

The GTRI Connector

Share Your Holiday Happenings

Is your lab or support group planning a holiday celebration or otherwise marking the December holidays? If so, we would like to include your activities in THE CONNECTOR.

We can accept photos and information as late as January 5. For more information, call RCT at 853-9079.

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Keeping Track of State Property — Working with Your Property Coordinator Makes it Efficient, Easy

Planning to move a computer or other item from one room to another? Your lab's or support group's property coordinator will be glad to give you a hand.

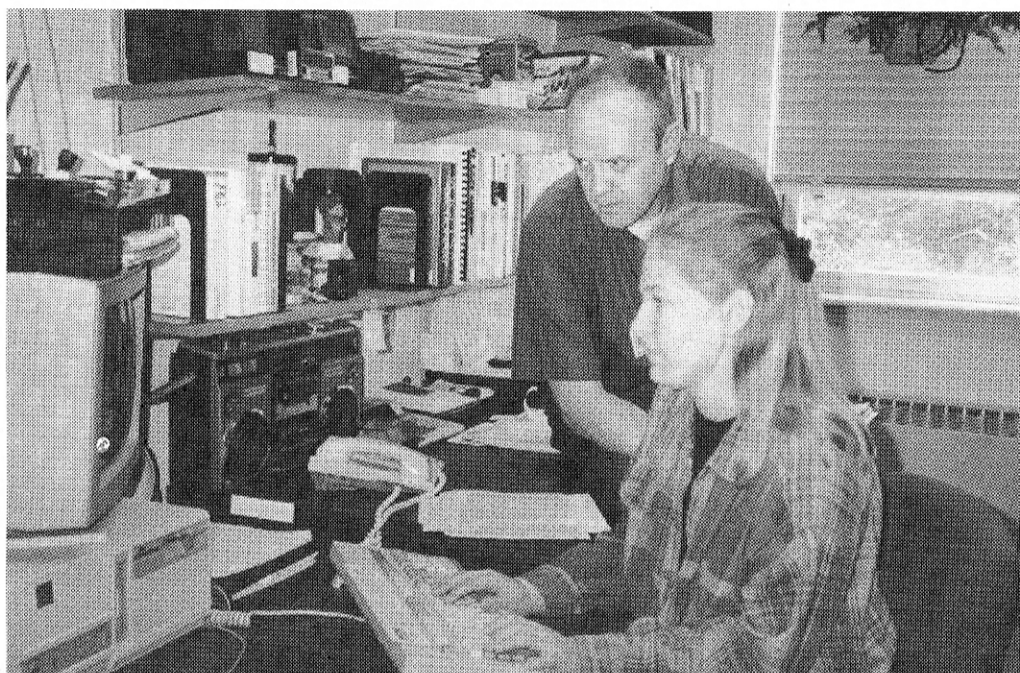
That person might not haul your equipment down the hall — but he or she will record the move in GTRI's state property database for you. That's an important part of the move, says Director of Support Services Evan Chastain.

"GTRI uses, and is charged with keeping track of, \$50 million in state equipment," Chastain said. "The key to successfully inventorying all these items is properly recording all property moves throughout the year. The property coordinators depend on their fellow employees to inform them of any equipment moves."

The state requires Georgia Tech to know the location of items purchased with \$1,000 or more in state funds. That includes almost all computers, as well as specialized equipment and some furniture. Each item that must be inventoried is tagged when it arrives on campus with a small, white, rectangular Georgia Tech "GT" sticker printed with a bar code and number. The items are listed in GTRI's state property database by their sticker numbers. Property coordinators can access the database and enter a change in the location of an item in minutes, if they are made aware of an equipment move.

The property coordinators (*see box on page 7 to find out who yours is*) and Research Property Team employees will work with Georgia Tech's Capital Assets

Continued on page 3



Jeni McEwen and Jimmy Woody, property coordinators for SEAL/EEED, demonstrate how easy it is to enter state property movements into a database for their GTRI colleagues. (Photo by Lea McLees)

Advisory Council Holds 'Very Productive' First Meeting

by Rick Robinson, RCT

A panel of industry, research and university leaders gathered on campus October 13 and 14 as the GTRI Advisory Council held its inaugural meeting. The Council members, drawn from Georgia and elsewhere, spent the busy two-day session attending briefings and touring GTRI facilities.

"It was a very productive first meeting," said Jerry Carey, GTRI associate director emeritus and chairman of the Advisory

Council. "The purpose was to give an overview of the organizational structure of GTRI and selected research areas, as well as the challenges that are being faced."

Among the topics and briefings on the Council's agenda were: advanced concepts, sensors, aero/acoustics, testing and evaluation, environment/materials, telecommunications, electromagnetics, technical insertion, and State of Georgia issues.

Carey described the Council as "impressed" by both the level of GTRI personnel and the "high level of technical quality in the research." He characterized the Council, all of whom have direct experience with the federal, state and/or corporate research process, as "very focused people" possessing a strong "level of appreciation" for changes taking place in national research priorities.

The Council's stated mission is to:

Continued on page 6

Observed & Noted

This month we begin meeting the members of another GTRI group: The Research Support Team. *Turn to page 2 for introductions.*

How should we dispose of old software and manuals? *See page*

2 for guidance.

GTRI employees lunched and learned about the 1996 Summer Olympics. *Find out what they learned on page 3.*

Some of our researchers recently

won TRP funding, and a third competition has been announced. *Learn how you can get involved on page 4.*

The Cobb County Research Facility was the site of a transportation research meeting. *Find out who at-*

tended and what was discussed on page 5.

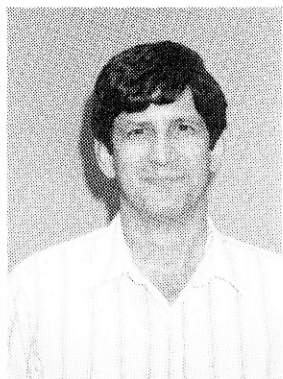
Gary Tjaden (ITL) is director of the Center for Enterprise Planning Systems. *Read about the center's work on page 5.*

Georgia Tech research is in the news. *Learn where the latest stories have appeared by turning to page 6.*

Need to know who your property coordinator is? *See page 7 for a complete list.*

The latest professional, personal and personnel news -- along with some kudos -- fill page 8. *Flip to the back page to read about your colleagues' latest achievements.*

News & Notes



Paul Hawley

Meet the Research Property Team (RPT)

RPT, part of the Support Services Department, is led by Manager Harry Ross and administers all of GTRI's equipment. This team makes sure things are as — and where — they should be. RPT's three property control officers, along with three other staff members, administer state property within GTRI, as well as property belonging to federal and corporate sponsors within both GTRI and the academic schools. This month we'll concentrate on the state-property side of RPT's duties.

Whenever employees alter the location and/or status of state property worth \$1,000 or more, they must report the change. RPT is in the process of training property coordinators in each GTRI unit. The aim is to have the property coordinators make database entries directly whenever state equipment changes status (*see related article, page 1*).

The sponsor side is different: Principal investigators and project directors are responsible for sponsor property. They have responsibility for notifying the appropriate property control officers at RPT about any changes in equipment status or location.

Paul Hawley

Paul is in charge of monitoring State of Georgia property within GTRI. A 16-year Georgia Tech veteran, Paul transferred to RPT from EOEML in April and has been



Mary Henderson

tracking down missing equipment. It's quite a job: GTRI has \$50 million in state equipment. Most missing equipment, Paul says, can be traced to carelessly or improperly completed inventories. The result: He must frequently "play detective," luckily, that's a job that he enjoys. Meanwhile, results of that sleuthing have been good, he reports: He has whittled down his missing property list by more than 80 percent. Paul holds a B.S. in biology from Georgia's Piedmont College, is married and has one son. When Paul isn't tracking down missing equipment (computer equipment makes up 56 percent of all missing state items), he enjoys hunting, camping and working around his south Woodstock home.

Mary Henderson

Mary has been with Research Property for two years and has worked for Tech for 10 years. She provides secretarial support for the other five RPT staff members. It's a responsibility that keeps her busy — in fact, her job description covers half a typed page. Among her duties: creation and maintenance of records and data input for nearly 2,300 projects and sub-projects and some 2,500 items of sponsor-furnished property. Mary also handles word-processing and desktop publishing for RPT, deals with the department's risk-insurance processing and keeps a projects ledger. She has been married 15 years, lives in Austell and has a son in 10th grade and a daughter in fifth grade. Her second job, she says, "is my children."



How Do I... Dispose of Old Versions of Software and Manuals?

What do people do with old versions of software and manuals? Is there an organization that we can donate it to? Or, is there a repository at Georgia Tech that serves as a clearing house for such material, like we have for surplus equipment and furniture?

All old software should be handled in accordance with the terms of the agreement under which Georgia Tech licensed it, says attorney Gail Gunnells, Deputy Chief Legal Adviser, Office of Legal Affairs. These agreements usually require that software be destroyed by Georgia Tech, or be returned to the vendor when the license terminates. Occasionally, we are allowed to donate old software to a third party as long as we provide the license with it, and the third party agrees to be bound by the license. This is rare, though. In addition, the source of the funding the software was purchased with can affect whether software can be donated.

SELECTED OCTOBER 1994 AWARDS

Title	PI/Laboratory	Sponsor	Funded Amount
Harmonizing Civil/Military Design & Airworthiness Requirements for Transport	Crawford, C. (AERO)	Systems Control Technology	\$ 102,944
Extended Range Detector Log Video Amplifier for AM-6639 Advanced Crystal	Mack, D. (ELSYS)	Air Force	700,000
Env. & Dev. Change Time Series Analysis for Coastal Ga. & S.C.	Faust, N. (EOEML)	S.C. Dept. of Natural Resources	60,837
Diamond & Diamond-Like Carbon Coatings for Biological Appli.	Lackey, W. (EOEML)	Technology Assess. & Trans. Inc.	49,848
Pollution Prevention Training Strategy Cooperative Agreement	McElvaney, L. (EOEML)	Environ. Protection Agency	76,473
Southern Lead Training Consortium - Year 3	Ainslie, V. (EOEML)	Environ. Protection Agency	275,209
GTSIMS Software Development, Verification & Validation	Owens, W. (EOEML)	PRC Corp.	670,000
Integration & Interoperability Testing of Hitachi AMS-5000 ATM Switch	Evans, J. (ITL)	Hitachi Telecom.	254,987
Tech Support for Counter Drug Intergration Center - Phase II (SWBS)	Hilderbrand, T. (ITL)	Logicon Eagle Technology	526,595
Multispectral Anti-Air Test System Pedestal	Roberts, R. (SDL)	CTA Incorporated	35,256
Documentation Definition, Analysis & Revision	Goodman, R. (SDL)	Army	217,342
Engineering & Field Support for Threat SAM System	Cochran, H. (SDL)	Air Force	60,000
Non-Cooperative Target Identification (NCTI) Technology	Cohen, M. (SEAL)	Air Force	150,000
Mobcap Apex Test Hardware Development for Radar Evaluation	Adams, J. (SEAL)	Dynetics Incorporated	105,152
AP650 Test Range Interface Program	Muzio, A. (SEAL)	Army	298,677
RF Materials Characterization	Moore, R. (STL)	Northrop Corporation	23,900
World Wide Infrared Signature Reduction Technologies	Pringle, L. (STL)	U.S. Government	170,000

1996 Future Facts

- The peak days for attendance at the Olympics are expected to be the fifth day and the 12th day. Those are the days of the equestrian endurance competitions, which generally attract more spectators than any other events.
- Atlanta will be home to approximately 1,200 public transportation buses coming from as far away as California. These buses will run more frequently than

MARTA's current schedule, and will connect with the MARTA rail system. A second set of 700 buses and 200 vans will transport members of the International Olympic Committee, the 200 National Olympic Committees, and the 26 International Olympic Federations. Athletes will have their own bus/van transportation system for security reasons, and to make sure they arrive at their events on time. These transportation systems are being managed by ACOG per-

sonnel.

- Six satellite Olympic villages will be created, in addition to the main village at Georgia Tech. The satellite villages will be in Birmingham, Ala., Miami, Fla., Orlando, Fla. and Washington, D.C., the sites of preliminary rounds of the soccer competition; near the Oconee River, site of the whitewater canoeing competition; and Savannah, site of the yachting competition.

—from Sarah Andrews, (ELSYS)

Will GTRI employees be able to leave campus during the day and return later that same day during the 1996 Olympics?

GTRI personnel will be free to come and go, but doing so will be more difficult than normal. Most GTRI buildings will be in the Research Controlled Zone, and employees will only need a photo ID (probably a separate badge from the current GTRI ID) to pass in or out of the

gates at the campus boundaries. The real difficulty will spring from the fact that GTRIers will then need either to be picked up by private car or to take a shuttle bus to the satellite lot where they parked.

GTRI people needing access to the Village Security Zone (VSZ) or the two sports Venues Zones will need electronically coded credentials (probably a badge) to pass through the entrance checkpoints. Any parcels they carry will probably be X-

rayed in a fashion similar to an airport checkpoint.

It appears there won't be any electronic-badge borrowing. Each badge will be scanned; then the encoded information will be cross-checked by a device that will scan either an individual's thumbprint or facial appearance.

Source: William A. Miller, Director of Olympic Planning for Georgia Tech.

1996 News

Employees Lunch-N-Learn About Olympics

Are you hoping to attend some of the Summer 1996 Olympic events? If so, you'll need to understand the transportation plan for the Olympics, advises Sarah Andrews, ELSYS employee and Olympics volunteer.

Wolf Creek Trap and Skeet Range on the south side of Atlanta — the site of the shooting competition — is the only venue at which you will be able to park your car, Andrews said.

"There will be park and ride lots at other locations outside the city — MARTA will provide transportation to and from those locations," she said.

Andrews, who has volunteered with the Atlanta Committee for the Olympics Games for two years, and Judy Cooper (RO) organized a brown bag lunch program about the Olympics on October 25 in CRB. Andrews also presented a brown bag lunch program at GTRI's Cobb County facility on November 11.

Attendees learned about the information available at "The Olympic Experience," where Andrews volunteers her time providing general information and answering questions. The above-ground facility at Underground Atlanta features displays showing Atlanta's Olympic venues, including a map of the Olympic Village at Georgia Tech, and a model of the Olympic stadium, as well as an interactive video explaining different sports.

Andrews also explained how to purchase tickets. The current plans are that sponsors, large companies such as IBM, McDonald's, Home Depot and NationsBank, will distribute ticket applications during Spring 1995. Those who want tickets will complete and send in applications, and their orders will be en-

tered into the computerized system that IBM is developing for ticket distribution. Tickets are expected to be distributed first come, first served, except for high profile events. For these individual event sessions only, a lottery may be used.

The first round of tickets distributed will have each purchaser's name printed on them, making them nice souvenirs. The ticket for a competition will entitle you to a free ride on MARTA for the entire day of the event date on your competition ticket.

Other items that employees asked about include:

- Volunteering:** Currently more than 600 people are volunteering their time to help with pre-Olympics work. In late 1995 ACOG will announce that applications are available for volunteers who want to work during the Olympics. Applicants must be able to commit to helping out for a minimum of two weeks and must have a strong history of volunteer work. ACOG will begin training its volunteers in early 1996. Volunteers will also receive training at sites where they'll be working.

- License Plates:** More than 300,000 Olympics license plates have been sold, raising at least \$3 million for the Games. Of the \$15 cost per tag, \$10 goes to the Olympics and \$5 goes to the Department of Motor Vehicles. You can keep your Olympics plate because it is a prestige tag. Hall County, the site of the rowing and canoeing competitions on Lake Lanier, has purchased the largest percentage (by population) of Olympics license plates of any county.

- Renting Out Homes:** ACOG and private organizations will help people who want to rent their homes to visitors during the Games. An organization called QUEST '96 has been created to provide transportation, food, and housing for athletes' families, who cannot afford to pay for accommodations.



GTRI employees and other Tech colleagues examine Sarah Andrews' (ELSYS) Olympics pins after the first GTRI Olympics brown bag lunch. (Photo by Lea McLees)

- Healthcare for Athletes:** Many athletes from poor countries will get medical care, such as dental work, that they have never had and may never have again. The 24-hour healthcare is a free service for the athletes during the Games, and is financed from the proceeds of the games.

State

From Page 1

Accounting Department to handle GTRI's part of the campuswide state property inventory in January 1995. The inventory must be complete by the end of that month — there will be no time for the follow-up inventories GTRI has conducted in past years, Chastain said.

"That's why it's all the more important for property moves to be reported to property coordinators as soon as possible," he said.

If you have questions about GTRI's state property, you may contact Paul Hawley (RPT) at 894-6194, or send e-mail to paul.hawley@gtri.gatech.edu.

Focus on Research

Capt. Bill Watts of Delta Airlines, center, presents a check for \$38,000 to Henry Paris (EOEML), right, as Jan Gooch (EOEML), left, looks on. The check initiates a six-month, \$152,000 program for developing speciality coatings technology. Developing a strong industrial research base in materials is a major EOEML objective. Look for an article about EOEML's success in this area in the January CONNECTOR. (Photo by Lea McLees)

Internal Research Update: FutureCar Paves the Way for New Technologies

Last month we told you about newly funded internal research projects. This month we're updating ongoing, previously funded internal research. One project is included here. Look for summaries of the remaining four projects in the January and February issues.

•**FutureCar Test Bed Task Two; AERO's Rob Michelson, Bob Englar and Marilyn Smith:** Technologies for tomorrow's cars are being developed in GTRI's AERO lab today. Researchers are exploring novel aerodynamic techniques for reducing drag and improving control of automotive vehicles. Drag occurs when air flows over and around a vehicle stirring into whirlpools behind the car and around projecting objects such as mirrors. These vortices and separated airflows not only cause noise — they make the car's engine work harder to maintain speed, thus using more fuel.

The GTRI wind tunnel research facilities



being used for this work are unusual, in that they allow the researchers to accurately simulate the effect that operating near a flat surface, such as water or a road, has on the aerodynamics of a vehicle. In addition to performing wind tunnel evaluations of models of streamlined cars, the researchers are comparing actual results with computer predictions and finding them in very close agreement. They are also looking at the critical effects that sidewinds and gusts (from passing trucks, for example) have

on vehicle stability.

Researchers have made a number of briefings on their work and are in the process of applying for a patent on novel technologies developed during this program. The entire FutureCar testbed, a platform for transportation system research, is two generations ahead of current advanced thinking on electric cars. Two undergraduate co-op students and one doctoral student have participated in the project.

GTRI Wins TRP Funding, Gears Up for New Round of Proposals

by Lea McLees, RCT

The hard work and persistence of several GTRI researchers paid handsome dividends recently when the White House announced the latest round of winners in the Advanced Research Projects Agency's (ARPA) Technology Reinvestment Project (TRP) competition. Thirty-nine projects totalling over \$200 million were funded, and GTRI was a member of three of these project teams.

These wins bring to nine the total number of projects awarded to Georgia Tech researchers in the past 12 months, says GTRI's Jim Cofer, who coordinates the TRP campuswide.

The latest winning projects are summarized briefly below:

•**E-SMART System for In-Situ Detection of Environmental Contaminants (Nile Hartman, GTRI Project Director):** The prime contractor, General Atomics, and its partners will develop a comprehensive, fully integrated system for in-situ, real-time detection and monitoring of groundwater contaminants using optical interferometry. The system will be capable of detecting spilled fuel, chlorinated solvents, and heavy metals, contaminants of critical importance to the Department of Defense (DoD). Funding for GTRI is expected to be \$1.41 million, which includes \$600,000 in cost matching from the Georgia Research Alliance (GRA).

•**Next Generation High Resolution and Color TFEL Displays (Chris Summers, GTRI Project Director):** This project, led by Planar Systems, Inc., will expand the team's capabilities by 1) improving the efficiency and power consumption of thin film electroluminescent (EL) displays while expanding production capacity, and 2) developing and manufacturing an active matrix EL display suitable for head-mounted and miniature display applications. DoD demand for head-mounted displays is expected to grow significantly, and DoD will benefit from production economics driven by industrial and consumer applications. Funding for GTRI will be \$2.9 million, including \$1.45 million in GRA funds.

•**TI/Raytheon Leap-Ahead Approach to U.S. Flat Panel Display Competitive-ness Field Emission Displays (Chris Summers, GTRI Project Director):** This Texas Instruments-led team will develop improved field emission display technology based on a low voltage phosphor approach licensed from Pixel Intl. The project will focus on reducing manufacturing costs, improving packaging technology, and increasing power efficiency required to bring this technology to successful market entry. Funding for GTRI is \$2.58 million, including \$1.29 million in GRA funds.

In announcing the winners, President Bill Clinton noted that commercial firms are the source of many advanced technologies needed to keep America's military the most powerful in the world.

"The winning projects I am announcing link commercial industry and defense needs, to keep American strong militarily and economically," he said.

Third TRP Competition Announced

The Administration will award an additional \$415 million in matching federal funds in a third round of competition during 1995. The new competition will seek proposals in 13 Technology Development areas (\$250 million available), as well as proposals for Regional Technology Alliances (\$115 million available) and Manufacturing Education and Training efforts (\$30 million available). Approximately \$20 million has been allocated for Small Business Innovation Research Proposals.

The 13 technology development areas to be funded are:

- Biological Sensors
- Law Enforcement
- Affordable Polymer Matrix Composites
- Low Cost Specialty Metals Processing
- Millimeter Wave Products
- Electric and Hybrid Vehicles
- Ceramic Materials
- Small Precision Optics Manufacturing
- Digital Wireless Communications
- Affordable Controls
- Cryogenic Coolers
- Microelectromechanical Systems
- Other areas meeting DoD needs

Five-page white papers may be submitted to ARPA by December 21, 1994, for preliminary assessment of their funding potential. Proposals are due to ARPA by March 17, 1995, and awards will be made in June 1995.

ARPA's Southeastern U.S. TRP information meeting was held in Georgia Tech's Theatre for the Arts on November 22. If you were unable to attend and have questions, or are interested in participating in a TRP proposal, you may call Jim Cofer or Cindy Roberts at 528-7010.

GTRI Hosts Georgia Transportation Research Meeting

Georgia's first "all-state" transportation research meeting was hosted by GTRI on Oct. 11. The day-long Georgia Transportation Research Conference was organized by the Georgia Department of Transportation (DOT) and attended by some 65 transportation officials and researchers from a broad spectrum of government and academic groups.

Robert Cassanova, leader of GTRI's Advanced Transportation Initiative, termed the event "very successful." Cassanova, one of two conference speakers from Georgia Tech, said the meeting provided an effective all-Georgia forum.

"The purpose was to get everyone together ... to make the DOT more aware of the resources available in the state," Cassanova said.

Michael Meyer, director of Georgia Tech's Transportation Research and Education Center (TREC), also briefed attendees about Tech re-

search. Bill Youngblood (AERO), associate director of TREC, chaired the afternoon session of university briefings.

Conference objectives included identifying transportation research needs, reporting on ongoing state research, identifying Georgia-based transportation research resources and providing information on research opportunities.

The conference, held at GTRI's Cobb County Facility, was attended by representatives of the Federal Highway Administration, the Transportation Research Board, National Highway Traffic Safety Administration, the Federal Aviation Administration and the Federal Transit Administration. Eleven Georgia DOT officials attended, as well.

The university contingent included representatives from Albany State College, Clark Atlanta University, Georgia Southern University, Georgia State University, Georgia Tech, Mercer University and the University of Georgia. There were a number of attendees from private firms, as well.

The meeting was opened by Wayne

Shackelford, Georgia DOT commissioner.

Richard Truly, GTRI's director, welcomed the conference attendees. The morning program was devoted to a research-opportunity survey by officials of several federal agencies, as well as a similar assessment from the Georgia DOT. During the afternoon session, several universities, including Georgia Tech, presented talks on their respective research programs and areas of expertise.

In addition to Truly, Cassanova, Meyer and Youngblood, attendees included Krish Ahuja (AERO), Hugh Denny (SEAL), Wade Gamto (SDL), Gary Gimmestad (EOEML), Gene Greneker (SDL), Bruce Harvey (ITL), Terry Hilderbrand (ITL), Robert Michelson (AERO), Stefan Roth (ITL), Michael Rowan (EOEML), Marilyn Smith (AERO) and Frank Williamson (SEAL), and James Lai and John Leonard (Civil Engineering).

Cassanova reported that organizers were pleased enough with the research meeting to call for another one next year. "We're calling this the First Annual Georgia Transportation Research Conference," he said.

Re-thinking The Corporation

By Mark Hodges, EOEML

When clerks ring up sales in large department stores, they often take in more than just money. Their cash registers note the types of items bought, then electronically send this information to corporate decision-makers and manufacturing suppliers. With a steady flow of sales data, firms keep store shelves well stocked and quickly meet consumer demand changes.

Advanced information technologies have given aggressive firms a strong tool for gaining a competitive advantage. But the success of companies such as Wal-Mart and Home Depot has led other firms to adopt sophisticated information systems for quick fixes of basic business problems.

"You can't just impose technology on your problems; you must first re-engineer basic business processes," says ITL's Gary Tjaden, director of Georgia Tech's new Center for Enterprise Planning Systems, based in GTRI. After a company "re-engineers" itself, Tjaden explains, its managers are ready to make effective use of advanced information technologies.

This approach, known as business process engineering, has been championed in the bestseller *Reengineering the Corporation*, and is now used by countless consultants to strengthen ailing companies. Many consultants' recommendations, however, are based on "anecdotal experience" rather than hard scientific data, Tjaden says. Through the center, he and his faculty collaborators are building a more scientific base for designing basic business processes.

Tjaden is well acquainted with the intricacies of business process improvement, having spent 15 years as a telecommunications industry executive. He came to Tech in late 1993 to found the center, and has attracted research faculty from the School

of Management, the School of Electrical and Computer Engineering, the College of Computing, and GTRI to the program.

The center's three missions are:

• **Transfer of technology to business and industry clients.** Though several large companies already have come to the center for assistance, Tjaden says that corporate executives still are not accustomed to thinking of universities as sources of expertise in business process engineering. He believes that one of the center's most attractive advantages to private-sector clients is its access to state-of-the-art research in information technology and telecommunications. With the downsizing of the Department of Defense, GTRI has placed new emphasis on converting defense technologies to commercial workplace needs.

Of more direct interest to the center's clients is GTRI's new Business Process Modeling and Simulation Computer Laboratory located in ITL. Researchers in this lab are developing software for modeling business processes, and hope to take their computer tools to client sites or have clients use the software in the lab.

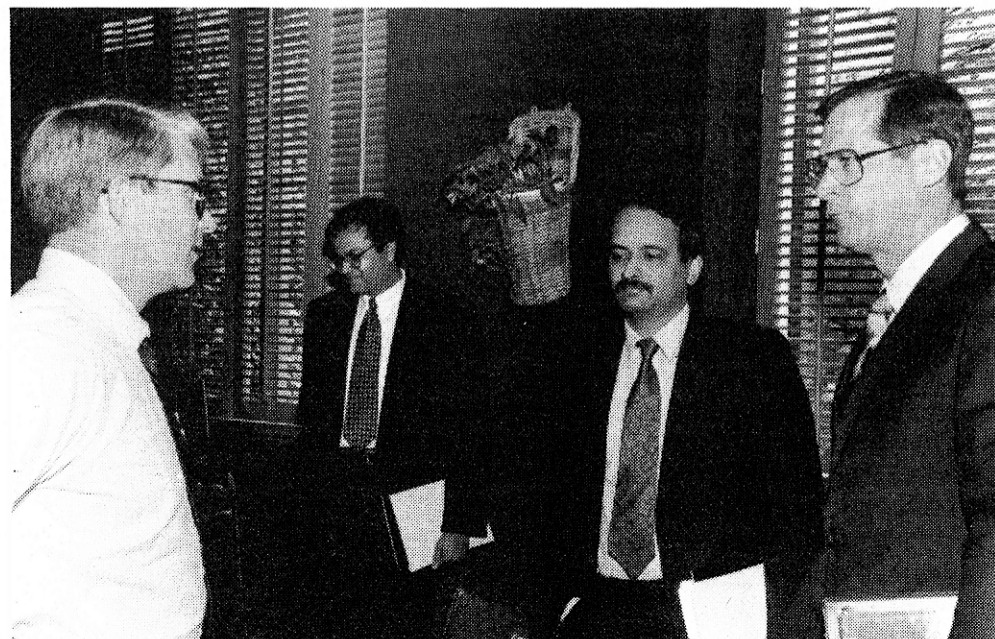
Ease of use is a critical attribute sought by the developers of these computer tools. User-friendliness, Tjaden explains, doesn't

just mean that the software automatically draws charts of business processes that managers can readily grasp. In addition, it provides executives with software that also can analyze processes, freeing them to concentrate on making critical decisions. To give the software this capability, Tech researchers are incorporating expert systems and neural networks.

• **Research and development for business process engineering.** The work done in the laboratory also fits into this mission. Other, more basic research focuses on developing precise measures of process attributes known as business process metrics. Researchers are trying to quantify normally unmeasured parameters such as the agility, complexity, or dynamism of an industrial process. Faculty leaders in these studies are Sridhar Narasimhan and Sabyasachi Mitra of the School of Management, and Colin Potts and Shamkant Navathe of the College of Computing.

• **Education and training.** Here, the researchers want to strengthen Tech's academic offerings in business process engineering. Tjaden and several other Tech management and computing professors are preparing to teach a graduate level

Continued on page 7



Focus on Research

The Senior Executives Roundtable on the Business Impacts of Information Systems (SERBIS) is being organized by the Center for Enterprise Systems. Among those attending the group's first organizational meeting were, left to right, Ron Griffin, Vice President/Information Systems, Home Depot; Sabyasachi Mitra and Sridhar Narasimhan, School of Management; and John Mabn, Vice President/Information Resources Group, Rollins. (Photo by Dayton Funk)

News & Notes

Members of the Georgia Tech community organized a visit from Buzz for Kasey Fennell, center, daughter of Vickie Fennell (MAPS), left. Buzz delivered gifts, cards and letters to Kasey while she was receiving chemotherapy treatments at Scottish Rite Children's Hospital. (Photo courtesy Vickie Fennell)



Research in the News

by John Toon, RCT

During September, articles describing Georgia Tech research appeared in 59 publications with a combined circulation of more than 12.4 million. Key articles, and the circulation of the publications in which they appeared, are shown below:

Design News (circ. 175,000), *OE Reports* (circ. 30,000), *Photonics Spectra* (circ. 85,000) and *Robotics World* (circ. 27,848) published articles and photographs on the **Intelligent Integrated Belt Manipulator**. The project, aimed at developing "human level" robotic systems, is led by Gary McMurray in EOEML's Agricultural Technology Program.

Advanced Materials and Processes (circ. 50,000), *Aerospace Engineering* (circ. 42,809), *Design News* (circ. 175,000), *Designfax* (circ. 110,247), *Industry Week* (circ. 288,000), and *Manufacturing Engineering* (circ. 111,749) wrote about research on **Carbon-Carbon Composites** being led by Jack Lackey in EOEML.

Work by William Ditto in the School of Physics and collaborators at the Children's National Medical Center and the Naval Surface Warfare Center on **Controlling Chaos in Epilepsy** was the subject of articles appearing in nine magazines and national newspapers. These included *The Buffalo News* (circ. 305,482), *Business Week* (circ. 975,000), *The Chicago Sun-Times* (circ. 558,738), *The Dallas Morning News* (circ. 493,837), *The Portland Oregonian* (circ. 348,617), *The San Francisco Chronicle* (circ. 556,175), *The Washington Post* (circ. 810,000) and *Washington Technology* (circ. 39,000).

Aerospace Engineering (circ. 42,809) described the **FalconView Software** developed by John Pyles and others in ITL.

The Atlanta Journal-Constitution (circ. 682,000) quoted Jim Foley, director of the Graphics, Visualization and Usability (GVU) Center, in an article on **Using the Internet** for collaborative research.

Comments by Microelectronics Research Center Director Richard Higgins on the development of the **First Organic Transistors** were included in an Associated Press wire story circulated nationally. The article was published in *The Arizona Republic* (circ. 397,118), *The Des Moines Register* (circ. 191,511), *The Newark Star-Ledger* (circ. 481,027), *The Portland Oregonian* (circ. 336,087), *The Richmond Times-Dispatch* (circ. 213,518), *The Sacramento Bee* (circ. 276,031) and *The Wichita Eagle* (circ. 118,295).

Funding for the **Low-Cost Electronics Packaging Research Center**, led by Rao Tummala from the School of Electrical and Computer Engineering, was announced in *The Atlanta Business Chronicle* (circ. 35,000), *The Atlanta Journal-Constitution* (505,000) and *New Technology Week*.

Thanks to an article published in *The Washington Post* (circ. 810,000), the **Window Curtain Antenna** gained notice in eight more national newspapers, as several other key magazines noted the work. The project, led by Ed Joy in the School of Electrical and Computer Engineering, was described in *The Albuquerque Journal* (circ. 117,932), *The Austin American-Statesman* (circ. 177,127), *Aviation Week & Space Technology* (circ. 144,000), *Design Engineering* (circ. 18,500), *The Milwaukee Journal* (circ. 236,943), *The San Francisco Chronicle* (556,715), and *The Tulsa World* (circ. 127,467).

RF Design (circ. 40,000) described research capabilities at the **Woodbury Research Facility** operated by the Georgia Tech Research Corporation.

Council

From page 1

- Advise and make recommendations on programs to achieve the objectives set forth in the GTRI Strategic Plan concerning vision, goals and research thrusts.
- Review specific research and economic thrusts with regard to their applicability and viability in the face of national priorities, and provide guidance in strategic business development.
- Assist in recruiting key research personnel and in setting standards of excellence for research programs.
- Aid in setting a balance in allocating GTRI discretionary assets among such areas as program development, internal research and equipment allocation.
- Help provide a linkage to evolving national and state research, as well as industrial and educational priorities.

During the two-day meeting, Carey said, the Council made a series of initial recommendations on GTRI's future course that have been forwarded to Director Richard Truly.

Most though not all members were able to attend the first meeting. The Council is expected to have another full meeting within three to six months. One working group has been formed to aid in GTRI's relationship to the state, and another will examine the Institute's role in national research priorities.

The Advisory Council membership currently consists of:

- **Dr. D. Allan Bromley**, Sterling Professor of the Sciences and Dean of Engineering at Yale University; former science advisor to President Bush.
- **Maj. Gen. Gerald J. Carey Jr.**, USAF (Ret.), Advisory Council Chairman; GTRI Associate Director Emeritus; member of the Air Force Scientific Advisory Board.
- **Mr. Ben Dyer**, Chairman of Intellimedia Corp.
- **Dr. H. Allen Ecker**, Senior Vice President Technical Operations and Chief Technical Officer, Scientific-Atlanta.
- **Dr. John N. Fabian**, President and CEO, Anser Corp.
- **Dr. Joseph A. Saloom**, Technical Consultant to government and industry in solid state and vacuum electron devices; Chairman of the Working Group on Microwave Devices and Components for the Department of Defense Advisory Group on Electron Devices.
- **The Honorable John Sununu**, Co-host on CNN's "Crossfire," was Chief of White House Staff to former President Bush; former Governor of New Hampshire.
- **Mr. William J. Todd**, President, Georgia Research Alliance.
- **Vice Admiral Jerry O. Tuttle**, USN (Ret.), Vice President, Business Development and Chief Staff Officer, Oracle Corp.
- **The Honorable James W. Tysinger**, Georgia State Senator, District 41; chairman of the Senate Science, Technology and Industry Committee.

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course in Spring 1995. Through this course and future ones, Tjaden hopes to start a pipeline of graduates to industry with strong backgrounds in quantitative measurement of business processes. The center also will offer continuing education training via workshops and seminars, including an executive roundtable now being organized.

Through all of these activities, Tjaden hopes to stimulate industrial interest in better understanding the true potential of business process engineering.

"We need more formalism to convince managers to use this approach," says Tjaden. "If we're going to call it a discipline, then let's make it a science."

GTRI Greetings

Welcome to one of our newest employees!

Ten Good Things We Know About Rick Robinson

1. Rick Robinson began work as a graduate research assistant on the Research Communications Team (RCT) on September 6.

2. He writes articles for THE CONNECTOR, and is getting started writing news releases and *Research Horizons* articles, as well.

3. Rick began work this fall on a master's degree in history of technology from Tech's School of History, Technology and Society.

4. He enjoys writing about science and technology, and has spent much of his career doing just that.

5. Rick has worked in journalism for more than 11 years. He earned a bachelor's degree in English from Columbia University and worked at *The Wall Street Journal* as a reporter's assistant and production copy editor.

6. He served as a reporter and copy editor for a regional newspaper in Massachusetts. Rick also worked as a freelance journalist in Atlanta for five years, writing for *The Atlanta Journal-Constitution* and other publications.

7. He chose his major at Tech because he has always been fascinated by societal changes resulting from revolutionary technological impacts.

8. Rick hopes to teach one day.

9. He is married and has a six-year-old son.

10. RCT is glad to have Rick as a co-worker because he is so easygoing, reliable and fun to work with!



Rick Robinson

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**News
&
Notes**

Focus on Folks

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Professional Activities

Electro-Optics, Environment and Materials Lab

Charlene Bayer participated in the EPA-sponsored Indoor Air House of Horrors on October 28. Both CNN and Channel 11 taped the event.

Jack Lackey gave an invited keynote presentation at the ASM/TMS Symposium in Chicago, Ill. on October 4 on "Advanced SiC Fiber Tow Prepared by Chemical Vapor Deposition."

"Pyrolysis Characteristics of Iodine Precursors for Gas Source n-Type Doping of II-VI Compounds," by **Raj Rajavel, Augusto Conte-Matos** and **Chris Summers**, was recently published in the Journal of Crystal Growth. A large group from the Quantum Microstructures Branch recently attended the 1994 U.S. Workshop on the Physics and Chemistry of Mercury Cadmium Telluride and Other IR Materials held in San Antonio, Texas, October 4-6. Papers were presented on "Photoluminescence and Raman Studies of High-Quality CdTe: I Epilayers," by Nancy Giles, J. Lee (West Virginia University), **Tuyen Tran** and Summers; and "Infrared Luminescence Properties of Narrow-Gap Hg_{1-x}Cd_xTe Structures Grown by MOMBE," by Jens Tomm, T. Kelz, H. Kissel and W. Hoerstel, (Humbolt University zu Berlin), **Tuyen Tran, Brent Wagner, Rudy Benz, Bob Bicknell-Tassius** and Summers. Summers was also a member of the Program Committee and chaired a session on MCT Epitaxial Growth.

Systems Development Laboratory

On October 4, **John Mills** presented a seminar entitled "Mixed Media for Real-Time Computer Control Systems" at the Georgia Tech - Lorraine campus, in Metz, France. Mills presented the design approach used in several of SDL's embedded multi-processor system designs, and discussed GTRI's general approach to sponsored research and development. Mills' seminar was organized by Georgia Tech - Lorraine, and was attended by students and faculty from Georgia Tech - Lorraine and Supélec, the French national university for advanced electrical engineering, co-located with Georgia Tech - Lorraine at the Technopole 2000 in Metz.

Research Security Department

Jennie Tate attended the 17th National Computer Security Conference in Baltimore, Md., October 10-14.

Sensors & Electromagnetic Applications Laboratory

Bob McMillan and **Nick Currie** reported to Rome Laboratory, Griffiss AFB, N.Y., to serve one-year appointments as research scientists under the Intergovernmental Personnel Act (IPA). They will perform research in bistatic radar and related technologies.

Bob McMillan and **Bob Shelton** taught the second week of the infrared technology portion of the U.S. Army ARDEC Radar, MMW, and IR Training course, October 18-22 at

Picatiny Arsenal, N.J. This course is being taught a week per month for 14 months and has included lectures and laboratory experiments related to radar, MMW, and IR.

Gene Greneker attended the IEEE Camahan Conference on Security Technology held in Albuquerque, N.M., October 12-14, serving as the moderator of session one, "Sensors." GTRI was one of nine sponsoring and cooperating organizations assisting with the conference that included IEEE, Los Alamos and Sandia National Laboratories.

J. Scott Goldstein attended the 1994 IEEE Military Communications Conference (MILCOM) held October 2-5 at Fort Monmouth, N.J. He was chairman of the Adaptive Signal Processing session and presented the paper "A New Filterbank-Based MMSE Approach to Reducing the Degrees of Freedom in Adaptive Sensor Array Processing." He was also a co-author of the paper "The Performance of Spatial Smoothing Techniques Using the LMS Algorithm."

Management and Project Support Group

In September, **Jim Allison** assumed a six-month additional duty assignment as acting manager for the CRB MAPS unit.

Electronic Systems Lab

Harold Engler presented an invited tutorial on Ultrawideband Radar at the National Conference of the Association of Old Crows in October in Washington, D.C. The tutorial was based on material from a chapter in "Introduction to Ultrawideband Radar Technology," to be published by CRC Press later this year.

Information Technology and Telecommunications Laboratory

Bobby Wilson, David Poskevich and **Anita MacDonald** attended the Farnborough Air Show in Farnborough, England, September 5-8.

Eric Barnhart participated in a workshop on indoor channel characterization and modeling at PIMRC '94 at the Hague, Netherlands, September 22-23.

Bruce Harvey presented a paper, "Accuracy of Traffic Monitoring Equipment," at the National Traffic Data Acquisition Conference (NATDAC '94) in Hartford, Conn., September 22-23.

Kudos

Information, Technology and Telecommunications Lab

ITL Lab Director **Randy Case** announced in a recent lab directors' meeting that five of ITL's researchers have recorded zero late deliverables over the past 12 months: **Beth Bennett, Jim Coleman, Fred Cox, Terry Hilderbrand** and **John Pyles**. Congratulations! (Share your kudos with THE CONNECTOR at lea.mclees@gtri.gatech.edu.)

Thank You!

To Michele Brown (MAPS), who has done a great job of collecting CONNECTOR news! Joanna King is now submitting CONNECTOR items that used to go to Michele.

Personnel News

New Hires

EOEML welcomes **Jason Baglin**, who has begun work as a student temp; **Matthew Marston**, who has begun work as a GRA; and **Elaine Young**, who has begun work as an Administrative Assistant I.

ELSYS welcomes **Carolyn Warren-Gray**, who began work as a Clerk IV on September 1.

ITL welcomes **Robert Gue**, RS I, and **Vincent Sollicito**, RE I, who began work on September 15.

SEAL welcomes **Robert Pauley**, who began work as an RE II on September 1; and **Randy Pursley**, who began work as an RE I on October 13.

Terminations

Nantambu Ambidwile (SSD) has terminated.

Michael Walker (ITL) has terminated.

Personal Notes

Cradle Roll

Kim and **David Aylesworth** (ITL) welcomed a son, Kyle, born September 21.

Heidi and **Chris Harvey** (ITL) welcomed a son, Steven Michael, born September 30.

Carol and **Roc Tschirhart** (EOEML) are the proud parents of a baby boy, Blaise Christian, born October 20.

Congratulations!

Susan Farrell's (EOEML) newest passion was highlighted in the October issue of *Newsweek* magazine. In collaboration with Brett Webb, University of Southern California, Susan runs Art Crimes, a Worldwide Web display of "elaborate Internet graffiti from Prague, Atlanta, Los Angeles, and Fresno."

Fellows Want Your Input

The GTRI Fellows Council was formed in 1993, partly to provide recommendations to the GTRI director from the research community without passing through the management chain. Continued comments and specific suggestions for improving the research enterprise at GTRI are invited. You may contact **Krish Ahuja** (AERO) 528-7054, **Larry Corey** (SEAL) 528-7156, **D.C. Flowers** (ELSYS) 894-7195, **Bill Rhodes** (EOEML) 894-2929, or **Chris Summers** (EOEML) 894-3420.