements, but also to get timely feedback;
6. Institute a customer survey process;
7. Derive a new rebate-to-labs formula;
8. Publicize TQM activities through the CONNECTOR and other means;
9. Initiate training activities; and
10. Establish project director and "guru" councils as outlined in the GTRI TQM plan.

Activity in several of the above areas is in progress and will be addressed in future issues of the CONNECTOR.

A "strawman" GTRI TQM plan has been developed and is currently under initial review by the OOD Executive Council. Since the plan is a strawman, it is intended to be only a starting point in our participative journey to develop a consensus plan that has the flexibility we all can live with and use as a guide.

As it currently exists, the strawman GTRI TQM plan has two parts—strategic and operational. The **Strategic Part** covers TQM vision, goals and process. The **Implementation and Operational Part** covers the network of channels/structures for actions and communications; OOD initiatives; lab/department/unit plans; GTRI-wide training and motivation; benchmarks; and schedule.

The strawman plan will be distributed to all GTRI units (labs, departments, etc.) to solicit their participation and inputs. They will be considered for possible inclusion in the development of a consensus draft plan.

In future CONNECTOR issues, TQM topics will include items such as:

- TQM plan development for both the GTRI-wide plan and the individual laboratory/department plans
- TQM accomplishments
- TQM success stories
- TQM improvement activities addressing resources and tools such as electronic time sheets, data bases, and the like
- Formation of TQM councils (lab and GTRI-wide) and Functional Area Teams

If you have any suggestions on TQM topics that you would like to hear more about, please contact the TQM Office at 894-3596. □

## GTRI participates in student-faculty-industry conference

By Amol Joshi

**T**he Georgia Tech Executive Round Table hosted its 24th annual Student-Faculty-Industry (SFI) Conference May 3-5 at Callaway Gardens in Pine Mountain. The theme of this year's conference was "Leadership, Technology and Society in the 21st Century." Conference participants had the unique opportunity to explore the critical issues, technological trends, and societal shifts that will have a profound impact on our nation and the world as we enter the next century.

The dynamic speakers and topics featured at this conference included the following: Dr. Thomas Lee, Professor Emeritus in Electrical Engineering, M.I.T., and President of the Center for Quality Management, challenged participants on "Issues in the Implementation of Total Quality Management (TQM) in the U.S." Dr. John White, newly appointed Dean of the College of Engineering at Georgia Tech, exposed participants to the consequences of "Education in a Globally Competitive Environment." Dr. Chet Richards, Regional Manager of International Sales, Lockheed Corporation, delivered a presentation on "American Competitiveness in the Aftermath of the Gulf War." President John P. Crecine concluded the conference by sharing his vision of "Georgia Tech in the 21st Century."

A unique aspect of the conference was the opportunity for informal interaction and discussions among student, faculty and industry members. Debates over applying TQM to educational institutions and effectively managing organizational change were among the many ideas sparked during the course of the conference.

Among the 90 participants at the SFI Conference were several GTRI employees. Virginia Jory is a veteran of eight SFI conferences, and Pat O'Hare has attended two conferences.

Several GTRI student employees not only participated in the conference, but also currently hold leadership positions in the Executive Round Table. Bryan Michael, a senior ICS co-op student, is the Senior Vice President of Programs. Bo An, a senior ME co-op student, is the Vice President of Publicity. Jason DeLoach, a senior IE student assistant, is an active Industry Committee member. Jeffrey Vetter, a graduate ICS student, is the Information Systems Coordinator.

Anyone interested in participating in the Executive Round Table programs for the upcoming year should contact a current member or write to the following campus address for more information: Programs Information, Executive Round Table, Mail Code 0458.

**Editor's Note:** Amol Joshi is the president of the Executive Round Table and a senior co-op student in the School of Electrical Engineering. He is a Presidential Scholar. □

**Georgia Tech**  
RESEARCH INSTITUTE



Hasson Calloway (left) and Lee Edwards descend from GTRI's C-131 Convair airplane after its last flight earlier this month. Both of the GTRI planes have been sold, and GTRI has discontinued in-house flight testing. (Photo by Anita Edwards)

## GTRI airplanes sold

Earlier this month, the GTRI C-131 Convair airplane flew its last research mission, prior to being sold to the highest bidder. The other plane in the GTRI fleet, the Convair T-29, was sold earlier.

Appropriately, those flying on the last mission included Chief Pilot Hasson Calloway and Lee Edwards, who supervised the Airborne Electronics Laboratories, as the aircraft were called, for the first few years GTRI owned them. Calloway and Edwards brought the plane from Cleveland to Atlanta on December 5, 1980, when NASA-Lewis gave it to Georgia Tech. With them on that

first flight was Jim Moore, now deceased.

The last flight was a mission for GTRI's Aerospace Lab on a project led by Mark Wasikowski.

Harland Armitage, leader of GTRI's Flight Operations Group, says the planes were used in many airborne tests not only by GTRI researchers, but also by external sponsors. "For instance, we used the planes with the U.S. Missile Command to develop the FOG-M missile," he says. "We were deeply involved in tests of radar and laser systems, as well as development of different electronic countermeasures (ECM) systems. More than 30 different radar systems were operated in Desert Storm that were initially developed on the GTRI airplane." □

## Annual Spring Fling picnic a great success

By Lee Hughey, RCO

About 1,000 GTRI employees and invited guests, including Executive Vice President Mike Thomas, attended the fourth annual GTRI Spring Fling picnic on June 6 in perfect weather conditions. They enjoyed good food, games, prizes, a rousing musical performance, and the always popular "dunk" tank.

An outstanding group of young people from the Cobb Children's Theater, Vaudeville Etc, put on a "Salute to America" special performance, presenting several numbers that included acting, dancing, and singing. The show was emceed by Cheri Wiesman, daughter of Judy Wiesman, both of whom work at GTRI. A hearty round of applause was given to the group.

The Burger Bowl area was again the site for a carnival fair of 10 games, the "dunk" tank, horseshoes, badminton, and volleyball and soccer. The games included Bushel Baskets, Hoop Toss, Leaping Lizards, Muffin Tins, One Shot Golf, Spin Art, Seven-Eleven, Tin Cans, Tip the Cat, and the always popular Mini Basketball. All the games tested players' skill and agility, and everyone won something just for playing.

Another highlight of the picnic was the "dunk" tank, which had 10 "dunkees." They were Dave Buckwalter, EEEL; Harry Vann, FMD; Bob Lang, RSD; Bud Sears, CAL; Pat O'Hare, OOD; John Burke, RSD; Harry Andrews, CMDL; Gene Weaver, EMSL; Jerry Bryson, RSD; and Jim Cofer, OOD. Each showed great sportsmanship, and everyone had fun dunking their favorite persons.

Lunch featured hot dogs and hamburgers with all the trimmings, plus cole slaw, iced tea and lemonade. Cotton candy, popcorn,

potato chips, drinks, ice cream, and popsicles were also served around the midway area.

GTRI Director Donald J. Grace was master of ceremonies for the prize drawings, assisted by Mary Ann Green of GTRC, for the awarding of 39 door prizes. The four major prizes were given last. They were four tickets from the Atlanta Braves won by Barbara Henry, OCA; a \$50 gift certificate from American Express won by retiree Jerry Eaves; four tickets to Six Flags won by Jeffrey Grover, CSIT; and a personalized teddy bear from Teddygrams won by Adam Becker, COML.

Picnic co-chairman Lee Hughey thanked all the volunteers who ran the games; monitored the food lines; served cotton candy, chips, popcorn, drinks, and ice cream; gave out balloons; staffed the Picnic Headquarters table; and helped set up and take down the picnic facilities. Recognition was given individually to Grover Richardson and Luther Ward, who provided and set up the "dunk" tank and PA system. Two people who helped out with graphics, posters, invitations, T-shirt designs, and signs were Judy Wiesman and Jerry Webb. Special thanks were given to the members of the Picnic Committee: Cheryl Barnett, Janice Davis, Wanda Fox, Delora Gould, Bill Howard, DW Senn, Ida Taplin, and Bert Watkins. □

### Wanted: Those who love to sing!

Jill Butterfield (MAL) is a member of the Song of Atlanta (SOA) Chorus and is seeking new members. SOA is a member of Sweet Adelines International, a society of female choruses singing barber-shop-style music. SOA currently has about 70 members, and recently placed first in the Heart of Dixie Regional Competition. Visitors and potential members are always welcome at rehearsals (Tuesday nights, 7:30). Contact Jill Butterfield (528-7710

## Promotions 1991

Congratulations to the following 55 persons, who have been promoted, effective July 1, to:

### Principal Research Associate/Engineer/Scientist/Technologist

Henry P. Cotten	MATDL
Larry R. Edens	EDL
James D. Higgins	TSDL
George F. McDougal	CAL
David P. Millard	EEEL
Victor K. Tripp	EMSTL

### Senior Research Associate/Engineer/Scientist/Technologist

Dinal S. Andreasen	ATL
Michael C. Brinkmann	RIDL
Joseph L. Brooks	ESML
Arthur J. Ford	EDL
Joseph M. Harris	EMSTL
Darrell R. Lamm	EOL
Holly Grell Lawe	EDL
Russell W. Leath	ESML
Michael David Lowish	ESTL
Barry S. Mitchell	MATDL
Jeffrey J. Sitterle	TSDL
Tracy V. Wallace	RIDL

### Research Associate/Engineer/Scientist/Technologist II

Vicki H. Ainslie	ESTL
Stephanie S. Babbitt	ESTL
B. Scott Bostater	RSAL
Matthew Bradley	ESML
Stephen G. Chastain	TSDL
Andrew D. Dugenske	MATDL
Carol C. Foley	ESTL
Walter Forrister	MSTL
David W. Galloway	RIDL
Scott G. Gleason	ATL
Gayle S. Goewey	ESTL
Lester L. Gostin	RIDL
David L. Grosch	ESML
John Hanigofsky	MSTL
Ralph M. Herkert	EEEL
Glenn D. Hopkins	MATDL
Alix T. Howard	CMDL
Mark Hudgens	MATDL
Annette M. Hurley	ESTL
William A. Joye	MAL
Robert D. Kossler	CMDL
Bonnie M. Lann	EDL
Melanie S. Largin	EDL
Martin Joseph Mannion	MATDL
Dale P. Nordin	TSDL
Duane H. Patterson	TSDL
Margaret M. Ray	CSITL
James A. Saffold	RSAL
Robert D. Schmitter	ESTL
Linda M. Schuett	CAL
James E. Seals	EDL
Benjamin J. Slocumb	CAL
Michael W. Walker	COML
Allan N. Williams	TSDL
Phillip S. Wofford	EDL
George A. Wright	CAL
David G. Zum	ESML

or 443-2767) or Barbie Wiles (426-9684) for more information. The ability to read music is not necessary, since learning tapes of the current repertoire are available.

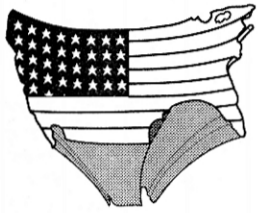
One of the local male counterparts of SOA is the Marietta Big Chicken barbershop chorus. They currently have over 100 members, including Lamar Gostin (RIDL) and Joe Hurst (TSDL). They will be competing in their international competition the weekend of July 4 in Louisville. Monday night rehearsals are open to guests. Contact Lamar Gostin (528-7179) for further information.

## Focus on Folks

*Congratulations to the 55 research-titled employees who received promotions, effective July 1.*

*Take a look at our very first Special Interest Ad-on the left.*

## Focus on Folks



Joining our honor roll of Gulf War veterans are three more relatives of GTRI employees. See bottom right corner.

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**EDITOR & DESIGN**  
Martha Ann Stegar, RCO  
894-6988

**GRAPHIC SUPPORT**  
Jerry Webb, RCO  
894-6985

**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 II  
528-7750  
Janice Davis, ERB  
894-8229  
Carey Floyd, Cobb I  
528-7012  
Eunice Kelsey, Services  
894-6972  
Joanna King, Baker  
853-0460  
Janice Porter, OOD  
894-3401  
Kathie Coogler Prado, CRB  
894-7268

## Professional Activities

### Economic Development Lab

Denver was the destination in early June for four EDL staffers attending the annual conference of the Technology Transfer Society. **Ann O'Neill** presented a paper, co-authored with **Tim Israel**, entitled "Technological Capabilities, Needs, and Opportunities: A Case Study of the North Georgia Apparel Industry." **Bob Lann** gave a paper, co-authored by **David Clifton** and **Rick Tate**, on "State Policy Initiatives and Technology Development, Transfer, and Deployment: An Economic Development Case Study in Georgia." And **Carol Aton** presented a paper, "Methods to Transfer Federal Technology and Improve Industrial Competitiveness," which she wrote with **David Swanson**. Swanson also attended the conference to participate in the society's board meetings. Next year's conference will be held in Atlanta.

**Doug Moore** received his Master of Science in Management from Georgia Tech in June.

At the recent North American Biotech Business Opportunities Conference in Atlanta sponsored by the Canadian Consul General, **Charles Estes** spoke on "The University's Role in Technology Commercialization."

### Electro-Optics Lab

**Charles Carstensen** presented two briefings at the IRIS IRCM Conference held May 14-16 at the Johns Hopkins Applied Physics Laboratory. The paper entitled "Rochelle Salt Simulation and Preliminary Results" was published as a result of work for the Aircraft Survivability Equipment Office of the U.S. Army and was produced in collaboration with fellow researchers **Al Mullikin** and **Darrell Lamm**. The paper on "AN/ALQ-157 Flight Tests" was presented in collaboration with the Air National Guard/Air Force Reserve Test Center located in Tucson (AZ).

### Environmental Science & Technology Lab

**Mike Lowish** and **Steve Hays** were invited guest speakers at the Public Risk Management Association's National Conference in Atlanta May 12-15. Their presentations covered OSHA's new trenching and excavation standard and the proposed standard on confined-space entry procedures plus the implications for public entities.

A by-lined article by **Craig Wyvill**, "Automated Processing a Blessing, Not a Curse," appeared in the June 9 *Atlanta Journal-Constitution*, replying to criticisms of the poultry processing industry raised by the newspapers' reporters.

**Craig Wyvill** and **Ron Bohlander** (OOD) received President's Awards from the Society of Manufacturing Engineers for outstanding service to the local chapters.

### Materials Science & Technology Lab

**Jan Gooch** was elected chairman of the Chemistry Section at the annual meeting and conference of the Georgia Academy of Sciences, held at the National Science Center, Fort Gordon (GA), April 26.

### Office of the Director

On April 18, **Ed Reedy** addressed a seminar on High Technology in Defensive Weap-

ons at Kennesaw State College, speaking on "Technological Basis and Challenges in Department of Defense Programs (especially Stealth weaponry)."

**Janice Porter** has been appointed to the Cobb 2000 Commission, which was created by the Georgia General Assembly to provide a forum for Cobb County citizens to discuss future issues and opportunities as the year 2000 approaches. After a three-year study, the Commission will make recommendations to the legislature on issues pertaining to Cobb County.

**Eunice Kelsey** was elected to the board of directors of the Georgia Tech Women's Forum and will serve as program chairperson.

### Physical Sciences Lab

**Mike Nicovich**, **Kevin Kreutter**, **Christie Shackelford**, and **Paul Wine** are the authors of a paper entitled "Thermochemistry and Kinetics of the Cl+O<sub>2</sub> Association Reaction" that was published in the April 26 issue of *Chemical Physics Letters*. Kreutter, Nicovich, and Wine also wrote "Kinetics and Thermochemistry of the Br(P<sub>3,2</sub>)+NO<sub>2</sub> Association Reaction," which appeared in the May 18 issue of the *Journal of Physical Chemistry*.

A paper by **Fred Eisele** and **David Tanner**, "Ion-Assisted Tropospheric OH Measurements," appeared in the May 20 issue of the *Journal of Geophysical Research*.

**Joe Galliano** chaired a session on "Satellite Remote Sensing of Precipitation and Related Phenomenon" at the International Geoscience and Remote Sensing Symposium in Helsinki, Finland, June 3. He also presented a paper on "Advanced Microwave Precipitation Radiometer" at the session.

The June issue of *RF Design* featured an article on "UHF Power Transistors for Use in Military Electronics Systems" by **David Hughes**.

**Larry Corey** and **Nile Hartman** are the authors of two papers recently presented by Hartman. "A New Integrated Optics Technique for Providing Time Delay in Wideband Phased Arrays" was given at the ICAP Conference on Antennas and Propagation at the University of York, England. "Integrated Optic Time Delay Network for Phased Array Antennas" was presented March 12 at the IEEE National Radar Conference in Los Angeles.

**Kevin Kreutter** won one of two undergraduate research awards from the Georgia Tech Chapter of Sigma Xi. The award was presented at the annual banquet held May 10. His research advisor is **Paul Wine**.

### Radar Systems Applications Lab

**Sam Piper** and **Wayne Cassaday** (RIDL) were elected secretary and director of the Atlanta Section of the Institute of Electrical and Electronics Engineers for 1991-92. The Atlanta Section has approximately 4,000 members.

### Signature Technology Lab

**Bob Rice** addressed the Defense Science Board in the Pentagon April 11 regarding a recently completed study on ultra-wideband radar. The study included analytical work on the nature of ultra-wideband pulses, the results of a nationwide survey to determine hardware availability, and suggestions for methods of collecting data from measurements of ultra-wideband signals. His presentation resulted in follow-on activity for STL. □

## Personnel News

### Economic Development Lab

**Ann O'Neill** has been promoted to leader of the Marketing Group.

### Electro-Optics Lab

**Katherine Brown** has joined EOL as an administrative secretary.

### Microwave & Antenna Technology Development Lab

MATD welcomes student assistant **Eddy Lindsey**.

### Physical Sciences Lab

**David Tanner** has been promoted from technician rank to Research Technologist I.

### Research Communications Office

**Lea McLees** joined RCO June 3 as a media relations specialist. She formerly was district editor and acting assistant city editor at the *Gainesville Times*. □

## Personal Notes

### Wedding Bells

In TSDL, **Stephen Chastain** and Denise Cousins were married June 1, while **Robert Kerr** and Judith Young were married June 8.

**John Alford** (ATL) and Kim Bruso were married April 2. John is the son of **Sam Alford** (TSDL).

### Cradle Roll

**Georgie Riggs** (ATL) is the proud grandmother of Joshua Aaron, born May 20.

Congratulations to Remwick and **Miriam Crenshaw** (CSITL) on the birth of their first child, a boy named Remwick J., on June 5.

Best wishes also to Mary Jo and **Tom Pratt** (CMDL) on the birth of their second son, David Nelson, born May 9.

### Sick Bay

**Pat O'Hare** (OOD) underwent surgery in mid-June, and **Forest Williams** (FMD) in late June. We wish them speedy recovery.

### Our Sympathy

... to **Dave Schmieder** (EOL), whose father passed away in early June.

### Proud Parents

**Jim Kurtz'** (RIDL) twin daughters, Sharyn and Melissa, will attend the Governor's Honors Program in Valdosta this summer. They were selected for accomplishments in music and overall academic achievement.

**Brentis Henderson's** (CMDL) daughter, Shatara Jordan, has received a Chevron USA scholarship to attend Georgia Tech's Summerscape program July 8-19. □

## More Gulf War veterans

- Lt. James W. Dulaney, Jr.  
Civil Engineering Unit ("Prime Beef")  
U.S. Air Force  
Son of Bettye Dulaney (EEL)
- Cpl. Carlos A. Fonseca  
HQBN 1 Service Company  
BN Supply, 1st Marine Division  
Son-in-law of Sharon Neu (CMDL)
- BUCA Kent Matthews  
Navy SEABEES  
Nephew of Georgie Riggs (ATL)