# GTRInsider

Winter 2007

Machine Shop of Dreams: Come and They Will Build It

At GTRI Machines Services, engineering and scientific solutions move from the conceptual to the concrete

For more than 60 years, Machine Services has been designing, fabricating, assembling and repairing the parts and prototypes needed by GTRI researchers. Unlike industrial fabrication shops that produce large quantities of a particular component, Machine Services' work is highly custom – and varied. Projects run the gamut from medical devices to military vehicles.

"I tell new employees that a year of experience here is the equivalent of 10 years in any other shop," says Dennis Brown, manager of Machine Services (www.gtri.gatech.edu/machine/). Just a few of the projects Machine Services has worked on includes:

- A special antenna, shaped like a towel bar, for the International Space Station.
- An inspection robot that crawls through fuel tanks of large, military helicopters and looks for corrosion.
- A walk-in environmental chamber for GTRI's Health and Environmental Systems Lab, which helps manufacturers test furniture, paint and building materials for chemical emissions.
- A security system that quickly erases sensitive information from magnetic data storage systems on military aircraft in the event they fall into enemy hands.
- An automated system for placing raised-pavement-markers along traffic lanes. Sponsored by the Georgia Department of Transportation, this system increases safety and productivity while reducing errors.
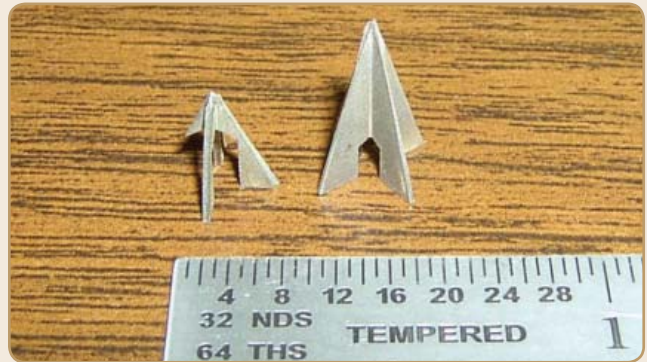
Assignments vary in size and scope. Sometimes technicians may be asked to create a single component, and at other times, they may build an entire prototype.

Among the largest projects ever tackled was the construction of an open-circuit wind tunnel for Eglin Air Force Base, used to create icing conditions for testing jet engines and propellers. Due to its size (about 30 feet high and 50 feet long) and complexity, the wind tunnel took more than a year to complete. Designed by GTRI's Aerospace, Transportation and Advanced Systems Lab, the tunnel houses seven fans, with each fan measuring seven feet in diameter and powered by a 300-horsepower electric motor.

"One of the most challenging aspects of the project was that, because of the tunnel's honeycomb design, the framework holding the fans had to be cut and shaped at an angle while the welder was suspended nearly 20 feet high," says Dennis Denney, supervisor at Machine Services' Midtown location. "That meant we couldn't work on a level plane – and yet we were held to some strict tolerances by the design engineer."

Another intriguing assignment was designing a new steam whistle for Georgia Tech. Rather than merely replicating the original design from the early 1900s, Brown was asked to create a more functional whistle, which required considerable research on steam operating systems. Installed in spring 2004, the new whistle plays three octaves, compared to the single-chamber whistle it replaced.

▶ IN THIS ISSUE

Terry Tibbits (right) introduces former Electronic Systems Lab (ELSYS) director Bill Rogers to the benefits of retirement. Bill was honored at the lab's annual picnic with a low-country barbeque. At the annual lab softball game the SEV division beat the SEN division 10-9 in a last minute nail-biter.

Preparing For 2006/2007 Tax Reporting

2006 W2's are now available online. Links have also been added to the TechWorks www.TechWorks.gatech.edu to advise employees of the free federal tax filing services and the new ability to deposit their refund into multiple accounts.

If you need assistance with your password, contact OIT customer support center through the website or call 404-894-7173.

Submit general questions to pay.ask@ohr.gatech.edu

FYI W2's will also be mailed to the address of record (Friday Jan. 19th).

Director's *Notes...*

The GTRI Machine Services Department is featured as the cover story in this edition of the GTRInsider. You may be aware of the outstanding work this group does each and every day in support of both Georgia Tech and GTRI research, but you may not know that the "machine shop" has been around since Georgia Tech first opened its doors in 1888.

Georgia Tech's first President, Dr. Isaac Hopkins, used the machine shop as Tech's first teaching laboratory. He had a strong desire to provide students with the perfect balance of the practical and theoretical. The shop was the place where students could hone their skills as they pursued their degree in Mechanical Engineering – the only degree Tech offered at the time. Dr. Hopkins was instrumental in establishing the "can do" and solutions focused culture we live everyday at GTRI.

Instruction in the early years of Georgia Tech was modeled after the shop culture of Worcester Free Institute in Massachusetts (now known as Worcester Polytechnic Institute) and the school culture of the Massachusetts Institute of Technology.

The first two buildings built on the Tech campus were the academic and shop buildings. The academic building is still standing and is home to our beloved Tech Tower. The original shop building, destroyed by fire in 1892, had a matching tower, which was intended to reflect Georgia Tech's equal commitment to "learning by doing" and academics.

Today, GTRI's Machine Services Department is the one-stop-shop many of our researchers are relying on to bring their designs to life. Operated as a cost-center, the shop also works with many of Georgia Tech's schools and colleges as well as other Georgia universities.

Just as Dr. Hopkins used his machining background to lead the development of Georgia Tech's hybrid approach to higher education, GTRI's newest leaders are drawing on their past experience to help GTRI have even more impact in the future. You can read more about our new Deputy Director of Support Operations, Lisa Sills, and new ELSYS Lab Director Tom McDermott in this issue of the GTRInsider.

Stephen E. Cross

Dr. Stephen E. Cross
Vice President, Georgia Tech
Director, GTRI

GTRI Hosts Junior Achievement Job Shadow

GTRI's Food Processing Technology Division recently hosted a Junior Achievement of Georgia-sponsored Job Shadow for 18 students from Banneker High School. During the event, small groups of students "shadowed" GTRI researchers to experience first-hand what it is like to work in a research environment. The students were exposed to food processing research projects covering the areas of robotics, computer vision, environmental management, food safety and information technology. The Job Shadow was the first such event hosted by GTRI.

Up Close and Personal With...

Tamar Grimes

WORKING FOR:
Deputy Director's Office

WORK LOCATION:
Centennial Research Building

GTRI EMPLOYEE SINCE:
1997

MOST MEMORABLE JOB EXPERIENCE:
All of my jobs have been full of wonderful memories and experiences.

WHAT I LIKE MOST ABOUT MY JOB:
It is challenging.

IF I WON THE LOTTERY, I WOULD:
I would take care of my family and friends.

MOST FAVORITE FOOD:
Mashed Potatoes

SOMETHING YOU PROBABLY DIDN'T KNOW ABOUT ME:
I am the mother of 3 beautiful children and will be completing my Master's of Public Health in June 2007.

SOMETHING ELSE YOU PROBABLY DIDN'T KNOW ABOUT ME:
I like to dance, skate, and sing in the gospel choir.

PEOPLE TELL ME I RESEMBLE:
My mom (Beverly Kelly)

IF I COULD PICK SOMEONE OUT OF HISTORY TO HAVE LUNCH WITH, I WOULD CHOOSE:
Jesus Christ (He knows everything!)

THREE WORDS THAT DESCRIBE ME BEST:
Wise, Talented, & Enthusiastic

ALL TIME FAV MOVIE:
All movies with Denzel Washington.

RECENT BOOK READ:
The King James Version Bible

If you'd like to nominate a colleague to be featured in the next 'Up Close and Personal With…' please see the form on the back of this issue of the *GTRInsider*.

Computer Architectures for Defense:
Tom McDermott Named Director of GTRI's Electronic Systems Laboratory (ELSYS)

When Tom McDermott envisions fiber-optic local area networks, he thinks about systems that can travel faster than the speed of sound and withstand multiple G-forces.

The new director of the Georgia Tech Research Institute's (GTRI) Electronic Systems Laboratory (ELSYS), McDermott specializes in the design and development of high-performance avionics hardware and software systems that make modern aircraft and other weapons systems do their jobs.

"Everything involves computer architectures today," said McDermott, who has 22 years of technical and managerial experience at both GTRI and Lockheed-Martin Aeronautical Systems in nearby Marietta, Ga. "When I went to work for Lockheed, the first project I worked on was a local area network that ended up in the F-22 Raptor."

Computer hardware and software for military systems are the bread-and-butter of ELSYS, which focuses on systems architecture, defensive avionics, and command-and-control systems. The lab is perhaps best known for modernization programs aimed at updating military systems such as the venerable C-130 transport, the first variant of which flew more than 50 years ago.

When McDermott joined GTRI four years ago, he took over leadership of the C-130 Avionics Modernization Program (AMP), the lab's single largest project. As a subcontractor to Boeing, ELSYS supports updating critical systems with modern digital equipment, work that has been worth $16 million so far.

But updates to radar and defensive systems aren't the lab's only vital defense work. McDermott sees growth areas ahead in command-and-control systems, part of the military's efforts to move information closer to the people who need it.

"There is a general focus in the Department of Defense to push the information flow out to the users at the tip of the spear. We are seeing a lot of initiatives to take traditional command-and-control information and put it onto the systems in the field – aircraft, tanks and even soldiers' backpacks," he said. "Because we have such broad experience with the systems that are in users' hands today, GTRI has unique capabilities to offer that can help quickly transition information technologies from the command centers to the field."

He figures his experience with Lockheed can help ELSYS in its collaborations with large defense contractors.

"I was in senior management at Lockheed, so I understand the business models that these large commercial companies use," he said. "When they ask us to do something, I understand why. It may make a large contractor more comfortable if the person they're working with in GTRI has been in their shoes."

Opportunities to work with commercial companies reinforce the importance of the lab's continuous process improvement program, which resulted in a CMM Level 3 rating in 2003 under the Software Engineering Institute Capability Maturity Model®. Work is now underway to attain a rating under the new CMMI® integrated model by the end of 2007.

"Documented processes are a requirement for many of the larger system integration projects that we have," McDermott noted. "It's important for GTRI to keep a focus on continuous improvement of our processes, because that's what our customers expect."

But ELSYS researchers have become known for much more than defense work. Through a long-term collaboration with the state of Georgia, its researchers help Georgia companies understand what they must do to meet OSHA regulations. And the lab's program on accessibility for the disabled recently won national acclaim that has fueled interest from organizations worldwide.

For McDermott, joining GTRI after an 18-year career at Lockheed was like going home. With an M.S. degree in electrical engineering and a B.S. in physics – both from the Georgia Institute of Technology – he was comfortable at the home of the Yellow Jackets, and had even played drums in the marching band.

"One of the things that attracted me back to Georgia Tech was the opportunity to teach," he said. "Being involved in the academic process helps bring us closer to the schools and colleges that make up Georgia Tech."

In a collaboration between GTRI and the College of Engineering, McDermott has been part of developing the new professional master's degree program in systems engineering. He also teaches short courses on such topics as electronic warfare principles, systems engineering team leadership, and earned value principles.

McDermott took over as lab director on September 1, replacing the retiring Bill Rogers. "We have a great group of people here in ELSYS, and the transition has been a smooth one," he added. "Bill Rogers developed a great management team, and we owe a lot of credit to him and his predecessors for building a strong lab."

McDermott is married to the former Susan Ellis. They have three children: Christopher (age 17), Anna (15) and Bonnie (12), and live in northeast Cobb County

DARPA Grand Challange

Georgia Tech and SAIC (Science Applications International Corporation) are teaming to enter DARPA's Urban Challenge, which will test the ability of competing autonomous robots to drive 60 miles in an urban setting in six hours or less. The vehicles must obey the rules of the road, and safely interact with other robot vehicles and cars driven by people on the course. The competition is scheduled for November 3, 2007. Cash prizes will be awarded to the top three finishers, including $2,000,000 for first place. The team is organized within Tech's new Center for Robotics and Intelligent Machines and includes GTRI participants Vince Camp and Tom Collins. GTRI is responsible for the mechanical and electronic design and integration of the modified Porsche Cayenne.

There are several people in GTRI contributing to the effort in addition to systems design support and integration provided by Vince and Tom. Tedd Toler has provided significant mechanical design. Al Vineyard is assisting with electrical integration and documentation. Mark Entrekin has provided mechanical fabrication and assembly. Ken Boyle, Ricky Ivey and Andy Licausi are assisting with wiring and component integration.

Steve Williams has also provided design and fabrication support. Several personnel in Machine Services are providing mechanical component fabrication services. Hardware systems integration of the Cayenne is underway now at GTRI and will soon be ready for testing.

For more info view:
http://www.darpa.mil/grandchallenge/overview.asp

CHARITABLE CAMPAIGN
Message from Rich Steele, Director of GT Student Center

Thank you for your support of the Georgia Tech Charitable Campaign.

In my review of last year's Campaign, I found some information about the generosity of GTRI that I thought was interesting.

Of the 700 donors that pledged support for 2006, 87 (or 12%) were from GTRI - a reasonable number based on the GTRI ratio to total faculty/staff on campus. But, GTRI donors contributed over $38,000 of the $200,000 total contributed by the campus. This represents 19% of the contributions - an indication of tremendous generosity and understanding of the needs of our community.

I hope that you will help share how important GTRI is to the success of the Campaign. As a past GTRI student assistant (I worked in Craig Wyvill's lab in the early 1980's), I am proud of what the GTRI team is able to accomplish.

— Rich Steele, Director Georgia Tech Student Center

For more info see
**http://www.importantstuff.gatech.edu or http://studentcenter.gatech.edu**

Robotics Volunteers

Looking for a fun way to encourage interest in science and math! Consider volunteering at the FIRST National High School Robotics competition to be held in Atlanta at the Georgia Dome on April 12-14. Over 30,000 students from around the world were given contest rules and design specifications the first week in January and are now busy designing and building their robots. After intense regional elimination tournaments, the best will come to Atlanta ready to compete. There are dozens of volunteer jobs from judging websites, to inspecting robots, to serving as referees or announcers. The vision of FIRST is "To create a world where science and technology are celebrated... where young people dream of becoming science and technology heroes" Learn about volunteer opportunities at http://www.usfirst.org/involved/volunteer/content.aspx?id=894

Mystery History

Help us to identify a photo from the GTRI archives. Do you know the person or project depicted?... Or, if you want to have some fun, make up a caption! Send to GTRInsider@gtri.gatech.edu To view the previous Mystery History photos and caption guesses/suggestions see WebWISE https://webwise.gtri.gatech.edu/Corporate/Comm/GTRInsider/index.html
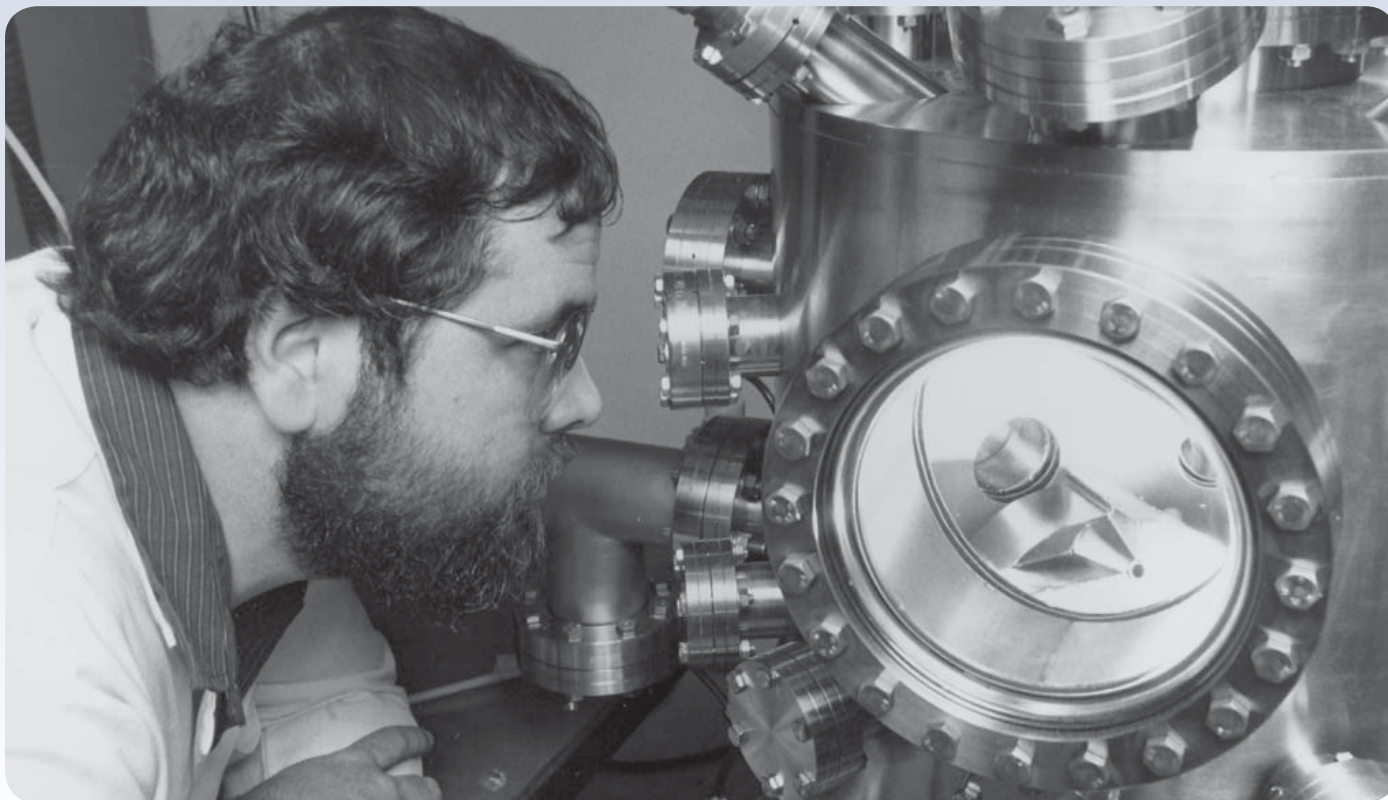
UPCOMING TRAINING:

Excellence in Industrial Contracting

Discover proven strategies used to obtain private industry contracts and examine the rewards, restraints, research management requirements, as well as other issues. The course will feature updates on recent changes in industry contracting procedures and provide an opportunity to meet personnel in the Industry Contracting Office.

Designed for GTRI research faculty.

Scheduled Dates: March 21, 2007
Time: 8:30 a.m. – 1:30 p.m.
(includes working lunch)
Location: Centennial Research Building, Room 238

Excellence in Intellectual Property

Learn what drives intellectual property (IP) decisions, who does what to support IP management at Georgia Tech, how to preserve IP prior to formal protection and more in this informative course.

Class Materials Available On-line Class Materials https://webwise.gtri.gatech.edu/Corporate/Units/training/ip.html

Scheduled Dates: April 11, 2007
Time: 8:30 am - 1:30 pm
(includes working lunch)
Location: Centennial Research Building, Room 238

NEW EMPLOYEE INFORMATION:

The Personnel Support Team has updated the new employee web site with a video welcome from Steve Cross for all new employees. The video is only four minutes, but full of interesting information for new employees. New employees may also receive an information guide that is available as a paper copy or an interactive .pdf at the web site. For more information, visit the PST web site at: https://webwise.gtri.gatech.edu/Personnel/index.html and click on "New Employee Orientation."

GTRI Names New Deputy Director for Support Operations
Lisa Sills brings 18 years of experience as a GT researcher to job

When Lisa Sills joined the Georgia Tech Research Institute (GTRI) in January 1989 as a research scientist, she had just graduated with her Master of Science degree in information and computer science from the Georgia Institute of Technology. She quickly became an expert in database applications and information sharing across networks and departments, including sensitive data owned by the courts systems, law enforcement agencies and the Federal Bureau of Investigation.

After serving on several successful projects as a software engineer, Sills naturally evolved as a leader in the information sharing world at GTRI. As a result, she served as a project director or associate project director for the last 15 years, participating in projects ranging from the design and innovation stage to requirements analysis, implementation, testing, documentation and final reporting.

To her new position as deputy director for support operations for GTRI, Sills brings her ability to manage successful teams and her knowledge of information technology. Her new job title combined two positions into one: director of administration, held by the retiring Janice Rogers, and director of business operations, held previously by Charles Brown who moved to the Vice-Provost's office.

"Coming from the ranks I know how researchers live day to day," explained Sills, who has almost 18 years of technical and managerial experience at GTRI. "I know the frustrations of the researchers with the system, and I hope to make other people aware of researcher issues and make improvements."

In her new position that began on September 1, Sills is trying to create a world class research support team at GTRI. This support team comprises more than one hundred people from eight groups: personnel support, rate management, research property, support services, machine services, information systems, business services, and budgeting and finance.

Sills' goals for this year include providing additional recognition and rewards for researchers, tailoring promotion guidelines to what researchers do on a daily basis, exercising financial discipline and improving customer service to researchers and staff.

Although much of her days are spent in meetings, Sills strives to solve the most prevalent researcher problems. When a lab director calls her about a space, information technology or personnel issue, Sills finds an answer.

"I am a problem solver by nature, so a job that presents a variety of challenges is perfect for me," said Sills.

Before accepting this new position, Sills contributed to awarded research proposals totaling more than $9 million from city, state and federal organizations. Her most significant program development contributions over the past five years include managing and being actively involved in CISAnet, a unique secure information sharing network of criminal intelligence data among federal, state, and regional law enforcement agencies.

Sills also successfully acquired four multi-phased major contracts with the Georgia Courts Automation Commission totaling $3.2 million over a five-year period. She helped create centralized databases for Georgia in a secure, networked environment for fast retrieval of criminal and civil data. Sills also served as principal investigator for projects to create a statewide and national Protective Order Registry.

"It was very rewarding to get people who were not in the information technology domain to understand the requirements you have to meet to build a system for sharing information," Sills added.

Inside Georgia Tech, Sills managed the design and implementation of many functional components of the student records side of the Registrar's Office including online registration, transcript processing and degree audit validation. She also personally developed parts of the Financial Aid module used by the Georgia Tech Financial Aid office.

From 1998 through 2001, Sills served as director of The Georgia Tech Criminal Justice Science & Technology Center, a center created to apply science, research, and technology to the needs of the criminal justice system.

Sills also co-developed material for a new GTRI course for project directors. The two-day course covers the five main areas of the project life cycle at GTRI: proposal development, project planning, requirements gathering, monitoring and controlling, and project close out. The course is updated regularly to reflect new processes, new information, and new management tools available to GTRI project directors. To date, 219 people have completed the course, about 34 percent of the professional researchers at GTRI.

When asked if she'll miss the daily research grind, Sills is quick to say no, but says that she'll miss her teammates she worked with for so many years in her old lab, the Information Technology and Telecommunications Laboratory.

Sills lives in Roswell with her husband Drew and two sons, Andrew (age 17) and Austin (15).

OPAR Launches Policy Analysis of GTRI Research

As many of you are aware, GTRI's Office of Policy Analysis and Research monitors state and federal government activity for impacts to technology development at GTRI. Beginning in January, we will turn that lens around, looking at the potential public policy implications of specific GTRI projects. This was one of OPAR's original goals, and we are excited that we can begin to realize it.

What exactly does it mean that OPAR will analyze the public policy implications of your research? Abstractly, we will evaluate how the application or activity may impact civic or commercial society. Based on those impacts to society, that gives us a signal as to the role of the government. What agencies will be involved? Will legislation be required? Concretely, you will get a report of our assessment that you can include in future proposals or deliverables.

Cost to you and your project:

The time of interacting with the intern analyst to give them the 30K view of your work. They will have done as much homework as possible from the GTRI website and project sheets. They will be armed with specific questions for the initial intake and then will follow-up as needed.

Benefit to you and your project:

Your overall project approach will be strengthened by increased awareness of the public policy impacts of your technology development. This information can be shared with sponsors and will improve our value as an organization to be able to consider these dimensions of the tough technical problems.

How it would work:

You and your project team would have one intern analyst assigned to your project for the period of January to May 2007. Of their required 14 hours a week, this assignment would be allocated approximately 5 hours.

To date, I have four intern analysts scheduled for the spring semester and two GTRI projects expressing interest. If you are interested, please let me know as soon as possible. I would like to have all the assignments made by mid-January.

For more info see http://www.opar.gtri.gatech.edu/ or contact Marlit Hayslett Marlit.hayslett@gtri.gatech.edu 404-407-7256

CO-OP RECRUITMENT

PST Recruitment will interview co-op students in February/March for employment beginning Summer/Fall Semester 2007. We are scheduled to interview on 2/27, 3/1, and 3/6 on campus at Georgia Tech. If you need student resumes and applications referred to your lab/unit, please specify the minimum qualifications to the attention of Alan Golivesky by February 5, 2007. PST will select students for referral to your lab/unit based on your requirements.

Please submit your requests using our job posting form. It can be found at:

https://webwise.gtri.gatech.edu/Personnel/jobpostingform.html

If your needs have not changed from past interviews, please resubmit a past request.

Contact Alan Golivesky alan.golivesky@gtri.gatech.edu with questions.

Compliance Assurance Highlight
Individual Responsibility: Take it personal

Have you ever questioned any of your actions on your job? Yes? No? Maybe? At GTRI, we take personal responsibility for our actions in pursuit of individual and organizational excellence. This responsibility is exhibited through hard work, dedication and a commitment to the organization's goals and values. Keep the following in mind with each of your daily actions:

- We must ensure that our professional and scientific behavior is above reproach and that our research results are untainted by questions of plagiarism or scientific misconduct.
- We avoid offering illegal and/or questionable gifts or favors to government personnel or other customers.
- In our private consulting activities or in any outside work, we avoid actual or perceived conflicts of interest.

- We take individual responsibility for safeguarding the property of the Institute and our sponsors, including the intellectual property of the Institute.
- We comply with Georgia Tech policy regarding illegal copying of software.
- We cooperate fully with investigations and audits and are careful to determine that investigators have required security access when appropriate.
- We comply with all policies and procedures for daily reporting of time and effort.

CORNERSTONE:
Warning Signs

You may be on thin ethical ice when you hear:
- "Well, maybe just this once."
- "No one will ever know."
- "We can seek forgiveness later."
- "Nothing matters but results."
- "It sounds too good to be true."
- "Everyone does it."
- "Shred that document."
- "They'll never catch it."
- "It may be lying, but it's not stealing."
- "We didn't have this conversation."

For a copy of the GTRI Code of Business Conduct, contact Suwana Murchison at (404) 407-6880.

Food Processing Technology Division Volunteers at Poultry World

Staff members in GTRI's Food Processing Technology Division (FPTD) recently volunteered at the Georgia Poultry Federation's Poultry World, an educational exhibit at the Georgia National Fair in Perry. A popular attraction at the fair, the exhibit drew some 45,000 visitors, including 15,000 school children. Each year more than 130 volunteers from associations, poultry companies, and universities with agricultural programs staff the exhibit, which is housed in a 2,200-square-foot miniature poultry growout house. Poultry World features educational displays, videos, an incubator for hatching chicks from eggs, and a fully functional growout area with live chicks and feed and drinking systems. FPTD volunteers spent the day staffing the exhibit, greeting visitors, selling t-shirts, assisting children in handling chicks, and entertaining as Seymour Chicken (Poultry World's mascot).

Poultry World was established in 1995 by the Georgia Poultry Federation, along with industry and academic partners, to share information with the public about all aspects of the poultry industry — Georgia's #1 agricultural and agribusiness sector. The mission of Poultry World is to increase public awareness and understanding of the industry and how it produces safe and wholesome products while creating jobs and other positive economic impacts.

The exhibit is managed by FPTD's Agricultural Technology Research Program in cooperation with the Georgia Poultry Federation.

Pictured from left to right: Steve Thomas, Debao Zhou, Sim Harbert, Craig Wyvill, Angela Colar, Lucy Johnson, and Colin Usher (as Seymour Chicken).

Awards & Outstanding Achievement

Michael Martin, Stanley Sheffield and Jeffrey D. Wilkie (MSD) recently completed the GT Office of Organizational Development - Office Professional Program.

Ann Jaudon (DDO) has completed the GT Office of Organizational Development - Office Professional Program.

Xavier Bryant and Ken Chaney (RSD) received the Phyllis Christopher Research Security Professional of the Year awards.

Patricia Anderson (BS-PAD) received the Departmental Financial Management Certificate.

Ron Bohlander (ITTL) was elected secretary of the faculty at the meeting of the Georgia Tech Faculty,

Dan Campbell (SEAL) recently received two US Patents. One of the patents is using the optical interferometer developed at Georgia Tech as an "Apparatus and Method of Using a Waveguide Interferometer to Measure the Diffusion Rate of an Analyte into a Polymer". The application is geared for the development of polymers for use in active filtering of noxious odors.

The other patent is the concerned with the development of filter material with reactive components to be used for the removal of noxious odors from the air such as cigarette smoke, cat and dog urine, cooking odors etc.

Michael J. Willis (ELSYS) and former GTRI researcher Michael L. McGuire, working with Air Force scientist Charles W. Clark, have patented a way to use digital circuitry to perform many functions formerly allotted to more-problematic analog chips.

GTRI Communications Office The Association of Marketing and Communication Professionals recognized the GTRI Communications office with a Platinum Award for the 2005 GTRI Annual Report and a Gold Award for Media placement of the ULTRA Armored Patrol. The department also received a 2006 Phoenix Award from the Georgia Chapter of the Public Relations Society of America for the GTRInsider employee newsletter.

Gary Gimmestad (EOSL) was selected as a Fellow of the International Society for Optical Engineering (SPIE). He will receive the fellow certificate at the SPIE Defense and Security Symposium meeting in Orlando in April.

SSD Update:
Delivery Services: Shipping And Receiving

By Herb Stokes & DeeAnn Reese

The Delivery Services area of Support Services is responsible for incoming and outgoing shipments throughout GTRI. This includes the receipt and delivery of supplies and equipment from vendors and sponsors. Delivery Services is also responsible for shipping materials and equipment to vendors and sponsors as needed. Incoming shipments are carefully inspected for any visible damage and outgoing packages are checked for appropriate packaging. If the packaged item is insufficient, we will properly prepare it for transport before it leaves the facility. Since the events of 9/11, all deliveries shipped to GTRI should be processed through Delivery Services.

We pride ourselves in getting each incoming package logged in and delivered to our customers within 24 hours. We are striving to reach a goal of delivering each package within 4 hours of receipt. This will help to eliminate down time the labs might experience while waiting on the packages. We will assist with the preparation of outgoing shipments at the labs request. We work with multiple shipping companies to expedite outgoing shipments in a safe and timely manner.

THE FUNNY BONE

THEORY
is when you know everything and nothing is working.

ORGANIZATION
is when nothing is working and everyone knows why.

PRACTICE
is when everything is working and no one knows why.

Diverse Clientele

Although the majority of Machine Services' work is for GTRI, the department is available to anyone on campus as well as other schools throughout Georgia and across the country.

For example, the department helped create a laser radar system for undergraduate students from Georgia Tech and Agnes Scott College. The students were taking a special-projects class where they learned how to design, build and operate this sophisticated instrument, which is used to take atmospheric measurements.

"The interaction with Machine Services was a great real-world experience for the students," says Leanne West, a researcher in GTRI's Electro-Optical Systems Laboratory who supervised the project. "It gave them a better appreciation for what kind of specifications are required for a design – and how those specs can affect pricing. For example, if something needs to conform to a certain tolerance, it's going to be more expensive than a design that has some leeway."

Although Machine Services' has maintained the same mission and real estate through the decades – equipment and techniques have evolved dramatically.

Jimmy Ross, Machine Services' supervisor at GTRI's Cobb County facility, recalls joining the department in 1982 when all milling machines were manually operated. Today they're computer controlled, which increases both productivity and accuracy. "Cutting a large circular hole in a sheet of metal used to take a couple of hours, but today we can do it in about 15 minutes," Ross observes. "Because we're a cost center, speed is important. The quicker we can work, the cheaper it is for clients."

Machine Services uses three different types of programming and design software – SurfCAM, AutoCAD and Solid Works – and has more than 90 different tools at its disposal, including a Safop lathe that can swing more than 60 inches

This large frame is part of the Eglin AFB wind tunnel.

to turn large parts.

In the last five years, Machine Services has been expanding the amount of work it does for outside clients, such as CardioMEMS, a medical device company formed from Georgia Tech technology. CardioMEMS turned to Machine Services when it needed some customized parts for bench testing.

"What's nice for our company, which is growing at a rapid pace, is how fast the shop can turn something around," says Michael Fonseca, staff engineer at CardioMEMS. "Plus, it's very convenient. I can just walk across campus and have a face-to-face conversation with Dennis (Denney). Otherwise, I'd have to call someone across town or out-of-state – and explaining what we need would be more difficult."

The diversity of work at Machine Serves offers ample opportunity for creativity. "Some clients come in with very complete drawings, while others just have an idea in their heads," Brown says. With the latter, Brown and his staff serve as interpreters, first capturing a rough image on paper, and then refining the concept into a design that can be machine-tooled.

"Research dollars are always tight, so we try to build in flexibility whenever possible and give a part multiple uses," Brown adds. "We also try to make things that can be easily reproduced since many of the projects we work on may be commercialized later."

Contact:
Dennis Brown at 404-894-3681 or
dennis.brown@gtri.gatech.edu

Research for the Real World: GTRI's 2006 Annual Report!

The publication is being printed right now and delivery is expected the week of January 29th.

- A new designer
- A new printer
- A new production schedule

Delivered earlier than ever before!

Save the Date!
GTRI Coffee Bar

Join your colleagues for a fresh cappuccino at the "GTRI Coffee Bar" to celebrate the debut of GTRI's 2006 Annual Report.

- Real baristas will be brewing custom coffee drinks – sweets will also be provided!
- Be one of the first people to receive a copy of the New 2006 GTRI Annual Report.
- Meet the team responsible for putting the publication together.

Wednesday, January 31st
11 am – 1pm
CRB 119 Conference Room

One of GTRI's goals is to hire the best, equip the best, and reward the best employees. The following people have recently joined or retired from the GTRI team!

Welcome to the GTRI Family!

START DATE	DEPT./LAB	NAME	TITLE	START DATE	DEPT./LAB	NAME	TITLE
5/10/06	SS	SAMUEL C. PETERS	PROPERTY CONTROL OFFICER	9/1/06	SS	MILTON S. HALLEY	MAINTENANCE/CONST WORKER I
5/11/06	SS	SHIRAH D. GAYDON	MAINTENANCE WORKER I	9/1/06	ATAS	LORA G. WEISS	PRINCIPAL RESEARCH ENGINEER
5/15/06	RP	PALLA R. SMITH	PROJECT COORDINATOR I	9/5/06	SS	RITA JOHNSON	CUSTODIAN I
5/17/06	STL	ANDREW W. HOWARD	RESEARCH SCIENTIST I	9/6/06	ITTL	HARRY S. DEWHURST	SENIOR RESEARCH SCIENTIST
6/9/06	STL	PATRICK D. NEELY	RESEARCH ENGINEER I	9/20/06	SEAL	LOUIS B. FERTIG	PRINCIPAL RESEARCH ENGINEER
6/9/06	BSSVC	ALICE H. FELLABAUM	ACCOUNTING SYSTEMS & PROC SPEC	9/22/06	ELSYS	AARON JAYNES	RESEARCH SCIENTIST I
6/19/06	SEAL	STEPHEN E. CONOVER	RESEARCH ENGINEER I	9/26/06	SS	CLARENCE O. CHARLESWELL	MAIL CLERK II
6/29/06	ISD	REGINALD Q. CARTER	COMPUTER SERVICES SPEC III	10/2/06	BSSVC	DANIAL R. LAUBLER	ACCOUNTING MANAGER II
8/1/06	EOSL	ERIC M. RADER	RESEARCH SCIENTIST I	10/2/06	EOSL	MICHAEL S. SMITH	SENIOR RESEARCH ENGINEER
8/7/06	SS	ROSEMARIE C. WHITE	SPACE MANAGEMENT COORDINATOR	10/16/06	STL	DONALD D. DAVIS	PRINCIPAL RESEARCH ENGINEER
8/7/06	EOSL	JEFFREY M. JO	RESEARCH SCIENTIST I	11/13/06	BSSVC	MICHAEL S. SHELDON	TECHNICAL PROJECT DIRECTOR
8/9/06	ELSYS	SCOTT W. LOYD	RESEARCH ENGINEER I	11/20/06	ELSYS	TERESA H. SANDERS	SENIOR RESEARCH ENGINEER
8/16/06	EOSL	VALERIE LAFOND-FAVIERES	RESEARCH SCIENTIST II	12/1/06	MAPS	DAVETTA J. THOMAS	PROJECT SUPPORT ANALYST II
8/21/06	EOSL	TRACY A. WEST	RESEARCH SCIENTIST I	12/12/06	ITTL	MOHAMMAD MAHMUD	RESEARCH ENGINEER I

Goodbye From the GTRI Family!

RETIRE DATE	DEPARTMENT/LAB	NAME	TITLE	RETIRE DATE	DEPARTMENT/LAB	NAME	TITLE
6/1/06	ATAS	JAMES D. HIGGINS	PRINCIPAL RESEARCH ENGINEER	10/1/06	STL	PICKERING, LESLIE W.	SENIOR RESEARCH ENGINEER
6/1/06	ELSYS	PHYLLIS R. CHRISTOPHER	PROGRAM COORDINATOR I	10/1/06	AO	ROGERS, JANICE M.	DIRECTOR ADMINISTRATIVE
8/1/06	ELSYS	FULLER, RICHARD V.	SENIOR RESEARCH ENGINEER	10/1/06	ELSYS	ROGERS, WILLIAM S.	SENIOR RESEARCH ENGINEER
9/1/06	MAPS	FITZPATRICK, JUDITH A.	PROJECT SUPPORT ANALYST II				

We Want to Hear from You!

The GTRI Communications Office welcomes and looks forward to your feedback on our new employee newsletter – the *GTRInsider*. Based on your input, we'll make sure that we focus on topics and stories that matter to you. If you have news, ideas, or suggestions to share concerning stories and features you would like to see in future issues, please let us know by completing and returning this form. You are also encouraged to nominate GTRI employees we can feature in the Up Close and Personal With… section of future issues.

You can fax completed forms to 404-407-9759 or send it via campus mail to Kathryn Knox in CRB 276A/mail code 0801. You can also e-mail your comments to GTRInsider@gtri.gatech.edu

Please print or type:

Name: _____

Lab/Department: _____

Phone (day): _____ Cell (optional): _____

E-mail: _____

Comments/Suggestions/Ideas: _____

_____

_____

My suggestion for a future employee profile in the "Up Close and Personal With" section is:

Employee's Name: _____ Lab/Department: _____