the GTRI connector
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Brown and Gilmore Win GIT Research Awards

Two members of GTRI—Charles E. Brown of RAIL and John F. Gilmore of EML—have won $5,000 awards from Georgia Tech for outstanding research accomplishments. Vice President for Research Thomas E. Stelson presented the awards at the annual Faculty Honors Day ceremony June 3. The awards cover performance over the past three years (January 1983-December 1985).

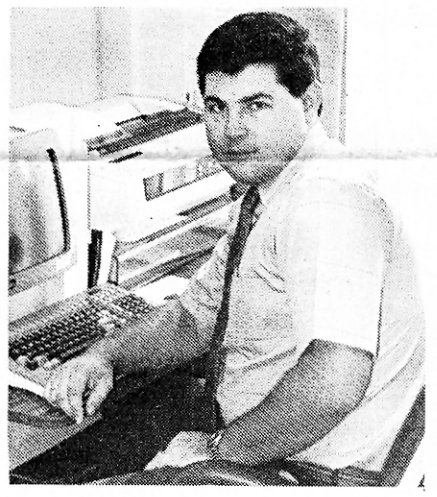
Charles Brown was cited for outstanding achievement in research program development. He led or was a major participant in proposals resulting in $26 million of sponsored research for Georgia Tech over the three-year period. He was especially commended for his leadership role in organizing joint efforts across research unit and academic unit lines that have enhanced the entire research program at Tech.

Brown, who is a principal research engineer in the Radar and Instrumentation Laboratory, has initiated several major research efforts funded by the U.S. Army and the Air Force, as well as by a number of aerospace industries. In one $15-million program with the Army Advanced Sensors Directorate, researchers in both RAIL and EML are developing electro-optical and radar sensors that will enable "smart weapons" to automatically find and lock on-to enemy targets.

John Gilmore was honored for outstanding leadership in the development of graduate research assistants. As head of the Artificial Intelligence Branch of the Electromagnetics Laboratory, he supported, directed and supervised 14 graduate research assistants on nine sponsored research programs and three software license programs during the three-year period. Successful completion of contract work resulted in publication of 15 technical articles involving 11 different graduate student coauthors, greatly enhancing the reputation of Georgia Tech in the field of artificial intelligence.

Four of these students have graduated and accepted positions at leading national high-tech companies—all in the field of AI. Based on the experience gained while working for Gilmore, one graduate was offered a starting salary of $43,000, which is more than 30% higher than the average salary offer for graduates with master's degrees. One of his students was named outstanding GRA last fall in the GTRI research awards competition.

The third GIT research award—for outstanding faculty research author—was won by Dr. Satya N. Atluri, a Regents' Professor and Director of the Center for the Advancement of Computational Mechanics.



Above: RAIL's Charlie Brown (left) accepts research award for program development from Dr. Thomas Stelson at faculty honors luncheon. **Right:** John Gilmore of EML received the research award for development of graduate research assistants. Each award was for $5,000. (Photos by Margaret Barrett—top; Charles Haynes—right)

Sudanese Take Training in Marketing at Georgia Tech

by Lincoln Bates, EDL

In late May and early June, GTRI hosted a comprehensive training course for 10 Sudanese scientists and engineers involved in the four-year Sudan Renewable Energy Project (SREP). The program grew out of seminars that EDL's Art Brown delivered last year in Sudan, an endeavor which revealed a need for more in-depth training in marketing and commercialization of technologies designed primarily to enhance production and burning of charcoal.

According to EDL's Don Peterson, who headed the Tech effort in Sudan, the project has been successful in developing and field testing technologies. The Sudanese researchers now must adapt the technologies to the needs and interests of the people.

Ten Sudanese scientists and engineers were the first to use GTRI's new training/conference room in the Coliseum Annex. Here they are receiving instruction in marketing principles to help them commercialize renewable energy technologies for household use that were developed in a Georgia Tech project. (Photo by Charles Haynes)

The two-week training course focused on marketing principles. Mornings were devoted to classroom instruction, while afternoons involved field trips to metro businesses and facilities.

Primary instructors were Art Brown, Ben James, and Claudia Huff, all of whom have experience in Sudan related to SREP. Guest speakers included other EDL specialists and outside experts.

Somaya Suliman, an industrial engineer, and Dr. El Sheikh Magzoub, a mechanical engineer and coordinator of the charcoal stove design center, say the aim is the same in both the United States and Sudan—to satisfy the customer. Part of the marketing effort, they acknowledge, consists of convincing people to accept new ideas and methods. They emphasize that Sudan must conserve its wood resources, noting that 80% of all energy used in Sudan involves charcoal and wood.

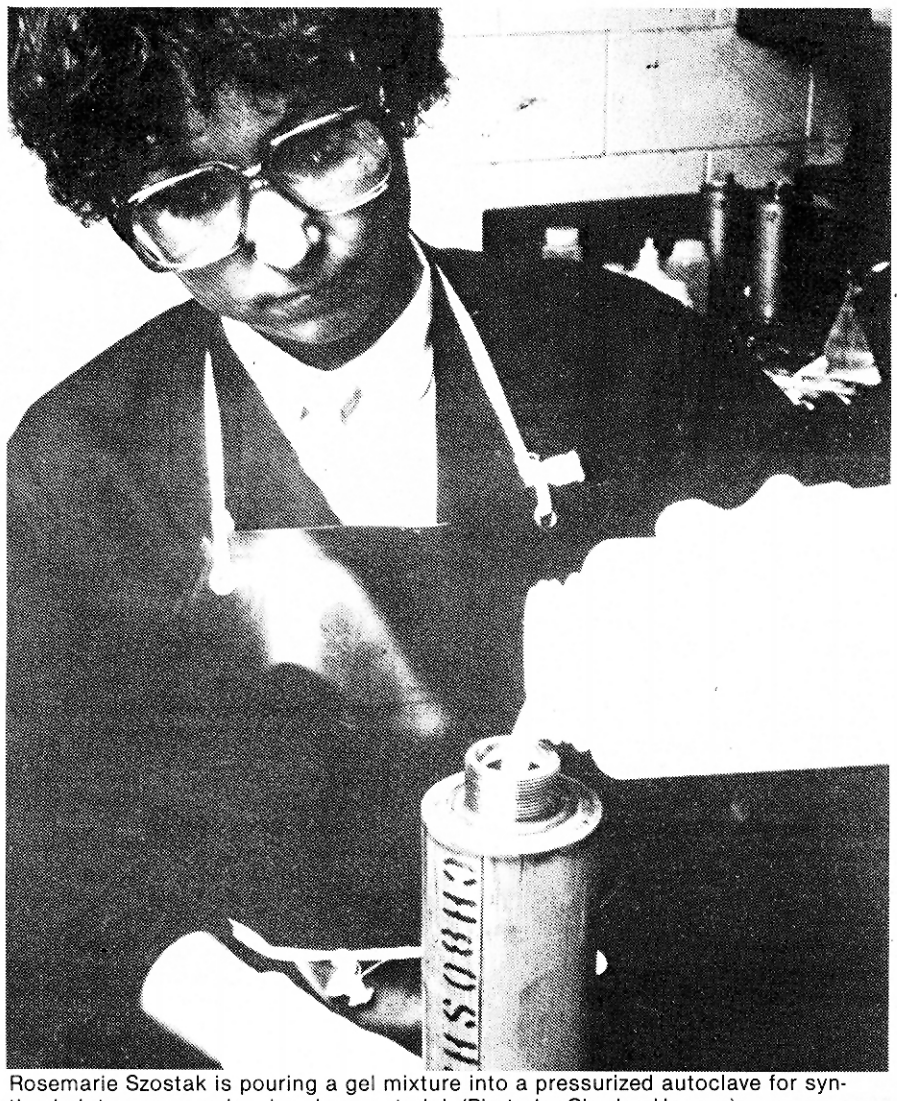
Molecular Sieves Capture Interest

When Tudor Thomas and Rosemarie Szostak arrived on the Tech campus in October 1983 to start a research program in molecular sieves and zeolites, they hit the ground running. In the 2 1/2 years since then, they have synthesized nine new molecular sieve compounds, some of which are patentable, and have established Georgia Tech as a leader on the frontiers of molecular sieve technology. Not only do they have a dozen individual industrial and governmental contracts, but they have created a multi-client basic research program with seven industrial sponsors to date as well.

Molecular sieves are crystalline structures with pores of molecular size that are highly selective as to the sizes and shapes of molecules that can pass through them. They are widely used as adsorbents and ion exchange agents in purification and separation processes. They also are strong, very selective catalysts; consequently, their most important use is in catalytic cracking of petroleum and in related chemical processes.

Molecular sieves find many uses besides catalytic cracking to produce gasoline and petrochemicals. As adsorbents, they keep double-pane windows from fogging up, the freon in refrigerators dry, and dry ethylene so it can be used to make polyethylene for plastics. Natural gas is dried and "sweetened" (the sulfur is removed) by molecular sieves before it goes into the pipeline. They are beginning to be used in auto mufflers to prevent water condensation and rusting.

Molecular sieves are vital in the production of biodegradable detergents that don't "foam up" our rivers and streams. Their ion exchange properties make them useful in cleaning up hazardous waste sites such as the radioactive debris at Three Mile Island. The list could go on and on.



Rosemarie Szostak is pouring a gel mixture into a pressurized autoclave for synthesis into a new molecular sieve material. (Photo by Charles Haynes)

The first molecular sieves were aluminum silicates called zeolites. But in the last several years, research has turned to developing molecular sieves that are not zeolites.

"New compounds can be synthesized in two ways," Dr. Thomas says. "You can vary the structure—the way the crystal is built—or you can vary the composition—substitute different elements for the aluminum or silicon." Thomas and Szostak are working particularly with iron silicates, but are branching out to compositions with other elements.

"It's important to understand the chemistry of the elements when trying to synthesize new materials," Dr. Szostak adds. "There are six to eight parameters that go into making a molecular sieve."

Their research program, which is based in the Energy and Materials Sciences Laboratory (EMSL), covers the spectrum of synthesis, modification, and characterization of molecular sieves. After synthesizing a particular material, they determine its properties and test it for potential applications. Then they work on modifying it by thermal and/or chemical treatments to improve catalyst and adsorbent performance. The ultimate goal is to be able to "tailor-make" molecular sieves and zeolites for special applications.

Until recently, molecular sieve R&D has been mainly the bailiwick of industry. Thomas and Szostak, for example, got their training at Union Carbide and Mobil Oil, respectively. Dr. Thomas participated in synthesizing the first commercially important types of zeolites and managed Union Carbide's molecular sieve program for 20 years.

Therefore, they are particularly proud of their role in establishing at Georgia Tech the first broad-based university program in molecular sieves. It's a multidisciplinary effort involving close cooperation with the schools of Chemical Engineering, Chemistry, Physics and Ceramic Engineering. Two EMSL graduate research assistants—Vinny Nair and Don Simmons—are doing their thesis work as part of EMSL's zeolite research program. "In fact," Dr. Szostak says, "Georgia Tech is becoming known as **the** place to go for graduate research in molecular sieves."

QUESTIONS, ANYONE?

by Charles McCullough, HRD

"Whatever became of Training and Staff Development for support personnel? Is it still around?"

Is it ever!

If you thought GTRI's training programs had gotten lost in a storm, it's only because a number of behind-the-scenes projects have been going on. First there was the matter of the new GTRI Procedures Manual. Then there were other foundations to lay (both literally and figuratively): the preparation of new programs like the GTRI new employee orientation, the Accounting Procedures Manual, and new training modules have been happening while FMD was busy transforming the "dungeon" in the Coliseum Annex Building into a bright new complex complete with a dedicated training/conference facility.

Now that the dust is beginning to settle, Jean Fuller, RA II, who heads the Human Resources Department's Training and Staff Development section, is evaluating the input from a recently conducted needs assessment survey for developmental seminars that will begin in July and be conducted by EDL's Industrial Education Group. Topics like Time Management, Effective Communications, and Group Leadership Techniques have been popular—and successful—in the past and are among over a dozen possibilities that will be scheduled regularly. For those of you already groaning in despair that you'll never get your boss to loosen the ol' leg-irons long enough for you to attend any of them, or let go of the purse strings to pay for it, there's good news: developmental seminars will be scheduled as morning sessions of three to four hours, and none should exceed $20 per person.

Besides developmental seminars, there will be job-specific training on various administrative procedures for new employees, employees who have taken on new duties and responsibilities, or just those who have inquiring minds and want to know. Starting this fall, GTRI will have its very own new employee orientation program that's designed to go beyond the campus orientation and benefits review already being well handled by the Personnel Division's Training Department and, instead, will help our new employees unravel some of the mysteries about GTRI during their first few days

According to Jean, registration information and forms will be distributed to every laboratory and department within GTRI, so stay tuned to your Administrative Network for details.

A Good Idea

Have you made your pledge to the Centennial Campaign yet? Did you know that you can designate your gift to go to GTRI—either for endowment or for current operational needs? Income from the GTRI Endowment Fund will be allocated periodically in response to proposals from the GTRI faculty. If you make your gift through payroll deduction over a period of five years, it's comparatively painless!

If you are a Georgia Tech graduate, your gift will count toward both the Faculty and Staff Campaign **and** the annual Alumni Roll Call for each year in which the pledge is paid.

Best of all, you can help demonstrate to potential outside donors the level of commitment of the Tech community to Georgia Tech. Whether your gift is large or small, it's important. It's the participation that counts!

Software Review

by John Dillard, CRSD

PROFSTRM (pronounced PROFS-TERM) is a public domain VT-100 emulator that has been extensively modified to support PROFS at Georgia Tech. It is similar to the IBM 3101 emulation (labeled "PROFS") currently in use at Georgia Tech, but there are advantages and limitations with each package.

PROFSTRM

Advantages:

- Automates login up to the GT logo.
- Supports local printing of PROFS notes, calendars and documents.
- Uses KERMIT file transfer.
- Can be exited completely without re-booting.
- Keys used to exit, run file transfer, etc., are defined only while in emulation mode; i.e., will not interfere with PC programs.

Disadvantages:

- Cannot jump directly from a running PC program to PROFS-TRM.

IBM 3101 ("PROFS")

Advantages:

- Can be used concurrently with running PC programs.

Disadvantages:

- Does not support local printing from the PROFS printer menu.
- Can do file transfer only to IBM systems.
- Cannot be exited completely. User must re-boot to regain full PC capacity.
- ALT-F7 through ALT-F10 keys remain defined in PC mode. Will interfere with PC programs needing to use these same keys.

In both "PROFS" and PROFS-TRM, the keys used to execute PROFS functions are identical. PROFS users who have a copy of "PROFS" can continue to use this software, but CRSD will no longer distribute it.

If you would like a copy of the PROFSTRM software, call the PROFS Helpline at ext. 7173 or send a PROFS note to JDILLARD.

PROFESSIONAL ACTIVITIES

Eva Clay (center) of EDL recently received a Special Achievement Award from the Environmental Protection Agency, the first non-EPA employee to get this award. EPA's regional asbestos coordinator, Jim Littell (left), presented the award, citing Eva's outstanding performance as director of Georgia Tech's Asbestos Information Center. On the right is Bob Stryker, chief of EPA's Toxic Section. (Photo by Charles Haynes)

ECONOMIC DEVELOPMENT LAB

Georgia Tech highlighted its roles in education, research and service to the Augusta area with its "Tech Showcase" May 13-15. Held in conjunction with an open house at the Georgia Technology Center in Augusta, the event involved presentations to the local business and education communities and to regional Tech alumni. Among EDL participants were Lab Director **David Clifton,** Associate Lab Director and Industrial Extension Division Chief **Rich Combes,** Augusta Regional Office Director **Elliot Price,** and other regional office staff. President **Joseph Pettit** and GTRI Director **Donald Grace** spoke at auxiliary events.

A paper by **Deborah Lockman** and **Claudia Huff,** "What? Me? Coordinate a Conference?" was published in the Proceedings of the 9th Practical Conference on Communication sponsored annually by the East Tennessee Chapter of the Society for Technical Communication.

David Jacobs and **Eva Clay** delivered papers at the American Industrial Hygiene Association conference in Dallas last month. Their respective titles were "Occupational Exposure to Nitrous Oxide in Dental Offices" and "Aggressive Sampling Protocols."

Craig Wyvill is the author of "Technology for the Poultry Industry," appearing in the May/June issue of the *Georgia Professional Engineer,* and "Chicken-Tracking Computer Gives Real-Time Update," appearing in the May/June issue of *Agricultural Engineering.*

In the April issue of *Occupational Health & Safety,* **Michael Lowish** completed a four-part series that began in January on basic, often overlooked safety problems encountered during asbestos abatement projects.

ASBESTOS ABATEMENT: PROCEDURES AND PRACTICES is a new book by **Bill Ewing** and **William Spain** that is scheduled for publication in September.

Dale Stapler and **Harris Johnson** spoke on plant layout and material handling in rehabilitation centers at the Georgia Department of Human Resources Rehabilitation Center Directors' annual convention at Jekyll Island on June 5.

ELECTROMAGNETICS LAB

Paul Wine presented a paper, coauthored with **Anthony Hynes,** at the National Meeting of the American Chemical Society in New York April 18. The title was "Direct Kinetic and Mechanistic Study of the OH and Dimethylsulfide Reaction under Atmospheric Conditions." He, **Abbas Torabi, Paul Barbone,** and **C. A. Smith** are authors of "N_2O_5 Photolysis: Quantum Yields for NO_3 and $O(^3P)$," which appeared in the April 30 issue of the *Journal of Geophysical Research.*

Chris Summers presented a paper on "MBE Growth of CdTe and ZnCdTe on GaAs Substrates" at the Infrared Materials Session of the Third International Symposium on Optical and Optoelectronic Applied Sciences and Engineering held in Innsbruck, Austria, April 14-18. He is coauthor of a paper, "Computer Modeling of Carrier Transport in (Hg,Cd)Te Photodiodes," published in the April 1 issue of the *Journal of Applied Physics.*

Al Sheffer presented a paper, "Simulation of Laser Radar Imagery," at the SPIE Technical Symposium Southeast on Optics and Optoelectronic Systems in Orlando on April 4.

Ron Bohlander presented a paper entitled "Comparisons of Advanced Techniques of AGV Navigation" at the IEEE Conference on Robotics and Automation in San Francisco April 8.

Mike Harris presented a seminar on microelectronics research at Georgia Tech to a group of scientists at NASA's Lewis Research Center in Cleveland (OH) March 26.

John Gilmore chaired the SPIE Applications of Artificial Intelligence Conference, held in Orlando April 1-3, and taught a one-day course on A and expert systems at the conference. Five papers which he coauthored with members of the AI Branch were presented: "GEST—The Generic Expert System Tool," coauthored with **David Ho** and **Chuck Howard;** "A Comprehensive Analysis of Expert System Tools," with Howard and **Kirt Pulaski;** "The Visual Expert System Tool," with **Steve Tynor, Kirt Gingher,** and **Che-Chung Tsang;** "GENSHED—A Real World Hierarchical Planner," with **Antonio Semeco, Bryan Williams,** and **Stefen Roth;** and "The Tactical Expert System," with **Alicia Stevens, Melinda Fox,** and **Marla Rabun.**

An article by **John Gilmore,** "Military Applications of Expert Systems," was published in the March issue of the *Future Generations Computer Systems Journal.* He was guest editor of a special *Optical Engineering Journal* issue in March dedicated to artificial intelligence. And he taught a three-day short course on AI and expert systems at Eglin Air Force Base.

ELECTRONICS & COMPUTER SYSTEMS LAB

On April 23, **Eric Barnhart** presented a paper, "Adaptive Thresholding: A Detection Technique for Wideband Large-Sector Intercept Systems," at the Tactical Communications Conference in Ft. Wayne (IN) sponsored by DARPA, IEEE, and AFCEA.

ENERGY & MATERIALS SCIENCES LAB

Hans Spauschus was one of three U.S. representatives at the annual meeting of the International Institute of Refrigeration in Paris, France, June 16-20. He is vice-president of the IIR scientific council, responsible for air conditioning, heat pumps, and energy recovery.

Kathryn Logan was invited to address the SHS (Combustion Synthesis) Working Group on May 19 at the Army Materials Technology Lab in Watertown (MA). She has been appointed to a three-year term on the Awards Committee of the Engineering Ceramics Division of the American Ceramic Society.

Tom Elfe presented a paper entitled "A 60 Megawatt Waveguide Magnetron Amplifier," coauthored by **George Ewell,** at the Microwave Power Tube Conference held in Monterey (CA) May 12-14.

Chris Newman presented a paper at the Energy from Biomass and Wastes Conference, held in Washington (D.C.) April 7-10. The paper, entitled "The Utility of Pristine Lignin for Hazardous Waste Treatment," was written by Newman, **Dan O'Neil, Paul Hawley,** and coworkers in the School of Civil Engineering.

Bo Hendrix reviewed the status of GTRI projects on open-door infiltration in refrigerated warehouses at the Basis for Refrigeration Design Seminar, held by the Atlanta Chapter of ASHRAE May 6 in Atlanta.

At the Georgia Academy of Science Annual Meeting in Milledgeville May 2-3, **Dan O'Neil** presented three papers: "Novel Mechanism to Describe Coal Liquefaction," "Isolation and Characterization of a Pristine Lignin," and "Energy Storage and Thermodynamics of Polymers." He participated in the 12th Annual Research Symposium of the U.S. Environmental Protection Agency in Cincinnati April 21-23, reviewing results of his current hazardous waste treatment research. O'Neil also has been named chapter chairman of the Primary/Secondary Education Committee of the Society for the Advancement of Materials and Process Engineering, which is concerned with upgrading math and science courses in grades 1-12.

RADAR & INSTRUMENTATION LAB

Ed Reedy gave a presentation on millimeter-wave radar systems in April for the Microwave Theory and Techniques Society of the Dallas IEEE section.

RAIL is conducting a short course on MMW radar at the White Sands Missile Range (NM) June 10-13. **Charlie Brown** is course administrator.

At the Carnahan Conference on Security through Technology, held in Lexington (KY) May 14-16, **Gene Greneker** chaired a session on sensor systems and delivered a paper on "Planning for Physical Security to Counter the Airborne Threat," coauthored by **Mel McGee.**

Mike Tuley presented a 90-minute tutorial on Radar Cross Section Reduction on June 4 at the American Helicopter Society's 42nd Forum and Technology Display in Washington.

Five of the 13 papers in **Jim Wiltse's** Phenomenology Session of the 10th DARPA/Tri-Service Millimeter Wave Symposium were written and presented by RAIL staff members: "Dual Frequency Coherent MMW Target Measurements," by **Ted Lane** and **Joe Bruder;** "Millimeter Characteristics of Ground Targets," by **Gene Knott** and **Margaret Horst;** "Performance of 95 GHz Air-to-Ground Seekers," by **Jim Echard** and **Jill Bach;** "Target/Clutter Contrast as a Function of Snow State and Polarization at 35 GHz and 96 GHz" by **John Trostel, Gene Greneker, Nick Currie,** and **Ted Lane;** and "Radar Polarization Applied to Target/Snow Discrimination," by **Linda Harkness** and **Bill Holm.**

RESEARCH COMMUNICATIONS

Martha Ann Stegar gave a slide lecture on "Excavations at Lachish: A Volunteer's Point of View" to the Biblical Archaeology Study Group of Greater Atlanta on May 6 at Emory University. She recently was named to the organization's board of directors.

SYSTEMS ENGINEERING LAB

The Techniques Analysis Program Office hosted the 8th Annual Electronic Warfare Program Review May 13-15 at Cobb County, attended by 72 representatives of 25 DoD organizations.

Greg Wright was graduated from Southern Tech June 4 with a bachelor's degree in architectural engineering technology.

SYSTEMS & TECHNIQUES LAB

Don Bodnar presented a paper, "Lens Antenna Concepts for Band Mobile Satellite Communications," at the 36th IEEE Vehicular Technology Conference, held May 20-22 in Dallas.

Charles Watt received a PhD from the School of Engineering and Applied Science at George Washington University May 4, and **William Poteat** received a BBA from Kennesaw College in June.

PERSONNEL NEWS

ECONOMIC DEVELOPMENT LAB

Mark Demyanek is the new director of Tech's Southeastern Asbestos Information Center, replacing **Eva Clay,** who has moved with her husband to Missouri. She will continue to participate in EDL's asbestos workshops around the country.

ELECTRONICS & COMPUTER SYSTEMS LAB

Brian Shirley, who began his career with the Electromagnetic Effectiveness Division as a student assistant and later became a graduate research assistant, has been appointed a research engineer I. His field is electromagnetic scattering measurements and analysis.

Bill Gaylord has resigned.

RADAR & INSTRUMENTATION LAB

The Modeling and Simulation Division welcomes **Joe Arrowood,** co-op, and **Joe Skelton,** clerk I, both of whom are freshmen working on BEE degrees.

The Analysis Division welcomes **Randall Hartwig,** electronics technician II, and **Karen Moss,** EDP clerk I. Randall was born in West Germany and served with the U.S. Army for three years there. Karen is a junior at Southern Tech majoring in computer information systems.

RAIL says farewell to the following employees: **Ralph Getchell** and **Suzanne Chidiac** of the New Jersey office; **Tony Ulloa** and **Keith Vaughn.**

SERVICE DEPARTMENTS

Facilities Management: Dave Rappe and **Brian Hanlon** are new maintenance worker II's.

Instrumentation & Calibration: Manager **Walt Reagh** is retiring June 30 after 35 years of service.

Mechanical Services: Welcome to the following new machinists: **Arthur Parker, John Graham, Kenny Cupp, Chong Pyen, Gary Williams, Willie Franks,** and **David Hanson.**

Research Communications: Charlotte Doughty has been promoted to word processor specialist. **Henry McDonald** has resigned.

SYSTEMS ENGINEERING LAB

Shirley Woods has resigned as Defense Systems Division secretary, and **Deborah Moore** has been promoted to replace her.

Angela Combs has transferred to Continuing Education.

Tom Daniel has resigned.

SYSTEMS & TECHNIQUES LAB

The Technology and Analysis Division welcomes **Elizabeth Stark** as an institutional research assistant for the summer. She will join the Air Force in September.

John Sweeney, RE II, joined the Defense Electronics Division in May to work on the Sierra project.

Maureen O'Neill Fellows (L) in EDL's Savannah office recently was interviewed by Gabriela Camozzi (R), national secretary of the Italian Textile Workers labor union. Ms. Camozzi visited Savannah with a State Department interpreter during a month-long visit in the United States interviewing professional women about their education, career choices, and personal goals.

PERSONAL NOTES

ECSL: Bill Cooke welcomed William P. Cooke V into his family on May 15.

Barbara Call already is back at work after recent surgery.

EMSL: Congratulations to Mr. and Mrs. **George Gerard** on the birth of their first child, Mhandy, May 22.

RAIL: Pat Winn and her husband celebrated their 40th wedding anniversary June 8.

Joe Pitts is the father of a baby boy, Wes, born April 30.

Ken Spann (NJ Office) was married to Lisa Fisk in May.

Yalcin Peker is recovering from his recent hospital stay .

Congratulations to **Evan Chastain, Allan Moore, Lamar Gostin, Phillip Moore, Scott Parker, Ray Sanders, Carol York, Cease Edwards, Shirley Washington, Faye Carpenter,** and **Phyllis Hinton,** who recently completed a cardiopulmonary resuscitation course.

RCO: Carol Massengale is recovering at home after major surgery.

SEL: Kellie and **Joey Brooks** are proud parents of a girl, Kaylee Rachel, born May 9.

Get well wishes to **David Loftus,** who is laid up with a broken collar bone and shoulder blade after colliding with a friend while going after a fly ball.

Publishing Enhances Growth

In 1982, EDL's Occupational Safety and Health Branch had one sponsor and $500,000 in annual funding. Today, the branch is a full division employing 57 people who generate more than $2 million each year from sponsored projects and continuing education courses.

One of the keys to the success of the Environmental, Health and, Safety Division (EHSD) has been an active publishing program.

"Four years ago we decided to widely publish articles on our work," says EHSD Training and Publications Director William Spain. "We knew we needed to increase recognition of our professional services for our program to grow. So, we created and implemented a marketing plan which included 'multi-level' publishing."

The benefits of publishing articles on research are well known, including:

- gaining visibility for research among a large audience of perhaps 100,000 or more readers with each article;
- increasing the opportunities for research sponsorship; and
- enhancing vitas and promotion opportunities.

But what exactly is a multi-level publishing plan? According to Spain, it means taking any research article written for a specific purpose and expanding its visibility by simultaneously publishing different versions of it in:

- book chapters
- professional and refereed journals
- trade publications
- professional organization newsletters
- industrial association newsletters
- general newspapers

It's not difficult to do this," says Spain. "The hardest part is writing the long, in-depth technical article. After that you only have to change the focus and length of the story to suit each kind of publication."

EHSD's multi-level approach doesn't end after the articles are published. Published articles are used again as sources for presentations at conferences and as reference materials in EHSD's continuing education courses. Going a step further, members of the division have published one book and have three more under contract with publishers.

"It's really paid off, and I think people throughout GTRI could benefit by adding these techniques to their promotional programs," says Spain.

"Publishing enhances your visibility, creditability and professionalism."

Editor's Note: *The Research Communications Office has a number of in-house resources for helping GTRI authors to place articles in technical publications. They include mailing lists, several books on scientific and engineering publications throughout the country, and listings of upcoming 1986 issues devoted to specific research topics. If you would like assistance in marketing a technical article, call Jackie Erney or Lee Hughey, RCO, ext. 3444.*

Cheryl Taylor: A Hell of an Engineer

Cheryl Taylor spends four hours a day working in ECSL's Signature Suppression Branch—programming on computers and supervising students in weaving camouflage cloth. She spends two hours a day working out at the Midtown Gym—pumping iron.

Early every morning, she can be seen at SAC—running, swimming, or pedaling a stationary bicycle. Evenings find her at Holiday Fitness Club practicing her posing routines for body building competitions. She also takes Tech classes on fitness theory and strength training.

Cheryl has been lifting weights for less than two years, but has already shown herself to be a formidable contender in local competitions. In her first power lifting contest, she placed second in her weight class.

After six months of power lifting, she changed to body building last November, and entered her first competition two months ago—the Miss Atlanta contest. Again she placed second in her weight class. The following weekend, she was third overall in a meet at Macon.

What drew a research engineer with a cerebral specialty like computer science and engineering into the ultra-physical sport of body building?

"I was tired of being overweight," Cheryl says. "One day I woke up to the fact that in the eight years I had been out of school I had put on 15 pounds! And I had no muscle tone! I tried Nautilus equipment first, but switched to free weight training for more rapid development."

Nowadays, Cheryl's radar cross section is pretty streamlined. Tech's Exercise Science Lab has tested her at 11.8% body fat. Their charts indicate that the typical female at Cheryl's age (32) has 24% to 31% body fat, and even athletes have 14% to 18%.

Cheryl credits physical fitness and better nutrition with making her a more productive person in her job. "Exercise relieves stress and improves alertness and efficiency," she says. "I require less sleep and feel much better than I used to.

"The facilities and people at Tech inspire you to keep fit," she adds. "There's more fitness awareness here than in corporate offices. The Exercise Science Lab has been very helpful, and I am encouraged by several co-workers who are runners."

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