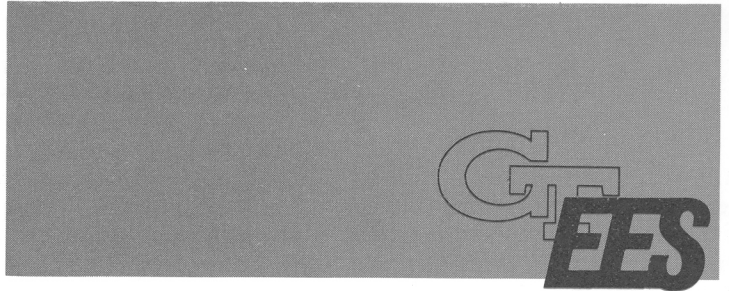


STATION NEWS

ENGINEERING EXPERIMENT STATION • GEORGIA TECH



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APRIL, 1977

Drinking Water Study

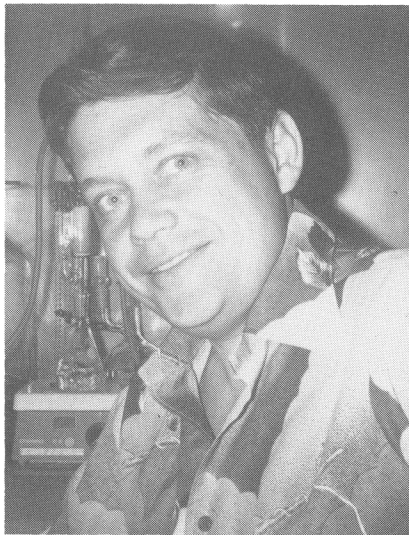
Is otherwise ordinary drinking water adversely affected as it goes through the purification process, and, if so, is an alternate system any better? With that point in mind, the U.S. Environmental Protection Agency has just awarded Senior Research Scientist **Dr. Steve Havlicek** of ASL \$286,000 to conduct a research program aimed at the identification of natural organic substances found in drinking water.

This program is a natural outgrowth of the discovery of the presence of such hazardous halomethanes as chloroform in all major drinking water supplies in the United States. Since these halomethanes are produced from the naturally occurring organic materials in drinking water in the course of disinfection with chlorine, it is important to identify these materials and follow their progress through the treatment process.

EES researchers will attempt to chart the fate of substances found in a relatively unpolluted southeastern river as the water goes through various treatment processes which will include chlorination, ozonation, exposure to chlorine dioxide and carbon adsorption.

The importance in determining what happens to these natural organics becomes evident if one considers that 80-90% of such materials are non-volatile and would therefore not be detected by the methods used to find the halomethanes.

"It is just possible that what is currently known represents only the tip of the iceberg," states Dr. Havlicek, "and that this research will uncover



Dr. Steve Havlicek, ASL

still more potentially harmful chlorinated substances." Steps are already underway which should lower the chances for producing such materials by changing the sequence of steps in current water purification systems, according to Dr. Havlicek.

Alternate treatments will also be studied to verify if these do solve the chlorinated organic problem without creating serious problems of their own.

Research team participation includes **Dr. J. Helmut Reuter** of the Department of Geophysical Science; **Dr. Stanton Smith** of the EES's Waste Utilization Laboratory; and **Dr. Robert Ingols, Dr. T.F. Craft** and **Joseph Lupton** of ASL.

This study complements another one underway funded at \$420,000 for five years with Dr. Havlicek again as Project Director to determine the nature of materials leached from plastic piping.

Industrial City Concept Study

The industrial park concept has proven successful in many cities throughout the U.S., but what of an industrial city? Would it be feasible and would it survive?

EES researchers will address these questions during a seven-month feasibility study now underway. Headed by Research Scientist **David Clifton**, of EDL, the study is supported by a \$60,000 grant from the North Georgia APDC and the EDA.

North Georgia voters and state legislators approved the industrial city concept in 1972. The referendum placed the proposed city concept within the three counties of Whitfield, Gordon and Murray. A municipal charter was drawn to establish the city's powers and to implement its developmental phase.

Industrial city supporters feel the tri-county location will encourage industrial development and, in turn, lead to increased job opportunities for the area's population. Development will also provide a second round of employment opportunities for area residents through meeting the personal service needs of those employed in the industrial city.

Assisting Clifton are **Sallie Daniell, George Dodson** and **Robert Cassell**, all of EDL. "Site selection, resource analysis, cultural aspects and economic input will be researched before we prepare any reports," according to Clifton.



Station To Station

As I enter my eighth month as Director of EES, I continue to seek new mechanisms for communication with the Station staff. Hopefully, this monthly column will be a useful addition. One thing about it is certain: it will change as time goes by — and that introduces the theme for this issue's remarks.

In the last few years, the EES growth rate has accelerated enormously, with a 38% increase in FY 1976 and 32% projected for this year. To accommodate such growth, we have had to try new structural modes and will have to continue experimenting on paper and in practice with patterns for growth, eventually determining which growth patterns to select. It may be inconvenient to make new charts and lists of names, numbers and titles, but let it be nothing more threatening than an inconvenience. Growth does have its happy aspects, too, in mounting maturity, money and the increased value of our contributions to humanity.

We must not be afraid to change. If anything, we should be afraid of stagnating. One of my goals . . . our goals . . . for EES is to provide an atmosphere that will sustain change. Getting to know each other better is part of that. Almost every day, I'm able to associate a few more names and faces; I'm determined to be able to become acquainted with each of you in time. My wife and I hope that the series of get-togethers for each laboratory and the service groups at our home will help you become better friends with each other, as well as with us. Also, at my office in Hinman, the door is always open to your problems as well as to good news, not just administrative, but ordinary types. I want to achieve a closeness throughout EES.

Stability of concept remains. I have an unshakeable faith that if the house is built right, the organization will not only survive but will flourish. In examining functions of our groups, the External Advisory Committee made recommendations and projections, and out of that evolved seven internal committees which are

now winding up final reports. Salient facts will be shared with you as soon as possible.

People shouldn't have to wonder what's going on. We are continuing to bring things into the open which should facilitate change because understanding will be greater.

As you know, our EES capabilities on all levels carry a burden just as does the bright man who says he wants to live up to his potential. Quite a burden that is . . . especially when we are now noticing that no longer is the sky a limit.

Donald J. Grace



Dr. Donald J. Grace

More on Reorganization

Effective March 1st, the Systems Engineering Division, under the direction of **R. P. Zimmer**, will report to the EES Director's Office, with staff liaison and coordination provided by **H. A. Corriher**. **W. E. Sears** will serve as Associate Division Chief.

Two Branches of the Systems Engineering Division (SED) will be *Defense Systems*, with **T. M. Miller, Jr.** serving as Branch Chief and *Systems Technology* under **Neil B. Hilsen**.

RAIL News

Employees of the newly-formed RAIL had a chance to get to know one another when they attended a recent Lab party given for them by **Dr. & Mrs. Grace**. Everyone had a good time and thank the Graces for their hospitality.

George Ewell visited Steamboat Springs, Colo. on March 13, to evaluate a program being conducted by the University of Kan. for Eglin Air Force Base on snow radar backscatter. He was able to make a positive contribution toward the correlation of the radar results with the actual snow characteristics which he observed physically on the Steamboat ski slopes.

Clark Butterword, Carl Taylor, Nick Currie, and Bob Trebits participated in field tests at Boca Raton, Fla., in support of NRL measurements on sea return, during March.

Welcome to **Shirley Busby**, who is now working as a secretary in RAIL's Radar Technology Area. Shirley, a native of Ala., has lived in San Diego, Virginia Beach and New Orleans, before moving to the Atlanta area.

Frank and Anne Williamson have a new addition to their family: a baby girl they've named Lori Anne. Frank and Anne now have three children — all girls.

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EES Golfers



Left to right: R. Tatum, "Skipper" Renfro, J. Donovan, B. Atcheson, G. Harrison, W. Borchert and O. Rodgers.

On 23 March, an aging but eager collection of golf "hackers" from EES/GT turned out at the Ft. McPherson golf course for a spring warm-up match handily won by Billy Atcheson of EES Accounting.

Air Alert

Dick Hodges of the Countermeasures Division, STL, reports that the recently acquired T-29B aircraft is now ready for operation. The new Airborne Electronics Laboratory is awaiting its first project.

Systems Engineering Div

W. E. Sears, Harold Engler, George McDougal and Rick Thomas attended the 2nd Annual Dixie Crow Club Electronic Warfare Symposium at Warner Robins, Ga., on 16-17 March. George McDougal presented a paper entitled "Computer-Aided Electronic Warfare Equipment Test and Evaluation"; and Rick Thomas presented a second paper on "Dynamic Radar Cross Section Measurements to Provide Large Angular Coverage."

Lloyd L. Lilly is recovering from major surgery and hopes to return to work within the next month.

David Wilkins attended the Sixth Annual Remote Sensing of Earth Resources Conference March 29-31 in Tullahoma, Tenn.

David Wilkins and Frank Gramling presented two papers entitled "Benefit Assessment of Ozone Monitoring" and "Systems Theoretic Model of Stratospheric Pollution on Ozone" at the 1977 Southeastern Symposium on Systems Theory in Williamsburg, Va., on April 4-6.

EDL Personalities

A paper by Don Lodge entitled "Some Comments on Appropriate Technology for Rural Areas" will be read at a Conference on Factors Affecting Rural Development in Less-Developed Countries. The conference will be held April 11-16, 1977, at the University of Science and Technology in Kumasi, Ghana.

David Clifton and David Fyffe, ISyE and part-time EDL, are the authors of a new book being issued this month by John Wiley and Sons, New York. Entitled *Project Feasibility Analysis: A Guide to Profitable New Ventures*, the volume is a manual for the preparation of feasibility studies and investment proposals. It describes, step-by-step, how to perform market analysis, technical analysis and financial analysis of prospective business ventures.

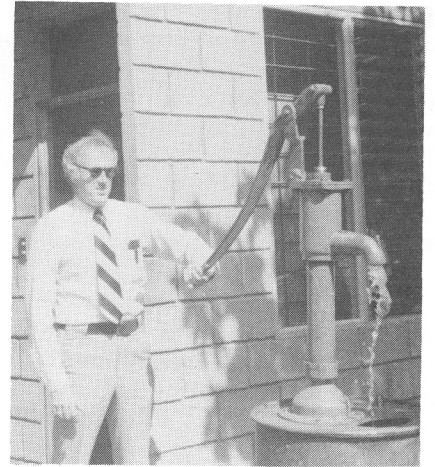
Ross Hammond has been elected a Fellow of the American Institute of Industrial Engineers. This month, he will present two seminars: On April 4, he spoke on appropriate technology to graduate students at Washington University in St. Louis, and on April 15, he will speak on technology utilization in Georgia and internationally to faculty members at Duke University.

Seminar Series on Contract Development

The Seminar Series on Contract Development will be conducted in April:

18 April	Introduction Organization of Sponsoring Agencies Federal Budget and Contracting	R. C. Johnson R. C. Johnson E. E. Renfro
19 April	"M&M" (Mission and Money) Personal Contacts	H. A. Corriher J. M. Spurlock
20 April	Proposals CD with Non- Federal Organizations Panel Session	R. C. Johnson R. L. Yobs All Lecturers

Sessions are 4 to 6 PM each day in the Physics Building, Lecture Room #3.



Project director Phillip Potts tries out a prototype of the AID water pump on location in Costa Rica.

Field-Testing of AID Pump to Begin

The hand-operated water pump testing project, sponsored by the Agency for International Development and administered by the International Programs Division (IPD) of EDL, is going into high gear in April. Phillip Potts will be on site April 17-May 6 to oversee installation of the AID-designed pump at 30 rural locations — 15 each in Costa Rica and Nicaragua. For comparison purposes, 15 other pumps of various kinds available in the local markets also will be installed in each country. IPD, the Central American Research Institute for Industry, and local Ministry of Health officials will monitor their operation for one year, at the end of which time they will evaluate the performance of the AID pump in comparison with the others.

One manufacturer in each country was selected to manufacture the AID pump. This was the biggest selling point to cooperating government officials, according to Potts — that the equipment could be produced locally, creating jobs and stimulating the local economy, as well as guaranteeing the availability of spare parts in case of breakdown. It is estimated that there is a need for over 47,000 water pumps in Costa Rica alone.

The pump is low-cost, easy to build, simple to operate, and it is hoped that it will prove to be reliable and relatively trouble-free. Based on the results of the field-test, AID and IPD hope to expand the pump program to other developing countries worldwide.

PTAL News

Stanton Smith delivered a technical paper on "Regeneration of Activated Carbon" before the 19th Public Water Supply Engineers Conference, University of Illinois, which was held on April 5-7, 1977, in Champaign, Ill.

PTAL in cooperation with the Georgia Business and Industry Association conducted two workshops entitled "Energy Conservation Systems for Manufacturing Industries" on March 22 and 24 in Rome and Athens, Ga.

Grant Curtis, Rich Combes and **Ron Pearl** presented findings of research carried out under the sponsorship of the Economic Development Administration of the U.S. Department of Commerce.

Solar Fair

PTAL and EDL and the Georgia Forestry Commission will be participating in the Georgia Solar Energy and Energy Conservation Consumer Fair to be held April 16-19 at Shenandoah.

The display will feature information on energy conservation research currently underway as well as alternative energy sources — solar and biomass — which the groups are developing. Sponsored by the Georgia Solar Energy Association and the Georgia Conservancy, the fair will be open to the public Saturday, 9-6:00; Sunday, 1-6:00; and Monday, 9-6:00. It will be held in the Shenandoah Community Center Building, the largest solar heated and cooled building in the world.

Rick Wright, and Gary Bronn, have joined PTAL's Productivity Systems Division and will be concerned with energy conservation research.

PTAL also welcomes **Gary Kelly,** who is on assignment from the City of Atlanta.

Services

Laurie Chambers is the new receptionist in the Alexander Memorial Coliseum (WGST) Building and works with the Reports & Procedures and Supply Services Departments.

Lesia Holl is a new employee in the Accounting Department. Lesia works with the petty cash operation.

Sharon Sebaly New PR Assistant



Sharon Sebaly

Since March 15, **Mrs. Sharon Sebaly** has been the new assistant to **Jim Donovan** in the Publications and Information Office. She replaces **Bette Justice**, who has taken a position in the Advertising Department of the Edwards Pie Co. in Atlanta.

For the past nine months Sharon has been working with **Jack Spurlock** in ASL. She has a background for work in publications with a degree in Communications and English from the University of Michigan as well as advanced studies in English. She has been a freelance writer, newsletter editor and has worked on community publications. She also has had experience in public relations, publications production and has taught English.

Sharon was born in Michigan and has three children.

Ron Pearl to IBM

Ron Pearl, Research Engineer with the Productivity and Technical Applications Laboratory, has resigned from EES, effective 15 April, to accept a position with the General Systems Division of IBM. Ron will assume computer marketing responsibilities and will remain in the Atlanta area.

Ron joined EES as a student assistant in 1967 and became a full time employee in the Radar Branch, June 1968. He has our best wishes for his future success.

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EDL International Activity Briefs

Dick Johnston was in Korea and Indonesia from mid-February to mid-March. In South Korea, he assisted Soong Jun University in building its economic development information collection and advised on its small industry assistance program. In Indonesia, he visited a recent addition to Georgia Tech's roster of foreign counterparts — the Development Technology Center at the Institute of Technology Bandung.

EDL's newest counterpart is the Institute for Technical Research in Santiago, Chile. This brings the total number of cooperating institutions in less-developed countries to eleven.

Harlan Davis will be in Brazil April 4-22. He will present a seminar to staff members of FESSC, EDL's counterpart in Tubarao, and advise on its small industry extension work.

Anita Eubanks has replaced Beverly Norris as secretary in EDL's Industrial Development Division. Anita is the sister-in-law of **Joyce Smith,** also of EDL.

The mother of **Mildred Cole** passed away on March 24.

★ ★ ★ ★

ETL News

Richard Moss and **Hank Jenkins** traveled to Fort Monroe, Va., on March 3 and 4 for a technical briefing at TRADOC.

Hugh Denny and **Don Clark** traveled to Syracuse, NY, on March 24 and 25 for a technical conference at Rome Air Development Center.

Ron Wallace attended the Public Service Communications Satellite Workshop sponsored by NASA/GSFC. It was held in Washington, DC on March 27-29. Other Georgia Tech attendees were **Dr. D. J. Grace** and **Dr. William J. Lnenicka.**

Spurgeon Robinette visited with NELC in San Diego, Cal., for program development discussions.

Bill Free and **Don Clark** traveled to Fort Monmouth, NJ, on March 3 for program initiation discussions.

Ernie Donaldson and **Richard Moss** visited at the Advanced Technology Center of the Ballistic Missile Defense System in Huntsville, Ala. on March 10 to discuss program development.