

The GTRI Connector

Did You Know...

It takes 120 drops of water to fill a teaspoon.

The banana cannot reproduce itself. It can be propagated only by the hand of man. Further, the banana is not a tree, it is an herb, the largest known of all plants without a woody stem or solid trunk.

-- from 2210 Fascinating Facts by David Louis

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Hinman Shop Gets Updates

The holidays weren't the only reason the staff of GTRI's Hinman Machine Shop was celebrating in December.

These employees were celebrating improvements made in their work area over the past 14 months. They held a Dec. 15 open house for GTRI employees, machine shop retirees and other machinists who work around campus to see the new equipment, lighting, heating system and office space they've added.

Among the improvements made at Hinman since fall 1994:

- **CNC 2 Axis SWI Proto Trax MX2 Retrofits on Bridgeport Series I Mills** — This puts three milling machines under computer control, offering new capabilities and making the machines 30 to 40 percent more efficient. One of these also went to Cobb County's machine shop.

- **Overhead Lighting and Electrical Wiring Replaced** — The Hinman Building, constructed in 1939, has much-needed brighter lights and state-of-the-art wiring now.

- **Ventilation and Heating System** — because of its hangar-like construction, Hinman used to get pretty cold during the winter. Two large heaters have been added to make things warmer, and four older large steam heaters were removed. This modification, along with the new lighting, has

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Randall Lloyd, Machine Shop, demonstrates a CNC 2 axis SWI Proto Trax MX2 retrofit on a Bridgeport Series I mills. The retrofit put the milling machine under computer control, offering new capabilities and making it 30 to 40 percent more efficient. (Photo by Lea McLees)

GTRI Sets IEEE Fellows Record

By Lea McLees, RCT

Three SEAL researchers have been elected Fellows of the Institute of Electrical and Electronics Engineers — the greatest number of GTRI employees ever named Fellows in one year.

Chief scientist and principal research engineer **Don Bodnar**; principal research engineer **Nick Currie**; and senior research engineer **Guy Morris** were among 245 IEEE members named Fellows in December 1995.

Also named were five Georgia Tech faculty members from the schools and colleges: **Ian F. Akyildiz**, professor, and **Petros Maragos**, associate professor, Electrical and Computer Engineering;

Peter Freeman, dean, Computing; **Wayne Book**, professor, and **William Black**, regents professor, Mechanical Engineering. A retired Georgia Tech professor who works with the National Science Foundation, **Aubrey Bush**, also was selected.

The nine Fellows were selected from a pool of 533 nominees, and are among the 1.6 percent of IEEE's 300,000-plus membership that holds Fellow status.

Read on for an introduction to the newest GTRI IEEE Fellows.

Donald G. Bodnar

Bodnar's GTRI career began in 1967 as a graduate teaching assistant. IEEE awarded him Fellow status for increasing understanding of the polarization characteristics of reflector and phased array antennas, as well as for developing techniques for measuring polarization

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Observed & Noted

Research accounting is the home of GTRI's "bean counters," says Billy Atcheson. Turn to page 2 to meet these folks.

The InfoTech meetings held once a month around campus are a great source

of Olympics information and answers to your human resources/payroll questions. See page 3 for a sample.

EOEML researchers have developed a 'laminated matrix' composite that could expand

uses for high-temperature parts. Read about this work on page 4.

Martha Willis is taking the lead in encouraging partnerships between GTRI and historically black colleges and universities and minority

institutions. To learn about her plans, turn to page 5.

Need someone to edit your proposal? **Joey Goddard** in OCA can help -- meet her on page 5.

A valued member of the GTRI family passed away in December. Read about **Mel McGee's** contributions on page 6.

Memories of December's holiday parties live on! Turn to page 7 to see photos of

yourself and your colleagues enjoying delicious food and great company.

Professional Activities -- and four new babies -- are included on the back page. Flip to page 8 to catch up on the latest news.

**News
&
Notes**

Meet Fiscal Services

The Fiscal Services Department, managed by Barbara Walsh, has two areas: financial services and research accounting. Last month we met the financial analysis folks, who (among other duties) prepare financial reports for GTRI.

This month we begin our visit with the larger of the Fiscal Services groups, the 11-person research accounting branch. Manager Billy Atcheson explains his department's mission succinctly: "We're the bean counters for GTRI," he says.

Among research accounting's duties are: keeping financial records and producing monthly reports for GTRI; processing all employee time sheets; processing travel expenditures and consulting agreements; and disbursing and tracking petty cash.

Billy H. Atcheson, Research accounting manager, is a 32-year veteran of GTRI. He worked for the Office of Contract Administration and also as a security officer before moving into his current job as manager of accounting around 1970.

In his pre-Georgia Tech years, Billy spent two years in the Marines. He then majored in business and finance at Georgia State University and worked for Swift and Co. for 10 years before joining Tech.

Billy was born and raised in Roswell, and he remembers when it was "a small town of 1,600 or so people." Today he



Billy Atcheson



Gedney Vining

makes his home in Doraville with his wife of 44 years, Dorothy. In his spare time, he is an avid golfer and has been a member of the Berkeley Hills Country Club since 1968.

Gedney L. Vining supervises three people working with travel and per-diem expenses, time sheets and petty cash. In addition, any given day may find him working on journal entries, monthly financial statements, budget amendments, "and whatever else is needed." Gedney worked in industry before coming to GTRI, and has now been with the research accounting group for 20 years.

Gedney grew up in Binghamton, N.Y., and moved to Atlanta in 1966 — "mostly for the weather and the city," he says, adding that it's a decision he's never regretted. Currently he resides in Atlanta's Buford Highway area. His off-hours interests center on music: He has a pipe organ in his home, and he serves as organist for his local church.

Julie Blankenship, who has worked in GTRI accounting for 14 years, supervises five people — four accountants and one systems person. The accountants, explains Julie, handle contract accounting and help the labs manage state and sponsor dollars.



Julie Blankenship



Stephanie Sodipo

The systems person serves in the various areas of software configuration, system analysis and data administration. Julie juggles managerial tasks with working in the front lines as an all-around "troubleshooter."

Raised in Nanafalia, Ala. (population 500), Julie moved to Atlanta in 1981 and went to work for GTRI the same year. Today she lives in Marietta and has a son, 19, who is a student at Southern Tech, and a daughter, 15. In her off-hours, Julie likes to "do projects around the house" and relax with family and friends.

Stephanie Sodipo, Accountant II, has been with research accounting for six years. She works in Julie Blankenship's area, and her responsibilities include administration of sponsor and state contracts. "We have to make sure GTRI stays within the contract regulations and meets all contractual requirements," Stephanie explains.

Stephanie hails from Nashville, and she holds a bachelor's degree in education from the University of Tennessee, Knoxville. She moved to the Atlanta area in 1985. She has two children, a son, 6, and a daughter, 4, and she and husband Andrew live in Kennesaw. She spends a considerable amount of her spare time visiting the elderly in nursing homes.

SELECTED NOVEMBER/DECEMBER 1995 AWARDS

| Title | PI/Laboratory | Sponsor | Funded Amount |
|--|-----------------------|--------------------------------|---------------|
| National Aircraft Design Phase I - Definition Study | Englar, R. (AERO) | Air Force | \$125,124 |
| Visual/Electro-Optical (VISEO) Detection Analysis | Schmieder, D. (EOEML) | Army | 288,107 |
| Capped Colloidal Quantum - DOT Semiconductor Particles w/Monomer Function... | Schwerzel, R. (EOEML) | Navy | 110,654 |
| Application-Based Traffic Management for ATM Networks | Aaron, J. (ITL) | Hitachi Telecom | 116,874 |
| Modcap Infantile Analysis | Wilson, B. (ITL) | Army | 69,535 |
| Develop. of a Unit Level Intelligence Hypermedia System | Pennywitt, K. (ITL) | Air Force | 133,028 |
| Advanced Airborne Interceptor Simulator (AAIS) | Roberts, R. (SDL) | Westinghouse | 99,000 |
| High Range Resolution Upgrade | Kerr, R. (SDL) | Lincoln Laboratory | 316,370 |
| XM-15S Simulator | Camp, S. (SDL) | Army | 1,700,000 |
| Advanced Airborne Interceptor Simulator (AAIS) | Roberts, R. (SDL) | Westinghouse | 571,000 |
| Intermedics Implantable Cardiac Defibrillators Responses to Selected... | Woody, J. (SEAL) | Intermedics Inc. | 50,000 |
| Sympton Mars: Telar Characterization | Adams, J. (SEAL) | Dynetics Inc. | 69,991 |
| Radar Hardware Development Analysis | Belcher, M. (SEAL) | Army | 200,000 |
| E. M. Numerical Simulations | Kesler, M. (STL) | U.S. Dept. of Defense | 249,997 |
| Space Based Surveillance Modeling | Tuley, M. (STL) | Mission Research Corp. | 170,246 |
| Capability Demonstration of GDOT Unmanned Traffic Surveillance Drone | Michelson, R. (AERO) | Ga. Dept. of Transportation | 225,000 |
| Information Warfare Toolkit - Task 1 | Cramer, M. (ELSYS) | Sterling Software Systems Inc. | 38,054 |
| Technical Support of Rockwell Intl. ALQ-99 Program | Wood, K. (ELSYS) | Rockwell International | 100,000 |
| F-15 E6 System Integrated Test Process | Viney, L. (ELSYS) | Air Force | 500,000 |
| Hawk Hybrid Functional Analysis Support | Strickland, M. (HRO) | Army | 39,950 |
| Flight Mission Simulator/Digital (FMS/D) Development | Frost, M. (HRO) | Army | 39,984 |
| Reliability Assessment of Lead-Free Solders & Water Soluble Fluxes | Bohlander, R. (ITL) | Army | 124,999 |
| R-381 Analysis Task | Wilson, B. (ITL) | Army | 246,545 |
| Hypermedia Prototype for Demonstration | Pennywitt, K. (ITL) | Air Force | 197,000 |
| Klystron Amplifier Evaluation Study | Ewell, G. (SDL) | U.S. Government | 99,000 |
| Waveform Simulator FY 1996 Operations Support | Kerr, R. (SDL) | Lincoln Laboratory | 100,000 |
| XM-15S Simulator | Camp, S. (SDL) | Army | 2,035,000 |
| Sympton Mars: Engagement Radar Characterization | Adams, J. (SEAL) | Dynetics Inc. | 300,000 |

Countdown to 1996

Employees who attended the Dec. 14 InfoTech meeting in CRB heard from Bill Miller, Georgia Tech's director of Olympic planning.

"Every opportunity I have to provide information to you is helpful to you, and to me," he told those gathered for the meeting. "My interest is helping you and the campus plan for and get through the events in 1996 successfully."

Following are some questions and answers based on Miller's presentation and input from Charles Brown, Interim Associate Vice President for Human Resources. If you want to learn more about the Olympics, you can attend upcoming InfoTech meetings (*see article below*). Miller will speak at each of them.

What's the latest news on food service during the Games?

If you work in the Research Controlled Area (RCA) — it includes ERB, Baker, CRB, Cherry-Emerson and Research Area II — you can eat breakfast and lunch, and if there is sufficient demand, dinner, at the Institute for Paper Science and Technology cafeteria at Hemphill and 10th. Arrangements are in progress for those who work in the Boxing Venue, where O'Keefe is located, to eat at the Atlanta Committee for the Olympic Games (ACOG) staff dining facility in the venue zone.

In any zone you can bring your lunch and eat in your building, or outside in any courtyard in your zone. You also can leave campus to eat, but will want to keep in mind the time involved in leaving, getting served and returning to campus.

I am expecting some equipment in late spring/early summer. When should I schedule its delivery?

Did you know:

- Georgia Tech will host 15,000 athletes and officials during the 1996 Summer Olympics.
- Another 6,000 athletes, officials and staff will live on campus during the Paralympic Games
- The 1996 Summer Games are the first during which athletes will not have to pay to stay in the Olympic Village. The Atlanta Committee for the Olympic Games raised money to pay for their food, housing and transportation.
- Georgia Tech's Aquatics Center will host four water-related events during the Olympics, and swimming during the Paralympics.
- The Coliseum will host boxing during the Olympics, and wheelchair basketball during the Paralympics.
- The Paralympics is for outstanding athletes with physical disabilities.
- Laser lights and carillon music will emanate from the stainless steel sculpture being erected near the Student Center, in what will be the Festival area.
- The Techwood/Clark Howell Housing units will be demolished and that area will be a green space during the Games. Private and public housing townhomes for low- and middle-income families will be built on that site after the games.
- Fowler Street School will be replaced by a new science and math magnet school after the Games.

Try to have major deliveries of equipment, copy paper and other items made before July 1. Limited deliveries will be allowed after that time, but they must be scheduled in advance. Vital deliveries after July 1 will be subject to security screenings, will arrive via Dalney Street, and may require escorts. Plan ahead to stockpile supplies. This applies to all zones.

What will be involved in entering the different zones on campus?

To enter the RCA, you will need a special photo identification badge issued by Research Security. Hand-carried items will be inspected. Day passes and escorts will be required for essential visitors who do not work in the RCA. To enter buildings in the competition areas (the Boxing Venue, which includes O'Keefe and the Office of Human Resources, and the Aquatics Venue, which includes the new Georgia Tech Aquatic Center and the Student Ath-

letic Complex), employees will need ACOG-issued accreditation badges.

To enter the Village Secure Zone (VSZ), which includes the Library and most Tech administrative offices, you will need an ACOG-issued accreditation badge issued after a background check. Your belongings will be X-rayed and you will walk through a magnometer, just as you would in an airport. A hand scan will identify you. Day passes with escorts will be required for essential visitors.

What is involved in accreditation to enter the Village Secure Zone?

If you work in the Village Secure Zone or require access to it during the Games, the Georgia Bureau of Investigation will do a background check to determine whether you can be accredited to do so.

Those who need accreditation will receive a waiver to sign to allow the background check. The background checks will be conducted through law enforcement channels only. Any questions about the results will be addressed directly with the employee by a law enforcement official -- through RSD -- who will work to clarify the situation and correct any errors, if necessary. RSD will not be privy to information gathered in the background checks.

Employees who are denied accreditation will be contacted directly by GTRI Research Security, and it will be up to the employees to inform their supervisors. Supervisors will not know or try to find out why accreditation was denied, and denied accreditation will not result in any adverse action or figure into future employment decisions. Supervisors — and OHR, if necessary -- will find a way for employees who were denied accreditation to work outside of the Village Secure Zone during the secure period.

Will transportation be provided within the RCA?

Yes. A shuttle route inside the zone will take you to various destinations in the RCA, once you arrive.

Questions? Come to InfoTech for Answers

If you need information the Office of Human Resources (OHR) or Payroll can provide — or, if you want the latest updates from these offices — InfoTech is for you.

InfoTech is a series of monthly meetings scheduled throughout campus for all faculty and staff. Charles Brown, Interim Associate Vice President for Human Resources, and a manager from each unit of OHR and Payroll attend. They share new information and answer employee questions and concerns.

Attendees also get the latest updates on Olympics developments from Bill Miller, Georgia Tech's Director of Olympic Planning. He answers questions and tells attendees what they need to know to prepare for working on campus during the Games.

To open an OHR or Payroll topic for discussion, submit questions five business days before the session you plan to attend. OHR questions go to Jean Fuller at jean.fuller@ohr.gatech.edu, or via campus mail to Fuller at Employee Services/OHR, mail code 0435. Payroll questions go to Pat Brook at pat.brook@business.gatech.edu, or via campus mail to Brook at Payroll Office, mail code 0255. Questions also are taken from the floor at each session.

InfoTech Schedule

| | | |
|------------------|------------------|---|
| Thurs., Feb. 8 | 10 AM - 11:30 AM | Ga. Tech Student Success Center Theatre |
| Thurs., March 14 | 10 AM - 11:30 AM | CRB, 1st Floor Conference Room |
| Friday, April 12 | 10 AM - 11:30 AM | Weber Space S&T Bldg., 2nd Floor |

No meetings are scheduled during May and June.

News & Notes

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Focus on Research

A scanning electron micrograph shows laminated matrix filling the region between layers of cloth. (Photo courtesy Jack Lackey)

'Laminated Matrix' Composites Offer Improved Strength, Toughness; Expand Uses for High-Temp Parts

By John Toon, RCT

A new type of material system researchers believe will be tougher and stronger than conventional fiber-reinforced composites has been created by applying alternate thin layers of matrix materials to traditional reinforcement structures.

These "laminated matrix" composites could replace metals in aircraft structural components, heat engines, heat exchangers, particulate filters and other applications requiring high-temperature, high-strength materials. By producing composites with improved properties, the process may allow replacement of costly reinforcing fibers with less expensive platelets or particles, driving down the cost of composite materials.

"This idea offers the chance of improving materials properties — particularly toughness — and lowering costs," said Jack Lackey (EOEML). "This gives us a wide range of possible new material systems we can use."

Two conventional techniques exist for making mechanically tough composites. The first uses fiber reinforcement within matrix materials such as ceramics or metals, while the other relies on

building up multiple bonded layers of different materials such as copper and aluminum.

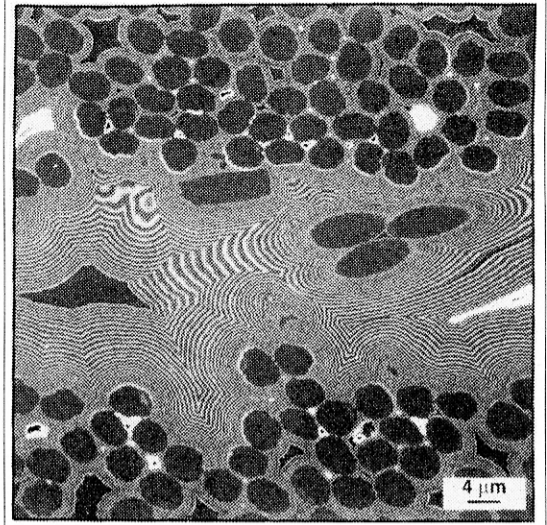
"We have combined those two approaches," explained Lackey. "We make a fibrous preform by stacking up layers of cloth, then infiltrate a matrix into the preform one layer at a time. We infiltrate for a few moments with one material until we get a layer of it around each fiber, then we infiltrate for a few moments with another material, then we switch back to the first. We keep iterating until we have put down as many as 50 layers."

The research team, which also includes Sundar Vaidyaraman and Shelli Godfrey, used forced-flow thermal-gradient chemical vapor infiltration to apply layers ranging in thickness from 0.02 to 0.5 microns. The layers were formed by alternating the precursor gases flowing into the chemical vapor infiltration reactor.

Beyond improving the properties of fiber-reinforced composites, the laminated matrix process could also allow the use of alternate reinforcing materials that could lower the cost of making composites. That could open new applications for composite materials.

Lackey believes the improved strength and toughness of the laminated layers may allow the expensive reinforcing fibers — which cost at least \$300 per pound — to be replaced by particles or platelets costing between \$2 and \$30 per pound. Lackey's team has made composite samples using silicon carbide grit instead of fibers.

"We have shown that we can make these laminated composites with inexpen-



sive particulates, replacing a costly reinforcing material with an inexpensive one," he said.

"But we must demonstrate that these materials have appropriate properties. This is highly speculative, but if it works, there would be a very significant payoff.... If you can replace metals with ceramics, you can operate at higher temperatures and get better efficiency in a heat engine."

Georgia Tech has applied for a patent on the process. The work was described at the American Ceramic Society's 20th Annual Meeting on Composites and Advanced Materials in Cocoa Beach, Fla., Jan. 7-11. A paper has been submitted for publication in the Journal of the American Ceramic Society.

This effort is sponsored by the U.S. Air Force Office of Scientific Research, Air Force Materiel Command, USAF, under grant number F49620-92-J-0148.

Congratulations to our Grads!



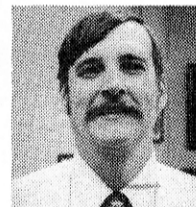
Rodger Davis (SDL) recently completed a two-month long radar training school at Keesler Air Force Base in Biloxi, Miss. for the Georgia Air National Guard, where he was an honor graduate. According to his commander, Roy E. Goodwin, Jr., "His performance at the school reflects credit on both his unit and his civilian employers." Congratulations, Rodger!

Emily S. Warlick (SEAL) completed a master's degree in electrical engineering and a minor in mathematics from Georgia Tech during Fall 1995. She is an RE I on loan from SEAL to ELSYS. Emily works on an upgrade to the APG-63 radar data processor. In the near future she plans to continue her work at GTRI and take a break from school. Congratulations, Emily!

Georgia Tech
RESEARCH INSTITUTE



Donald Bodnar



Nicholas Currie

IEEE

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characterization of antennas.

"In satellite communication, dual polarized antennas use one bandwidth and two polarizations, instead of two frequencies," Bodnar explained. "That doubles the bandwidth — but you need good purity among the polarizations."

Bodnar figured out how to measure the characteristics of polarization at 30 decibels, lower than conventional techniques allowed. That made possible even finer distinctions among different polarizations used on the same antenna. Other areas of interest include reflector antennas, phased array antennas, slotted ray antennas and radomes.

"I've been very fortunate to work with good people," he said. "The neat thing about GTRI is that you get to build equipment, as well as design it. You learn a lot from building and measurement that you might not learn from theoretical analysis alone, and that helps you do a better job the next time."

Bodnar has served as president of the International Antennas and Propagation Society, and is general chairman for that



Guy Morris

organization's 1998 symposium in Atlanta. He has been an active IEEE member since 1974.

Bodnar is currently on an Intergovernmental Personnel Act (IPA) agreement

with the U.S. Air Force's Rome Labs in New York. His work there involves adaptive phased array technology, space and time signal array processing element-by-element, and improved antenna designs for over-the-horizon radars.

Nicholas C. Currie

Currie began work for GTRI in 1965 as a student assistant, becoming a full-time employee in 1967. He has served in various technical and management roles, including division chief and associate laboratory director. IEEE recognized him for "contributions to millimeter wave phenomenology measurements in radar." Currie says his biggest contributions to his field have been four books: two editions on radar reflectivity measurement, one on principles and applications of millimeter wave, and one on clutter characteristics.

"The books organized and explained existing materials so that a newcomer could rapidly understand the research without starting all over, and an old hand would have a ready reference to data, equations and formulas applicable to the

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Willis Takes Over Minority Research Coordinator Post

GTRI's program to promote interaction with minority researchers, now in its sixth year, has a new coordinator. SEAL's Martha Willis has taken on these responsibilities following Bob Zimmer's retirement.

To date, work has focused on encouraging research interactions between GTRI/Georgia Tech and Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs). Willis, a senior research engineer, aims to broaden the program to emphasize minority participation in Tech research programs and to diversify Tech's research staff.

"I will serve as a focal point for HBCU research initiatives where that is appropriate, and I will work with the appropriate Tech and/or GTRI personnel to recruit and support minorities in our research efforts," Willis said.

Willis plans to use a variety of techniques to promote minority participation, including inter-institutional hiring, IPAs, "borrowing" of active faculty members, and innovative cooperative initiatives that could be coordinated with local minority organizations and HBCUs.

Willis said that in general Tech has had good relationships with local HBCUs. She pointed to numerous cooperative GTRI/Tech research projects with Clark Atlanta University, and to the strong ties between GTRI's Information Technology and Telecommunications Laboratory (ITL) and the Morris Brown College Research Institute. However, she cautioned, conscious effort must be made to ensure strong and cordial relations.

Zimmer developed the HBCU coordinator job in 1991. Manager of GTRI's Program Development Office at that time, he was contacted by Clark Atlanta officials, who

had received an RFP from the Department of Defense. The result was an immediately successful collaboration that won seven of nine contract proposals that year.

Zimmer, who retired in June and now works part-time for GTRI, recalled recently that the program's early success prompted him to establish relationships with other HBCUs as well as Minority Institutions. The HBCU/MI program soon gained funding from both GTRI and Tech, and Zimmer assumed the post of HBCU coordinator officially.

"The impact of the program was broader than just to gain research money," Zimmer said. "It also helped provide classroom and lab training for graduate and undergraduate students."

Zimmer explained that "HBCU" refers to an historically African-American academic institution, while "MI" denotes any predominantly minority research institution or business. Prospects for ever-increasing cooperation between HBCUs/MIs, other institutions and Georgia Tech are strong, he said.

Zimmer reported that his visits to Johnson C. Smith University, an HBCU in Charlotte, N.C., recently resulted in a formal collaboration between J.C. Smith University and Moscow State University, with GTRI's participation making it possible. SEAL engineers Vic Tripp and Chris Papanicolopoulos are currently collaborating with J.C. Smith's Dr. Magdy Attia in the fields of microwaves and antennas, he said.

Meanwhile, HBCU coordinator Willis said she plans to stress continued outreach efforts by Tech to minority institutions. "I hope to extend our outreach to other HBCUs and MIs that make sense in terms of complementary engineering research programs," she explained.

Among the institutions mentioned specifically are North Carolina A&T, Howard University and Hampton University.



Focus on Research

Martha Willis (SEAL) will be coordinating GTRI's program promoting interacting with minority institutions. She aims to broaden the program to emphasize minority participation in Tech research programs, and to foster research staff diversification on camps. (Photo by Lea McLees)

Proposal Editing Assistance Available



Goddard

The graphics look great, the projected costs are accurate, and you finished that proposal on deadline — it's ready for the sponsor.

Or is it? Is the spelling correct? Is the grammar just so?

If you aren't sure about these details, you can be. Just have Joey Goddard (OCA) edit your proposal before you submit it.

Goddard checks grammar, punctuation and spelling. She also marks awkward sentence constructions, making suggestions on how they might be re-worked to flow better. If she has a copy of the Request for Proposal, she'll also check to see that any formatting restrictions, such as font size, margin size and page number, are met. Failure to meet these requirements can result in the proposal being ruled non-responsive, and therefore not considered. There is no direct charge for the service, as it's supported by overhead.

"If you want to have a good effect, it can only help to have good grammar and spelling," Goddard notes. "You never know who will read your proposal, and grammar and spelling can be things an influential reader cares a lot about."

Goddard holds a bachelor's degree in journalism from the University of Georgia and is working toward a master's degree in communication from Georgia State University. Editing proposals is just one of her job responsibilities — but it's a very important one, she says.

"Submitting proposals that are clear and easy to understand is to a researcher's benefit," she said. "Good grammar, spelling and smooth sentences should be automatic."

Here's how the process works: When she receives a researcher's proposal to edit, Goddard establishes a date when she'll return a marked-up copy. The researcher must approve any suggested changes.

Goddard accepts proposals on paper or on disk in Microsoft Word 6.0 or in any WordPerfect version up to 6.0 She encourages researchers who want editing to call or e-mail her in advance, and get their documents ready a little earlier than they usually would.

For more information, call Joey Goddard at 894-6942 or send e-mail to joey.goddard@oca.gatech.edu

IEEE

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technology," he said.

Currie is currently on a two-year IPA appointment as a visiting research scientist with the U.S. Air Force's Rome Laboratory in New York. He works on an Air Force Office of Scientific Research grant. One current research topic is bistatic radar surveillance — when receivers and transmitters are located on different platforms — and its applications to remotely piloted vehicles. A project for the Advanced Research Projects Agency and the National Institute of Justice explores novel methods for detecting concealed weapons.

Guy V. Morris

Morris, who joined GTRI in 1984, was named a Fellow for his work with pulse Doppler radar and electronic counter-countermeasures. While at Hughes Aircraft Co. from the mid-1950s to the mid-1960s, Morris headed system design for the F-14's fire control radar. One of three patents he holds addresses digital phase correction for coherent-on-receive-radar — his work allowed simple noncoherent radars to have

the properties of digital coherent radars. At GTRI Morris developed a continuously funded ECCM program, along with a classified short course and an annual workshop on the topic.

"Good things have happened to me at Georgia Tech," he said. "I get to work on a variety of systems and problems, as well as writing a book, papers and teaching a course. I plan to use the IEEE Fellow title for all its marketing value for Georgia Tech. And I'm not planning on retiring voluntarily anytime soon: I'm still having a good time."

Morris is preparing the second edition of his book about airborne pulse Doppler radar. He also is helping Georgia Tech adapt to a new funding environment by identifying additional customers, colleagues and agencies to work with, and broadening GTRI's sponsorship base to include ARPA and other sources.

He and his wife Barbara and two of his children, David and Angela, live in Atlanta. His eldest daughter, Carolyn, lives in Arizona. Morris is the proud grandfather of eight, with one on the way.

Focus on Folks

Mel McGee helped researchers turn their "engineereese" into clear, concise scientific writing." Marvin Cohen recalls. Colleagues remember him as talented, devoted and supportive, and appreciated his dry, quiet sense of humor. (Photo courtesy Melanie Price)

"You Can Do It:" Remembering Mel McGee

By Lea McLees, RCT

GTRI lost a colleague and friend on December 17 when Mel McGee, a senior research associate in SEAL, passed away.

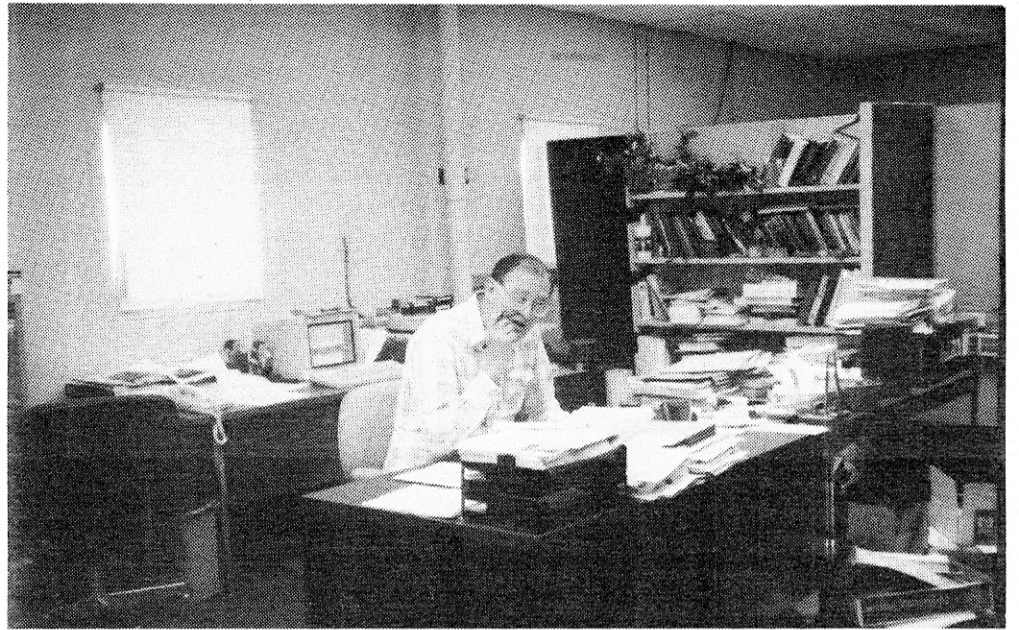
An employee here for about 18 years, Mel organized and managed the Technical Support Group in SEAL that reviews and edits all project documentation and proposals for the lab. He directed a quick reaction project that determined potential uses of electronic support measures systems for positive threat identification. Mel provided on-site support at Eglin Air Force base for several vital reports, each containing more than 12,000 pages. He also made valuable technical contributions to more than a dozen projects including field experiments, studies and equipment development.

When Mel began work as a GTRI research scientist in 1977, he brought to his job experience as an electronic countermeasures technician for the U.S. Air Force; as a technical representative for RCA Service Co.; and 15 years as an engineering writer for several other companies. Ed Reedy (RO) and Jerry Eaves (SEAL) hired Mel into what was then the Radar and Instrumentation Laboratory (RAIL).

"Mel was extremely competent at his job," Reedy recalled. "In fact, he was so competent that within a short period of time, I established a policy in RAIL that no report, proposal or written documentation on a contract would leave the laboratory without Mel's review and sign-off. I never regretted that decision, since it saved the laboratory and many of its researchers, including me, much embarrassment."

Mel earned a master's degree in business administration from Georgia State University in 1981. He also held an associate's degree in science and a bachelor's degree in business administration from Rivier College — by attending evening classes after work, he became one of the few men to earn degrees from that Catholic women's college in Nashua, N.H.

Colleagues remember Mel as a quiet,



talented, devoted and supportive person. Bob Trebits (SEAL) recalls Mel's ability to keep researchers' writing in line with proposal request requirements, English grammar and composition standards, and readability and consistency needs.

"His reviews were uniformly consistent and well thought out, with 'suggested' grammatical and wording changes that made the content more easily understood," Bob said.

Marvin Cohen (SEAL) agrees.

"He had the ability to massage much of our awkward "engineereese" into clear, concise scientific writing," Marvin recalls.

"He exercised quality control and improvement over much of the radar laboratories' output, so our projects maintained a consistency that became recognizable, and was acknowledged as superior."

Marvin met Mel while heading his first major competitive proposal.

"It was a difficult and time-consuming effort," Cohen recalls. "Mel hung right in there with me even into the wee hours of the morning and through my naive, inexperienced blunders. Never a disparaging word — he just applied his craft to make a mediocre proposal into one the sponsor acknowledged as being exceptional."

Mel was incredibly conscientious, always giving and expecting the most of himself, Beverly Hutchinson (SEAL) said. He was adamant about doing the best job possible on every project. Whenever she had doubts about her abilities, she went in search of Mel.

"Mel never failed to listen intently," said

Beverly, who worked with him in technical support for several years before moving to project work. "His response was always the same: 'You can do it.' And that's all he would say — and he believed it. So whenever I was uncertain, I would search Mel out, because hearing those words from him made me believe it, too."

Mel was known for working "often heroic hours" when needed to get a job done by deadline, Bob said. Added Marvin:

"The typical work week for him was seven days." When thanked for going beyond the call of duty, he always responded with "I'd do it for anybody" — and that was indeed true.

Mel also had a dry, quiet sense of humor — his adieu to departing colleagues at the end of every workday was "Have a nice weekend." An arched eyebrow and a wink or a word from Mel conveyed reams of humor and insight, colleagues recalled.

When he did have time away from work, Mel enjoyed getting out of the city, as well as going fishing, Beverly recalls.

"He'd go up to north Georgia every weekend he could get away," she said. "He knew about every festival in every small town north of Atlanta, it seemed. Most times, he brought fudge or some other treat back to share with anyone coming through the office."

"He also used to tell tales about the size of catfish in the Mississippi River, and he always said that farm-raised catfish just weren't the same," she added.

An Atlanta memorial service was held for Mel. He was buried in his home state of Mississippi.

Hinman

From page 1

reduced the shop's utilities costs.

• **Bridgeport E-Z Path CNC Lathe** — Hinman's was the first model of this machine used in Georgia. It provides computer-controlled lathing and will return its investments in 18 months, Mullins says.

• **5' x 10' Panel Saw** — The machine shop saves money by cutting metal in house, instead of paying vendors \$15 per cut. The saw paid for itself in its first six months of use.

• **AutoCAD Design Workstation and All PCs on the Georgia Tech network** — This allows machinists to double-check drawings submitted to them on paper before they use materi-

als. They also can communicate with colleagues in the labs via e-mail.

• **Vibratory Finishing Machines** — These work like spiral-shaped rock tumblers to give metals rough or lustrous finishes. A machinist can work on other projects while items are tumbled, instead of spending hours polishing by hand.

• **New Office Area Construction** — This was the first new construction in the Hinman Building in 30 years. GTRI facilities employees did most of the work in house.

Additional renovations and equipment will be added at Hinman and at Cobb County before May 1996,

machine shop manager Phil Mullins says. The shop also is planning for the 1996 Summer Games, because Hinman will be inside the Olympic Village.

Did you know?

Ten machinists have contributed to the Olympics already. Eight have helped make parts for several Olympic torches, along with colleagues in Mechanical Engineering. Two additional machinists made steel pressure plates for installment with transducers on a diving platform in the Georgia Tech Aquatic Center. The equipment will measure the forces involved in each dive.

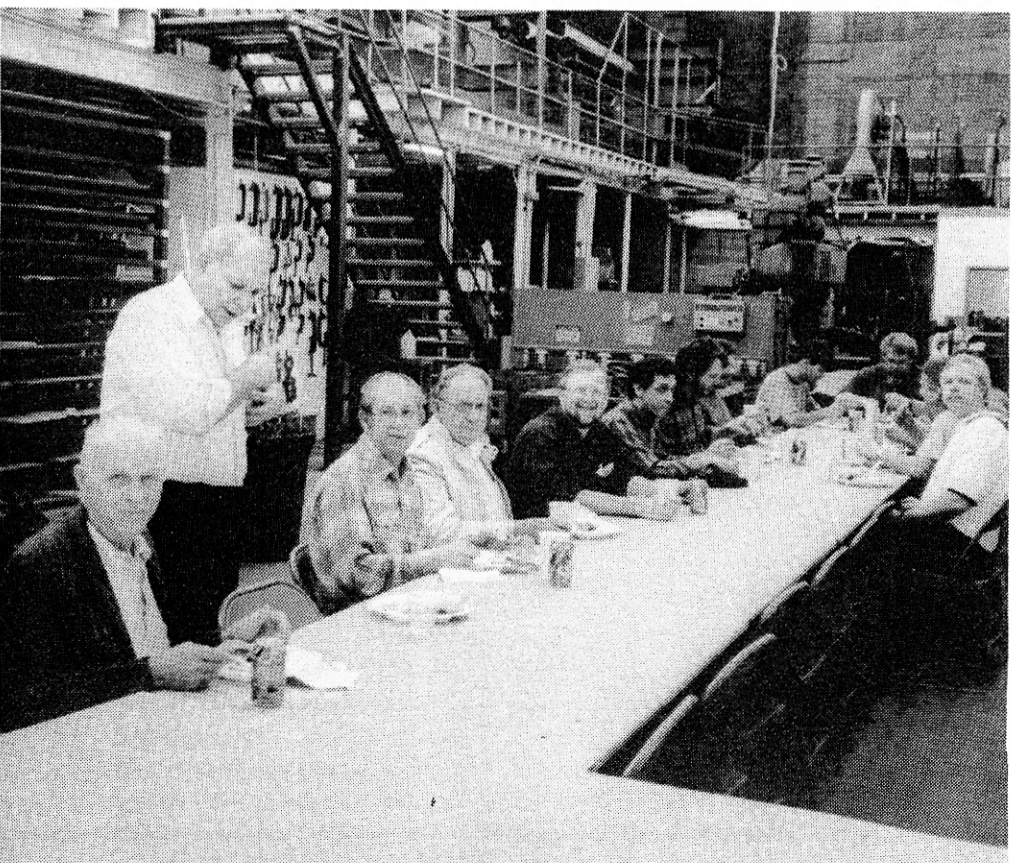
Christmas in January

If the *Connector* were a meal, this page would be dessert -- a plate of warm memories from GTRI's December holiday celebrations. Enjoy -- this page is calorie-free!

Focus on Folks

HOLIDAY HIGHLIGHTS: GTRI machinists from Cobb County and campus gathered at Hinman Machine Shop for their holiday dinner. Retirees and machinists across campus who began their careers in Hinman joined the group....RSD held a highly classified luncheon. A little bird told *The Connector*, and we snapped photos of the top secret gathering. RSD members insisted on a photo of their leader, Bob Lang, going back for seconds....Family members, including at least one tiny future engineer, joined CMD at a beautifully decorated holiday table....RCT continued its multi-cultural holiday meal tradition, heading for Benihana of Tokyo on Peachtree....EOEM's Christmas dinner moved to the MARC atrium this year and included an employee choir singing Christmas carols, accompanied by keyboard and kazoos.... Support Services also dined in MARC and drew numbers for door prizes -- dinners at the Westin Peachtree Plaza, Mick's and Pilgreen's, the T-bone King....

(Photos from Anita Edwards, Lea McLees and Sharon Mattson)



Focus on Folks

Professional Activities

Aerospace Sciences Laboratory

Preston Bates presented papers on recently completed research at three conferences in November. He presented "A Review of Small Crack Technology for Rotorcraft" at The American Helicopter Society National Technical Specialist's Meeting on Rotorcraft Structures, Oct. 31-Nov. 2, 1995 in Williamsburg, Va. At the ASME Winter Annual Meeting held Nov. 12-17, 1995 in San Francisco, Ca., he spoke on "Technical Considerations for Managing Aging Rotorcraft" as part of a special session on aging aircraft. Finally, he presented "Small Crack Technology for Aging Rotorcraft" at the U.S. Air Force Structural Integrity Program Conference, Nov. 28-30, 1995 in San Antonio, Texas.

Electro-Optics, Environment and Materials Laboratory

The Intelligent Machines Branch helped the Georgia Poultry Federation develop an exhibit for the Georgia National Fair in Perry, Ga. "Poultry World" won an Outstanding Agricultural Special Event for Agricultural Exhibitors award from the International Association of Fairs and Expos. Key participants were **Craig Wyvill**, **Nancy Kelley**, **Marlon Moses** and **Richard Carey**. They were recognized at a luncheon at the Georgia Capitol in mid-January.

Myrtle Turner-Sippio, **Vicki Ainslie** and **Eliesh Lane** presented a contract course entitled "Lead Abatement for Supervisors and Contractors" to the City of Savannah in December 1995.

Leigh McElvaney, **Roc Tschirhart** and **Claudia Huff** attended the fall conference of the National Pollution Prevention Roundtable, held in Miami, Fla. in December 1995. Also attending was **Bill Meffert** of EDI. Huff made two presentations at the conference: one reporting on the status of her research with McElvaney on the design of a national training strategy for Pollution Prevention; and one on a GTRI course entitled "A Case-Based Approach to Solvent Alternative Training: Please Steal this Idea!"

In November 1995 **Claudia Huff** and **Leigh McElvaney** were the only university researchers to attend an EPA-sponsored multimedia pollution prevention training session for permit writers. The day-long program reviewed innovative multimedia permitting projects in several states. The following day they were invited to participate in a meeting to help design the evaluation methodology for the program.

Myrtle Turner-Sippio, **Richard Carey**, **Jennifer Ockerman**, **Catherine Bodurow Joseph** and **Chris Thompson** were judges for the Immaculate Heart of Mary School Science Fair in November 1995.

Personnel News

New Hires

AERO welcomes **Robert Funk**, RE II; and **Ray Hixon**, RE II.

ITL welcomes **Jack Lowrey**, RE I; **Jim Cannady**, RS I; **Alfredo Bencomo**, Systems Analyst I; **Thu Thuy Tran**, GRA; **David Philbin**, GRA; **Leonor Torres**, Sr. Sec.; and **Ivan Tatic**, GRA.

EOEML welcomes **Dara O'Neil**, RA I; **Daniel Floyd**, SA; **Isadora Fox**, SA; **Wounjhang Park**, GRA; **Christian Stoffers**, GRA; **Sen Yang**, GRA; **Tao Yang**, GRA; and **Fuli Zhang**, GRA.

STL welcomes **Mark Brothers**, Offc. Auto Spec.; and **Edward Hopkins**, RE I.

SDL welcomes **Grant Farrington**, Elec. Tech. II.

PST welcomes **Nancy Girard**, Pers. Asst. I; and **Miriam Patton**, Pers. Asst. I.

AIST welcomes **Mikol Graves**, GRA.

ELSYS welcomes **Russell McCrory**, RE I.

Transfers

Yi Ding transferred to AERO from the School of Chemical Engineering.

New Responsibilities

Jennifer Tate (RSD) has been named an administrative manager, overseeing research security at Cobb County.

Paul Schlumper (EOEML) is the new head of the Environmental Engineering Branch.

Moving On

Brian Gott (EOEML); **Brian Guntherberg** (HRO); **Tae Kim** (ITL); **Richard Tofani** (RSD); and **Christopher Wheeler** (EOEML) are moving on.

Personal Notes

Cradle Roll

Laurie and **Mark Frost** (HRO) and their son Max welcomed a daughter/sister, Iris Anna, on Nov. 26, 1995.

Pam and **Alan Freeland** (SDL) welcomed their first child, Jesse Alan, on Jan. 3, 1996.

Tonie and **David Starling** welcomed a son, David A. Starling Jr., on Dec. 14, 1995.

Lori and **John Wandelt** (ITL) welcomed a daughter, Nikayla Antonia, on Nov. 29, 1995.

Wedding Bells

Linda and **Lee Hughey** (AIST) hosted the wedding of their youngest son, Bryant Parsons, to Jenny Hicks at their home on November 25, 1995.

Countdown

From page 3

What time should I leave my car at satellite lots and outlying MARTA lots?

Miller encourages employees to arrive by 7 to 7:30 a.m. to avoid competing for parking spaces with spectators and Olympic visitors. He also suggests adding an extra 30 to 45 minutes to your commute time, no matter whether you drive, bike, walk or ride MARTA.

Will MARTA add more trains during the Olympics?

Yes. MARTA will operate 24 hours a day beginning July 17, until the crowds drop after Aug. 4. Trains will run more frequently, and more cars will be added.

Is there a deadline for deciding whether to drive my car or use the free MARTA card Tech employees are eligible for?

You should have filled out and returned a survey form, as well as a follow-up document, about your transportation preferences. Based on your response to that survey, Georgia Tech in February will give the Atlanta Committee for the Olympic Games a list of employees who want MARTA cards, and a number of parking spaces needed for those who drive downtown.

New employees will still have parking options if they arrive between February and June. An employee who made a transportation decision before February, but needs to change that option because of an emergency after February, might still be able to switch. In Spring 1996, employees who opt to drive their cars will be asked to select among several satellite parking lots near campus.

Will campus mail be delivered during the Games?

Yes, normal deliveries will take place once per day.

Could you remind me of the summer quarter schedule?

5/1-5/29 Phase I Registration
8/12 Classes begin, 1 hr. and 20 mins. per session instead of the usual 50 mins. per session
9/14 Midterm
9/27 Last Day of Class
9/30-10/2 Final Exams
10/9 Fall Quarter Begins
12/20 Fall Quarter Ends (one week later than usual)
Return to normal schedule Winter Quarter 1997

Are employees allowed to take unpaid leaves of absence during the Games?

Georgia Tech encourages and authorizes flex time, and employees may request unpaid leaves of absence. Each major department must decide whether it can accomplish its mission while allowing flex time and leaves of absence. Some departments may need all their employees in their offices during regular business hours to meet responsibilities. However, if a department can accomplish its mission while employees are on flex time or leaves of absence, it may offer these options.

Sources: **Bill Miller**, **Charles Brown**, **Bob Lang**

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