

the GTRI connector

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STL Receives Largest Contract in GTRI History

The U.S. Air Force awarded a \$14.7-million contract to develop the AN/TPS-T2 Warfare Ground Training Set to the Systems and Techniques Laboratory (STL) in May. Options for \$2.2 million in additional work are expected in FY 1987, bringing the total to \$16.9 million. The final details leading to the award, the largest in GTRI history, were successfully ironed out with Air Force negotiators by OCA's Jerry Goldbaugh and STL's Fred Dixon, Ernie Ruda, and Tony Chimera.

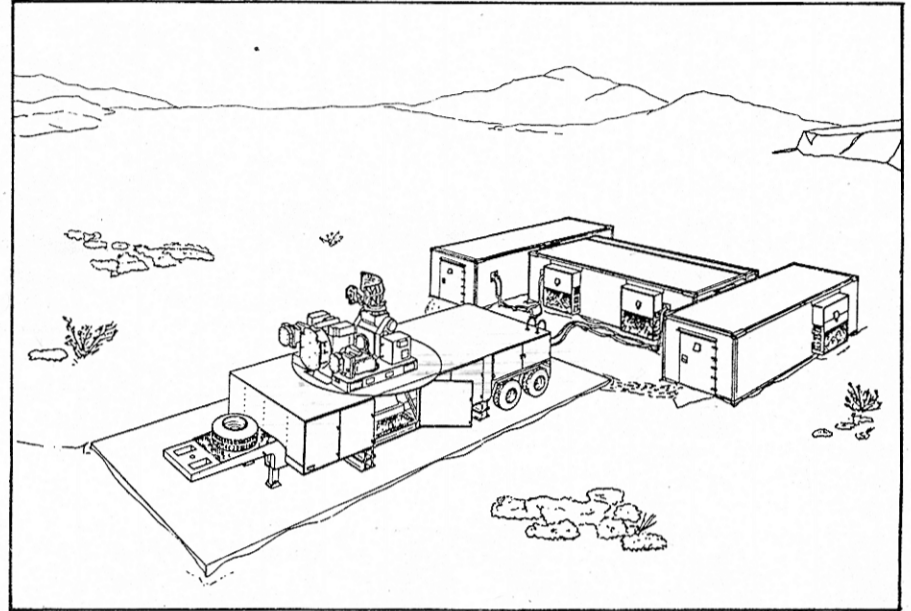
The trainer is a simulator of a Soviet surface-to-air missile system. It will be a full emitter-receiver-processor, and will include target acquisition and tracking radars, command transmitter, missile tracking radar, and display systems. All components will be contained in a 40-foot trailer and three 20-foot transportable shelters. The system will be used at Nellis Air Force Base (Nevada) for testing of equipment and tactics and for training air combat crews to defend themselves against this weapon system.

STL will develop the system

at the GTRI facility in Cobb County over a 43-month period. Subcontracts for the transmitters, a pedestal, and certain antennas will be issued to industry.

The program is a follow-on to the SADS VIII contract, which currently is funded at more than \$15 million. These two contracts are the largest and second largest contracts undertaken by GTRI. Ernie Ruda, the program director for the SADS VIII, will function in the same capacity for this contract.

The award is the culmination of a four-year contract development effort which included a series of cost-reduction studies sponsored by the Deputy for Range Systems, USAF Armament Division. Ruda pointed out that development of this contract has been a team effort with major support not only from the STL staff, but from OOD and OCA as well. The procurement experienced many ups and downs over the four years, and cancellation of the program, due to budget cuts, was a distinct possibility on more than one occasion. In a

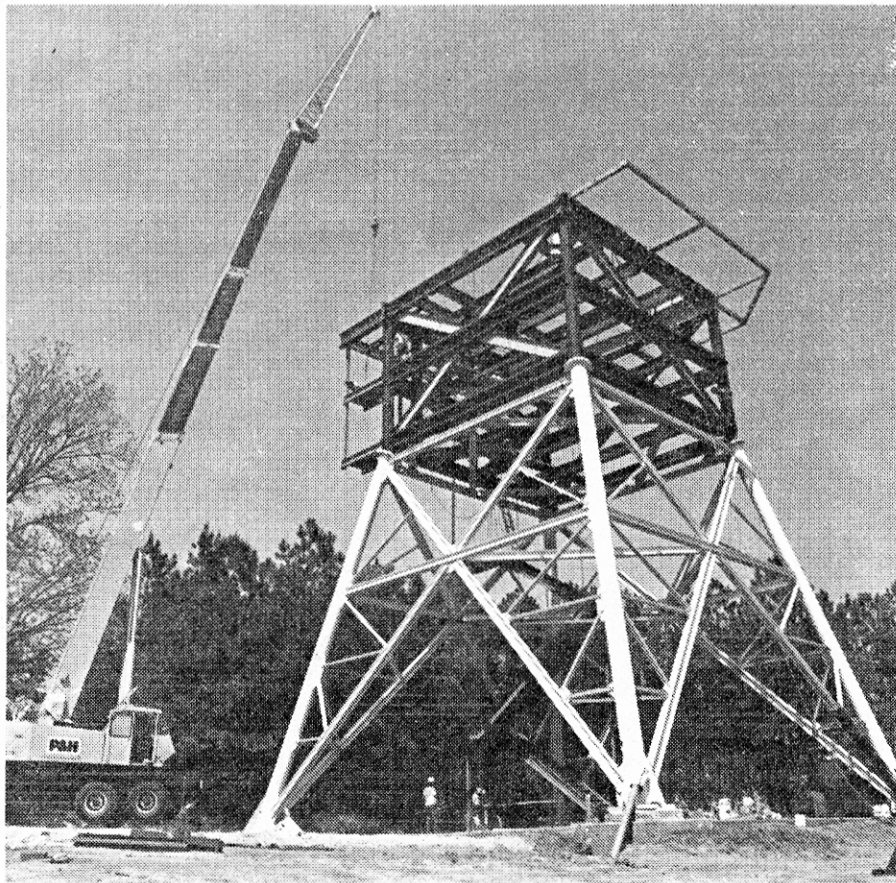


Artist's concept of the AN/TPS-T2 Warfare Ground Training Set, a simulator of a Soviet surface-to-air missile system to be developed by the Systems and Techniques Laboratory for U.S. Air Force use in defensive training of air combat crews.

somewhat classic understatement, Ruda commented: "Large contracts like this don't come easily."

Ruda's initial program staff consists of business manager Richard Prater, logistics/fabrication manager Fred Dixon, systems engineer Homer Cochran, Anne Roe, Cindy

King, Lisa McDonald, Cynthia Rogers, and Teresa Brown. The staff will expand to more than 60 research and support personnel by late fall. Bob Loebach from the Radar and Instrumentation Laboratory will temporarily join STL to assist in the software development portion of the system.



Construction is under way on a two-story building atop the massive 40-foot-high receive tower at the new GTRI far-field antenna range in Cobb County. The 30' x 30' building will house a control room and storage facilities. When the new test facility becomes operational this fall, ECSSL's Sierra project will be the first customer.

(Photo by Charles Haynes)

EDL Trade Adjustment Assistance Program Ends

The Southeastern Trade Adjustment Assistance Center (SETAAC) has shut down after eight years of operation by the Economic Development Laboratory. On March 31, a cooperative agreement between GTRI and the U.S. Department of Commerce expired, leaving the program without funds.

Nearly four dozen regional firms, including nine in Georgia, were receiving assistance in adjusting to imports competition at that date. All were in some stage of technical, financial or managerial assistance, and they represented all types of manufacturing—from textiles, plastics and footwear to furniture, machinery and food.

"Many of the companies we've helped didn't have the financial or technical resources to develop and implement a business strategy to adjust to imports competition," SETAAC

Director Bob Springfield says. "Ours was the only program available at such low cost—with the federal government paying 75% and the firm paying 25% of consulting costs."

Since its establishment in 1978, SETAAC has assisted 291 regional companies with sales totaling over \$1.3 billion and employment totaling more than 42,000. One of 12 such centers nationwide, SETAAC was cited in 1980-81 by an independent evaluation team as being the most effective center.

The program had been undergoing cutbacks for several years and operated via temporary extensions from September 1985 to March 1986. In mid-January, the Commerce Department ordered all outreach activities cancelled and began to shut down the entire program. The Reagan Administration, Springfield notes,

See "TAAC," page 2

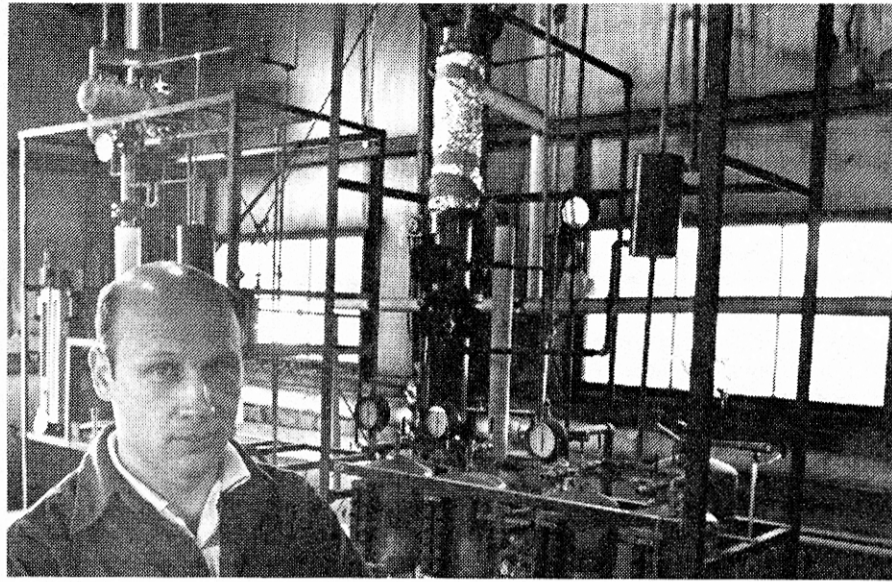
Lignin: A Natural Solution to a Man-Made Problem?

by Martha Ann Stegar

Man is said to be the only creature that poisons his own nest. In recent decades, he's been doing a good job of it—and some of the environmental pollutants don't dissipate over time. They just lie there presenting a tremendous—and expensive—problem of disposal and cleanup. For instance, we read of areas like Times Beach, Missouri, that have to be abandoned because of contamination with dioxin or PCB's. And we all know the bad health effects of heavy metals like lead and copper.

According to *Science News* (Nov. 17, 1984), "Altogether, an estimated 14,000 chemical or manufacturing facilities generate between 130 million and 400 million metric tons of hazardous wastes in the United States each year . . . Some end up in 'uncontrolled' dumps, from which chemicals can migrate to pollute air, groundwater or soil. There are an estimated 20,000 such dumps."

Scientists in the Energy and Materials Sciences Laboratory (EMSL) are working on a project that is expected to lead to a natural, inexpensive way to clean up hazardous waste streams or sites. They are separating lignin from the cellulosic components of wood



Chris Newman of EMSL stands in front of the solvent evaporation unit of a pilot plant that will be used to extract lignin from wood in a study of the feasibility of using lignin as an environmental cleanup agent. (Photo by Charles Haynes)

for use as the cleanup agent. The project is funded under the Innovative Technology Program of the Environmental Protection Agency.

In the EMSL process, lignin traps toxic heavy metals and organic compounds like dioxin and PCB's. The lignin, containing the toxic substances in concentrated form, then can be incinerated, leaving behind recovered metal for reuse.

Lignin is a naturally occurring polymer that glues together and supports the cell walls of the cellulose fibers in woody plants. It forms 25% of the mass of wood, and thus is the

second most common organic material in nature.

"This research is a major advancement of EMSL research and development of fuel alcohol production from biomass," says Principal Investigator Dan O'Neil, who is also EMSL's associate director. "We were faced with the problem of finding an attractive use for the lignin produced as a by-product in the GIT alcohol process. If we could find a large-volume, higher-value market than that of a low-grade fuel, the net cost of ethanol would drop to compete with gasoline. Indeed, the lignin could

become as valuable a product as alcohol."

Based on the chemistry of lignin and the fact that they could isolate it in an unadulterated form, unlike the lignin produced from pulping operations, EMSL made an innovative research proposal to EPA. "We proposed to show that our lignin could be a better adsorbent than activated charcoal and costly ion exchange resins for the cleanup of toxic waste streams," O'Neil explains. The overall process could lead to an economic means of alleviating fuel and environmental cleanup problems.

Lignin is being isolated and analyzed in an experimental program performed by Chris Newman and Paul Hawley with support from Professor Ed Chian and his students from the School of Civil Engineering. The lignin is currently being evaluated with representative toxic substances found in hazardous waste sites. The objective is to find the optimum procedure to isolate lignin in forms of maximum absorption capacity and in the highest yields.

"If our experiments are successful, lignin would be much cheaper than activated carbon as a purifier, and fuel alcohol from cellulose could become the side product," O'Neil says.

EDL Assists Minority Firm

A small North Carolina manufacturing firm, via the brokering efforts of EDL's Edwin Bethea, recently landed its first contract with Georgia Tech. Although modest, the award may signal profitable inroads to the Atlanta market.

Able Machining and Electronics received some \$5,000 to do sheet metal fabrication for a radar system. The company was one of a select handful of minority-owned firms Bethea sought, through the former Technology Utilization and

Commercialization Program, to match with major corporations to do long-term subcontracting work. This effort continues on a limited basis.

"Our contract with Georgia Tech grew out of our work with Ed Bethea," says Able President Wallace Green. "He introduced our capability to do precision work."

Green is convinced that Atlanta is a good market for Able and notes that the company is discussing possible work with other prominent area organizations and firms. And apart from the contract, Green says that access to Tech resources and services has been a great asset.

TAAC (from page 1)

favors a nonintervention and free trade policy which, essentially, lets firms take their lumps in the marketplace.

A week after the cooperative agreement expired, however, President Reagan signed the Budget Reconciliation Act, which includes a six-year reauthorization of the trade adjustment assistance program. But the action came too late to save SETAAC, and Springfield says the Commerce Department is unlikely to renew its working agreement with GTRI.

Most of the SETAAC staff have been reassigned. Six have stayed in EDL, and three have gone to ATDC; one has joined an outside firm. Three staff members are seeking other assignments.

Getting Started in Artificial Intelligence

by Michael D. Furman, SEL

Artificial intelligence (AI) has had the undeserved reputation of being both obscure and intimidating. With computer scientists filling the already murky waters with scores of mysterious terms, there is little wonder why the smoke never seems to clear.

Open almost any text on AI to almost any page and combinations of words never seen before will proliferate re the topic of discussion. Attempting to "look up" a term typically is doomed to having to understand another, and another, and . . . well, you might as well start at the beginning of the book and slug it out.

Usually, if you do plug through the text, the terms take on rather simple meanings. Unfortunately, you must pass all the way through

the valley of darkness before some of the simpler relationships become evident.

If you haven't ventured far enough to break open a text, try to figure out what "augmented transition trees" are, or what "filtering an association-list stream through a cascaded set of filters" is attempting to clarify. It seems comparable to describing a simple "floppy disk" as a "pliant rotating ferromagnetic electromechanical data processing medium." But AI scientists aren't the first; medical doctors have been guilty of veiling simple conditions with complicated names for years.

However, I wouldn't have led you down this path without some solutions. There are three books that actually disclose the dark secrets in a manner that leaves you wondering why you didn't under-

stand them in the first place. Of course if you're a seasoned programmer, you need to make a mental "jump off the roof" and leave behind the security blanket of linear programming. AI is not inherently difficult to understand, just very different.

Anyway, the books (in suggested reading order) are:

- *Artificial Intelligence in Business* by Paul Harmon and David King. (Don't let the title fool you; from an applications point of view, it's a great introduction to AI.)

- *Artificial Intelligence: The Very Idea* by John Haugeland. (Deals with very real AI problems in a marvelous and witty form.)

- *LISP* by Patrick Henry Winston. (Dr. Winston is one of the few experts who strive to teach everyone AI.)

Grace Praises International Business Fellows Program

GTRI Director Donald J. Grace has returned from an intensive two-week stint as an International Business Fellow completely sold on the value of the experience.

He was one of 37 leaders from seven southeastern states selected for the educational program, which was held in Atlanta and London April 13-26. The program was designed by the International Business Council at Georgia State University "to increase the awareness of southeastern public- and private-sector leaders of international issues and how they affect the regional business environment."

"It was a fantastic learning experience," says Dr. Grace, "and the most valuable aspect was the networking opportunity. The diversity of the organizations represented was tremendous, encompassing city and state government, private industry, venture capitalists, lawyers, bankers,

educators, developers, and others. This diversity brought to our mutual learning a more dynamic interaction."

Dr. Grace sees 'total immersion' as the key to the program's success. "Being closeted together for two weeks enabled us to develop close and continuing relationships," he says. "In my case, it opened up new possibilities for interaction between Georgia Tech and other organizations."

For many members, the two-week study program is only the beginning of a continuous process of personal and professional growth. The program, now in its sixth year, has approximately 180 alumni. The entire group gets together once a year for a retreat, and smaller groups in specific localities have monthly meetings. And, of course, the focus remains on encouraging the members to further develop the skills and knowledge necessary for competition in the international arena.



The Industrial Extension Division secretaries held their annual meeting in Atlanta in early May, bringing together personnel from all 12 field offices and the Atlanta staff. From left to right, they are: Back row—Rosemary Hall (Dublin), Lavonia Howard (Atlanta), Maxie Goff (Albany), Helen Worrell (Columbus), Lisa Merritt (Gainesville), Shirley Brown (Carrollton), Carolyn Carter (Madison). Middle row—Debbie Perkins (Macon), Helen Blum (Savannah), Laura Golden (Industrial Education), Queen Buford (Atlanta), Cheryl Cleveland (Douglas), Sara Marshall (Rome). Front row—Delorise Music (Brunswick), Pam Daniels (Augusta). (Photo by Charles Haynes)

RAIL Field Tests Proceed Swimmingly

RAIL personnel have been assisting the Navy at the Bangor (Washington) Submarine Base in the test and evaluation of off-the-shelf radars suitable for use in physical security applications at U.S. Naval Bases. RAIL is serving as the technical expert for radar and is providing a RAIL-built automatic tracking radar system as a baseline for comparison.

The Georgia Tech system, known as the target detection unit (TDU), was designed to detect waterborne intrusion threats such as swimmers and boats which might be used to infiltrate coastal facilities. The TDU is not under test itself because it is not an off-the-shelf system. Hopefully, future plans of the Navy will involve the development of a new version of the TDU, possibly incorporating the winning radar from these tests.

Brian Hudson and Joe Pitts helped with the installation of

the system. Scott Parker and Nick Currie have spent four weeks in Washington State (where it seems to rain continually) as system operators. Currie refers to Parker and himself as the "iron men" because of the hardships they have endured on this field trip, but by now most would consider them to be the "rust men." Parker is beginning to mildew and grow webbed feet, while Currie has noticed moss growing in his navel.

As a diversion, Parker and Currie took some side trips to Mount Rainier during their free time (where it was no doubt "rainier" than the TDU field site), and to Mount St. Helens (where it rains ash instead of water). They also got a tour of a Trident submarine based near the test site, but the Libyan raid threw a wet blanket on that and resulted in the tour being cancelled. No problem, they'd both been under water long enough anyway.

GTRI Faculty Reps Elected

The following were elected by their peers to represent GTRI in the General Faculty Assembly:

Admin./Service: Richard Johnson and Michael O'Bannon.

EDL: John Adams, Keith Nelms, Ann O'Neill, and Charles Ross.

EML: Susan Bauman, Ronald Bohlander, Michael Nicovich, and Lawrence Schaefer.

ECSL: Jeanne Balsam, John

Daher, Linda Martinson, Margaret Ray, and Charles Ryan.

EMSL: Steve Bomar and Douglas Neale.

RAIL: Linda Harkness, Margaret Horst, Gary Lunsford, and Yalcin Peker.

SEL: Walter Addison, Lloyd Lilly, David Plummer, and Dean Spencer.

STL: Andrew Muzio, Albert Nelson, and Brian Rainer.

PROFESSIONAL ACTIVITIES

ECONOMIC DEVELOPMENT LAB

George Rivers, director of the Brunswick Regional Office, has been elected president of the Southeast Georgia Chapter of the Georgia Society of Professional Engineers (GSPE). Harris Johnson, head of the Carrollton Regional Office, is the new treasurer of the West Georgia Chapter, and Columbus Regional Office Director John Mills has been voted president of GSPE's Columbus Chapter.

Tze Chiang and David Clifton left for China in late May, accepting an invitation from that nation's government to discuss economic development issues.

Alan Pashkevich spent the first two weeks of March in Ecuador evaluating potential manufacturers of a steel hand water pump developed by Georgia Tech under the direction of Ben James.

In the wake of the U.S. bombing raid on Libya, Don Peterson has returned from Sudan, where he directed the Sudan Renewable Energy Project.

Doug Moore and Deborah Lockman coauthored an article, "Variable Air Volume: A Viable HVAC Option," in the March issue of *Building Operating Management*. David Hogue's article, "The Reporting of TEM Results," was published in the Winter 1986 issue of the *National Asbestos Council Journal*.

Chuck Calmbacher, Kevin Kamperman, and Jim Mann presented a Hazardous Materials Response Course to John Hancock emergency personnel in Boston April 18.

John Nemeth and 19 members of EHS gave presentations at the division's Third Annual Conference on the Environment, Health and Safety March 31-April 3.

Research studies recently completed under the state-funded Economic Development Research Program include "A Comprehensive Profile of Georgia's Aerospace Industry," by Carrie Bellware and John Warden; "Manufacturing Opportunities in the Appliance Industry in Northwest Georgia," by Ann O'Neill, Bill Darley, and Holly Grell; and a study by David Marsh of the Georgia commercial fishing industry's status, needs and opportunities.

ELECTROMAGNETICS LAB

Billy Livesay was quoted extensively in an article in the February 10 issue of *Insight* on the problems of microchip testing and reliability.

ELECTRONICS & COMPUTER SYSTEMS LAB

The January issue of the *IEEE Transactions on Microwave Theory and Techniques* featured a paper, "In Situ Permittivity of Canine Brain: Regional Variations and Post-Mortem Changes,"

by Paul Friederich, Ron Seaman, E. C. Burdette (former ECSL employee), and Lawrence Larson (Army sponsor).

ENERGY & MATERIALS SCIENCES LAB

Jim Hubbard served as judge for the annual Research Week Science Fair recently held at Morehouse College for high schools in the Atlanta area.

Kathryn Logan and Stuart McLemore presented papers at the American Ceramic Society Annual Meeting in Chicago April 27-May 1. Logan's presentation, coauthored with McLemore and Ed Price (Aerospace Engineering), was entitled "Particle-Particle Interactions Leading to Ignition in the Thermite System $TiO_2 + B_2O_3 + Al$." McLemore's paper, coauthored with Logan, was entitled "Kinetic Constant Calculations in the System $TiO_2 + B_2O_3 + Al$."

In April, Tom Starr presented two papers coauthored with Joe Harris: "Silica Composites with Silicon Carbide Fibers and Whiskers," presented at the American Ceramic Society Annual Meeting, and "Fabrication of Slip-Cast Reaction Sintered Silicon Nitride Composites," presented at a meeting in Travemunde, West Germany.

On April 25, Jan Gooch made a presentation on "Organic Coatings for Consistent Surface Energy Measurements" at a seminar at Edgewood Arsenal in Maryland.

A paper by Lois Speaker, "Separation of the Influences of Surface Polarization and Surface Fouling," was presented April 18 at the 191st National Meeting of the American Chemical Society in New York as part of the symposium on Surface Chemistry in Biology, Medicine and Dentistry: Fouling and Cleaning in Biological Media.

RADAR & INSTRUMENTATION LAB

On May 1, Josh Nessmith received the Admiral John H. Sides Annual Award from the Anti-Air Warfare Committee of the National Security Industrial Association for his "noteworthy contributions to effective government/industry advancement in the field of anti-aircraft warfare."

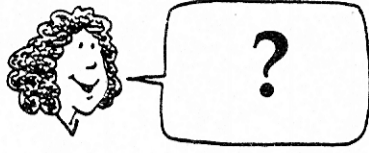
SYSTEMS ENGINEERING LAB

Dan Howard recently presented a paper on "Interceptability of LPI Communications" at the IEEE-sponsored Tactical Communicators Conference in Fort Wayne (IN).

Pike King and Bryan Gantt have received their MSEE degrees from Georgia Tech. Congratulations!

Henry Owen presented a paper May 12 at the "CAD/CAE for VLSI" session of the Computer Graphics '86 Conference and Exposition in Anaheim (CA).

QUESTIONS, ANYONE?



by Charles McCullough, HRD

It was one of those days. Your B drive ate the last remaining backup of a file the size of Rhode Island. It was the fifth consecutive day of a conspiracy among the student population to park in your reserved space "for just a minute." Every copy machine in the building had declared you and your social security number an invalid life force. Visions of retirement danced in your head. You crawled under your desk, bemoaned those scant years of service credited to your TRS account, and thought, "I'll be doing battle with the North Ex-

pressway forever!"

Well, think again: you may have more years of service available to you than you think. Through an option of establishing "prior years of service" with the Teachers Retirement System of Georgia, certain periods of work or educational leave in your past may be established as years of service with TRS.

Included are: service in Georgia's public schools or State University System prior to 1945; former participation in TRS; active duty military service during World War II, the Korean Conflict, or the Vietnam Era; periods of leave

taken by a TRS member to pursue full-time graduate studies; service rendered in a public, nonmilitary educational institution of another state; membership in the Employees Retirement System of Georgia.

In all these circumstances, a variety of different conditions and requirements apply. Some options require no contribution on your part; others require you to pay the employee portion plus accumulated interest, and still others require you to pay both the employee and employer contributions plus accumulated interest.

A hypothetical case: John Doe, age 36 (born in 1950), joins the military fresh out of high school and serves through 1972, acquiring a bachelor's degree along the way. He works for the State of Georgia through 1974, then accepts a job with a South Carolina school board

until 1977. From 1978 through 1982, he's back in Georgia and a member of TRS. In 1982, he takes a one-year leave of absence to complete his master's and has been at Georgia Tech ever since. In all, John could purchase additional years of service for a total of 17 years of service and could anticipate retirement at the ripe old age of 49 with 30 years of service and no early retirement age reduction penalty!

Of course this is an extreme example, but the fact remains that you may have a lot more toward retirement service available to you than just your years at GTRI. For further details, check out your TRS booklet (reproduced in its entirety as GTRI Procedure 20-19). Tech's resident expert on retirement matters, Dot Curry, manager of employee benefits (ext. 3299), can answer any of your questions.



Software Review

by Pat Mathiasmeier, CRSD

The Computer Related Services Department (CRSD) Training Facility will be moving in new directions in FY 1987. In addition to the current selection of classes, consisting mainly of basic software applications packages for the IBM

PC, a new emphasis will be placed on advanced level classes. These classes will focus on the use of IBM 4361 and 4381 mainframe user tools, including Access 204, Basic CMS, and Model 204. Basic and advanced training will be offered on the microVAX workstation environment. New programming language courses will be offered as well as the current languages, LISP and C. Call ext. 6206 for course dates and times.

Access 204

Access 204 allows the average person to retrieve data quickly and easily. The menu-driven, ad-hoc report generator is used to retrieve

data from the GTRI Model 204 database management system. Departments with databases on Model 204 are encouraged to take the course. Topics include building and running a query and advanced query techniques.

VAX Workstation Training

MicroVAX workstations are bringing the power of the mainframe to the microcomputer. The three-day microVAX training session covers an introduction to VMS, system management, and an overview of VAX FORTRAN. Students are instructed in powering up the VAXstation, using the operating system, file structures

and commands, system management, and VAX FORTRAN under VMS.

Basic CMS

PROFS AND M204 users who wish a fundamental understanding of their computing environment should look into Basic CMS. This is an introduction to the operating system used on the GTRI 4361 and 4381 IBM mainframe computers and is designed as a background course for users of these computers. The course includes the CMS editor, file management, printing files, communicating with other computers, and command procedures (EXECs).

PERSONNEL NEWS

ECONOMIC DEVELOPMENT LAB

IED's **Grant Curtis** retired April 30, and EHS's **Ralph Lamade** retired May 15. **Jenny Padgett** of EHS's Safety Group left GTRI in early May.

New personnel include **Milan Radovic**, SRE, who heads the ITAP project in Cairo, and **Clark Brandon**, RS I, assigned to the Analytical and Instrumentation Branch. **Lavonia Howard** is a new senior secretary in the Industrial Extension Division.

ELECTRONICS & COMPUTER SYSTEMS LAB

The Electromagnetic Effectiveness Division welcomes **Joseph M. Harris**, RE II, who will be utilized in systems engineering support and in antenna systems. He has a BEE and MSEE from Georgia Tech and formerly worked at Scientific Atlanta in the Satellite Communications Division.

Dede Morgan has left ECSSL, and

Janice Davis has been promoted to staff assistant in the Office of the Lab Director in her place.

Robert W. Rice has resigned.

ENERGY & MATERIALS SCIENCES LAB

Walter Forrester joined EMSL April 14 as an RS I in the Interface Science Program of the Materials Science Division. He is a 1983 graduate of Georgia Tech with a BS in chemistry.

EMSL also welcomes **Guillermo Villalobos**, a new RE I who joined the Ceramic Engineering Thermite Processing Group April 10.

Congratulations to **Gwen Barkley**, who became senior administrative secretary in the Office of the Lab Director April 1.

RADAR & INSTRUMENTATION LAB

Brian Peters of the Noncooperative Target Recognition (NCTR) Office in Fort Monmouth (NJ) has been pro-

moted from electronics technician to research associate. He has been actively working on the S-280 shelter, the data acquisition van, and the NCTR facilities upgrade since joining the staff in April 1985.

SERVICE DEPARTMENTS

Computer Related Services: Welcome to **Al Hoover**, RE II and the new manager of CRSD. **Lindsey Morris**, **Lee Gantt**, and **Mike McGraw** have resigned.

Facilities Management: **Foster Williams** and **W. ("Stewart") Stewart** are new clerk II's.

Human Resources: Welcome to **Ted Sladovich**, personnel assistant I; **Linda Houseworth**, clerk II (transfer from SEL); and **Gus Galvez**, word processor operator. **Anicia Lane** has resigned.

Printing / Photographic Center: **Dayton Funk** has been hired as photographic supervisor. **James Waters** has been promoted to offset equipment operator and **Virginia Payton** to copy

services supervisor. **Pat Stone** has resigned.

SYSTEMS & TECHNIQUES LAB

Julia Thompson and **Robert Whatley** are new lab technician I's in the "S" Program Office.

The Microwave Systems Division has gained **Susan Parks Williams**, RE I (transfer from RAIL); **Joanne Nelson**, lab technician I; and **Andrew Vandiver**, student assistant.

SYSTEMS ENGINEERING LAB

SEL named two employees of the month for April. **Steve Kenyon**, Eglin Field Office, was cited for efforts which have brought to Georgia Tech "an enhanced reputation for outstanding test support work." **Janice Manders**, administrative coordinator, was selected for "sustained outstanding performance with an extremely high impact on the welfare of the laboratory."

Harry Andrews has been appointed acting chief of the Countermeasures Development Division.

PERSONAL NOTES

EDL: Eileen and **David Clifton** are parents of a baby girl, **Dana Cooley**, born April 11. **Lou Brackett** gave birth to a girl, **Bonnie Alice**, on May 1. **Jim** and **Carol Aton** are proud new parents of a baby boy, **Donald Alexander**.

Stephanie Staples was married to **Earl L. Babbitt III** on April 12.

ECSSL: Congratulations to **Dede Morgan** and **Roger Johnson** (SEL) on their marriage May 10.

Condolences to **Red Jenkins** on the loss of his mother and to **Joe Harris** on the loss of his father.

EMSL: Congratulations to **Kathy** and **David Henderson** on the birth of a daughter, **Jessica Lauren**, on May 1.

RAIL: **Herman Pardes**, SRS in the

NIFFTE (Noncooperative Identification Friend/Foe Technology Evaluation) Project Office at Fort Monmouth, and his wife **Sylvia** are having a busy time. Their daughter **Roseanne** recently presented them with a granddaughter. **Roseanne** and family are moving to Israel, and another daughter, **Deborah**, will journey to Israel in May for a six-week stay. A third daughter, **Erika**, was married March 30.

STL: **Mary E. McKenna** was married April 19 to "Rocky" **Redish**.

Ed and **Vickie Fennell** are proud parents of a girl, **Catherine Nan**, born April 25, and **Steve** and **Pam Watt** welcomed a boy, **Brandon Matthew**, April 28.

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