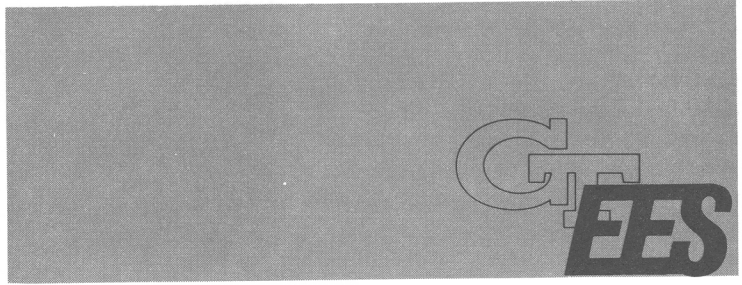


STATION NEWS

ENGINEERING EXPERIMENT STATION • GEORGIA TECH



VOLUME 7 NUMBER 3

APRIL, 1978

Structural Steel Paint Under Study

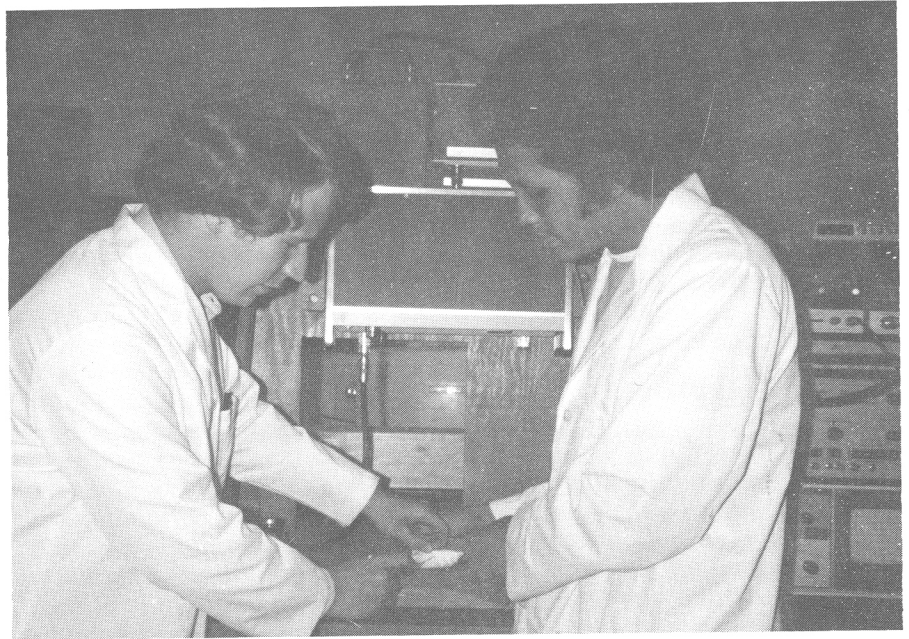
The Transportation Research Board of the National Research Council has awarded a \$150,000 contract to EES for a nationwide study of coating systems for painting old and new structural steel.

According to the principal investigator, **Daniel J. O'Neil**, of TDL, the 27-month project will be the first comprehensive study since 1968 of existing and recently developed paint and coating systems for corrosion protection of structural steel. The results of the study will be used to establish guidelines for manufacturers and users, especially highway departments, of steel coatings.

O'Neil indicated that millions of dollars are spent each year by highway departments for the maintenance of bridges, culverts, guardrails and other steel structures and that there is wide variation in the selection and use of paints by the different states. With stiff environmental regulations in effect in California, and being proposed by OSHA and EPA, new paint systems which meet health and environmental criteria must be identified. Since exposure conditions vary widely in the U.S., it will be necessary to specify coatings on the basis of categorized environmental zones.

One phase of the study will involve experimental testing of potentially usable coatings in a coastal zone in Brunswick, Georgia.

In addition to establishing guidelines, the EES study will have an objective of identifying areas and



Clif Burdette is project director for a recently awarded grant with the National Cancer Institute. The two-year study for \$140,000 involves measurement of certain properties of normal and cancerous-type tissue, and EES researchers will be working with the Emory School of Medicine. Shown left to right are Clif Burdette and Joe Seals preparing a test subject for measurement.

priorities for future research in the United States for coatings of structural steel.

The project team includes **W. H. Burrows**, **F. A. Rideout** and **E. M. Dannenberg**, all of EES.

Advisory Board Meets with EES

The National Advisory Board for Georgia Tech met with EES unit heads and OOD on April 14 to examine EES growth, development and to discuss problems. The Board is composed of Georgia Tech alumni.

Sun Day

The Georgia Tech Student Government Association (SGA) recently passed a resolution stating May 3 will be recognized as Sun Day by the Tech community. Additionally, the Tech community will also recognize May 1-7 as Solar Celebration Week.

Communities nationwide are planning activities to mark the day including celebrations, rallies and solar fairs.

Open House at Solar Test Site on Sun Day!

Systems Engineering Division

SED welcomes **Mr. John M. Moskaluk**, who comes to SED from Civil Engineering where he is presently working towards his Doctorate Degree. Major fields of interest are research and operations planning and transportation.

Armand Masse, co-op student in SED, has completed his seven quarters of co-op work, and is now devoting time for preparation of graduation from Georgia Tech. Good luck to Armand at graduation and in the future!

On March 15 and 16, **Robert P. Zimmer** visited Washington, D.C., and visited NASA Headquarters, NASA Goddard, the Federal Aviation and the Department of Agriculture.

The Engineering Experiment Station booth at the EW Symposium in Warner Robins was a success. A special thanks to all those who helped make it possible!

Radar Meteorology Conference

Identification of tornadoes and hail with radar was the major topic of discussion at the 18th Conference on Radar Meteorology co-hosted by Georgia Tech and the American Meteorological Society March 28-31 at the Sheraton-Biltmore Hotel.

The sessions included discussions of the use of radar in observing convective storms, widespread precipitation and echos from the clear atmosphere. Other areas of discussion included measurement of winds and turbulence, measurement of precipitation and radar data in climatology and radar data processing and display.

Many participants at the conference are involved either directly or indirectly with Doppler radar experiments at the National Severe Storms Laboratory (NSSL). A Doppler radar is capable of detecting unusual wind structures, such as the localized rotating flow preceding the development of a tornado, 20 to 30 minutes before a tornado forms.

Dr. James Wiltse Joins EES



Jim Wiltse

In our continuing effort to build the EES staff capabilities with talented and experienced researchers, EES has obtained the services of **Dr. James C. Wiltse** as of April 3.

Jim Wiltse comes to EES from the Martin Marietta Corporation, Orlando, Florida, where his last position has been Director, Research and Engineering Operations. He has been with Martin Marietta Corporation since 1964 and has worked as a principal scientist, laboratory chief, department manager and Engineering Director for Research and Technology.

His primary research areas have been in electro/optics, radar, microwave and antennas, electronic ground support equipment, guidance and telemetry and various other related fields.

Dr. Wiltse is a 1952 EE graduate of Rensselaer Polytechnic Institute and received his Ph.D. in Engineering at Johns Hopkins in 1959. He has authored numerous papers and publications and was selected the IEEE Region III Outstanding Engineer of the Year in 1975.

He will be a PRE located in the Director's Offices, Hinman Building, initially.

Welcome aboard, Jim.

EML News

For those of you who work down to the wire on submitting a proposal may appreciate one of the sagas experienced by **Lance Webb** of EML/RSD. The last paragraph had

been written and the last correction had been made, the Air Courier Service had made the pick-up with 8½ hours to spare. . . But, one small problem remained: Atlanta Airport was fogged-in. The customer refused to extend delivery time. It was Webb to the rescue (no 200 page proposal was going to sit at the Atlanta Airport). So, back-up plan #12-b went into effect. Lance flew off in his private plane and hand delivered the proposal to the customer with 15 minutes left on the clock.

J. M. Schuchardt, J. A. Stratigos, V. T. Brady and D. O. Gallentine traveled to Washington, D.C., Boston, Mass., and NYC in March to hold technical discussions with NRL, NASA and TRG.

Lanita Soloman, EML/RSD, attended a one-day seminar. "The Managerial Woman" at Emory University, February 22.

EML welcomes **J. A. Gagliano, R. E. Forsythe, P. B. Reinhart and O. A. Simpson** to its staff. Joe Gagliano and Ron Forsythe will be working in the Radiation Systems Division and Phil Reinhart and Orman Simpson have joined the Electro-Optics Division.

M. D. Blue, J. J. Gallagher and R. W. McMillan presented papers at the Third Sub-Millimeter Wave Conference in Guildford, England, during the week of March 27th.

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J. A. Donovan, Editor	3405
Sharon Sebaly, Assistant Editor	3405
Associate Editors:	
Deborah Arianil	3445
Maggi Rampling	3523
Mary Ann Clarke	3507
Martha Ann Stegar	3873
Marilyn Huber	3500
Mary Ann Mayo	3414
Linda Beasley	3552
Peggy Simcic Bronn	3623
Lanita Soloman	3505
Barbara Cartledge	3703
Albert H. Becker, Reproduction	3570

Technology and Development Lab

After ten years with Georgia Tech, **Charles Wommack** has resigned EDD to operate his own company, Wommack and Co., and to serve as a financing advisor for businesses.

Bob Cassell flew to Louisville, Ky., and Jeffersonville and New Albany, Ind., to review interim reports with local development groups. Bob also went to San Antonio, Tex., to attend the mid-year meeting of the Southern Industrial Development Council (SIDC).

Doris Willmer went to Washington, D.C., to submit pre-proposals to the Department of Transportation and EDA. She also went to Alma, Ga., to talk with the Alma-Bacon County Development Agency in preparation for writing an energy management proposal for the city of Thomaston, Ga., to be funded through the Department of Labor. In addition, Doris and **Grant Curtis** made a presentation to Saint Joseph's Hospital board members on the just-completed energy conservation project developed for the Savannah hospital.

Dale Atkins and **Peggy Simcic** were married in separate ceremonies on March 30 and March 9, respectively. Dale will retain his surname and Peggy will now be known as **Peggy Simcic Bronn** (pronounced Brun).

The Technology and Development Laboratory has added more personnel:

Joyce Culpepper replaced **Linda Hoyal** as the Industrial Extension Division secretary, effective March 13.

Dan O'Neil's Chemical and Material Science Division has two new chemists and technicians — **Frank Rideout**, **Charles Ray**, **Paul Hawley** and **Kim Williamson**.

Chuck Carr, **Jim Clark** and **Tom McGowan** are new engineers with **Rick Wright's** Systems Research Branch of the Energy and Engineering Division of TDL. Chuck and Jim work on the textile projects, and Tom will be working on the granite-industry projects.

Jerry Birchfield's new secretary is **Mary Haynes**.

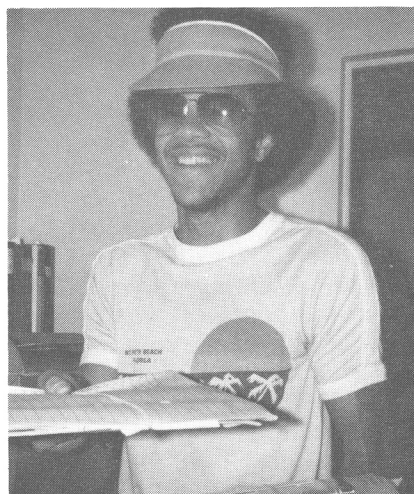
Two people have been hired for **Bill Studstill's** Industrial Energy Extension Service — **John Owen** and **Danny Reed**. Both are Tech graduates. Bill has a new secretary, **Carolyn Schneider**.

Applied Science Lab

R. A. Young organized and chaired a session of a Dynamical Diffraction Symposium at the American Crystallographic Association meeting March 19-24 in Norman, Oklahoma. The symposium honored Professor P. P. Ewald, the founder of the dynamical theory of diffraction, in his 90th year. Dr. Young also participated in business meetings of the USA National Committee for Crystallography of the ACA and of several ACA committees. He was a co-author of a poster-paper on "Standards for the Publications of X-ray Powder Patterns."

Derrold W. Holcomb attended the International Association of Dental Research meeting March 16-19, and he and **Dr. P. E. Mackie** attended the 3rd International Tooth Enamel Symposium of the IADR in Washington, D.C., March 15-23.

During the week of March 27 Professor Norio Kato, the world's leading active authority on the theory of dynamical diffraction, visited APB and gave a seminar lecture on "X-ray Diffraction Topography."



Spring at EES brings visors, shades, scintillating teeshirts and, of course, the mail by reliable and cheerful Teddy Reed.

RAIL News

Jim Sturrock and **Fred Dyer** presented papers at the 3rd Annual Old Crow Electronic Warfare Symposium held at Warner Robbins AFB in March. "A Family of Generic Displays for EW" by Jim Sturrock, **Pat Ryan**, and Fred Dyer discussed a system with the ability to mimic the display generic to certain foreign radars and allow display configuration without hardware changes. "Real-Time Delectability Analyzer" by Fred Dyer, **Bill O'Dowd** and Pat Ryan described the unique features of the RTDA, a highly-sophisticated system developed at EES in Project STONEGATE. Others attending the meeting were **Dave Plummer** and **Pat Mathiasmeier**.

Mike Tuley, Head of Propagation & Modeling Branch, was invited to attend a three-day workshop hosted by the Air Force HQ, Washington, DC. Mike had a good opportunity to exercise his expertise in radar clutter modeling.

Bill O'Dowd and **Steve Zehner**, TD/ESMD, spent most of the month of March aboard ship as consultants to the Navy on an exercise in microwave propagation.

Chet Goins, **Al Plaster**, **John Balsam** and **Bob Newsom** have spent the majority of 1978 in Fort Walton Beach, Florida, as a part of RAIL/TD's SADS VIM Simulator installation.

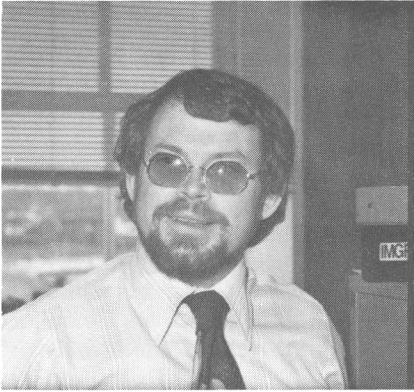
Nancy Boskoff has replaced **Shirley Busby** in the Radar Technology Area. Nancy previously has worked in the Electrical Engineering Department at Tech.

IEES Holds Seminars For Carpet and Rug Industry

The Industrial Energy Extension Service (IEES), located in the T and D Lab., has been emphasizing technology transfer in a series of one-day seminars on energy conservation in the carpet and rug industry.

The seminars were held in Dalton, Ga., under the sponsorship of the Carpet and Rug Institute and the Georgia Office of Energy Resources. The seminars were on January 31; March 1; and April 4.

PERSONALITY



Nick Faust

In the Baker Building in the south central portion of the second floor, midst maps and computers and fellow researchers, one will find a dedicated scientist of exceptionally good nature and unexpected surprises: **Nickolas Lea Faust**, Research Scientist in Electromagnetics Lab.

Nick is usually wrapped up in LANDSAT remote sensing research, including making the data usable with the Earth Resources Data Analysis System he developed at Georgia Tech. According to a senior resource planner at the Department of Natural Resources, Nick Faust is the best in his field.

"NASA has had a permanent influence on my life," states Nick. When he worked as a co-op with NASA in Houston during his Ga. Tech undergraduate days, Nick gained exposure to the world of space and satellite communications, an experience which has grown into an enthusiastic expertise. One of his future goals is to see that underdeveloped countries have knowledge of their resources so that the world hunger might diminish.

There's much more to Nick's life-style and personality than first impression gives, and super-challenges are part of his pleasures. Hang-gliding in California, skydiving in Houston, hunting for cave writings in Mexico, kayaking on the awesome Section IV of the Chatoga River as well as having, at present, seven cats — these seem to be highlights. He has made a blitz tour of Europe and has worked with underprivileged youth. He used to be in Golden Gloves-type boxing. He is on two softball teams: one for EES and the other, named the *Turtles*, for the City League, and was on champion-

ship softball teams for NASA during the '60's.

Nick's wife Cheri and he own a house which formerly belonged to Mr. Lay of Frito-Lay fame. "We are renovating it," offers Nick. "There are so many interests in my life . . . too many. That's my weakness. I would also like to be *Dr. Faust* someday. Well read, highly motivated and aware of options in work and play, Nick Faust is not able to lead a boring life.

Reputed to be extremely hard-working and determined, Nick also wears well with people. Anger and stuffiness are definitely not his style. A modesty and understatement about his personal accomplishments is noticeable, and under duress he offers that he was awarded a NASA monetary Certificate of Recognition in the past. In order to find the gold mine of experiences in this Mississippi-born researcher now in his third decade, one needs ground truth, the right questions and a bit of remote sensing acumen.

Systems and Techniques Lab

Neal Alexander (STL) and **Fred Dyer (RAIL)** visited Redstone Arsenal to participate in a review of the Raytheon/GRC low-angle tracking program.

Jerry Heckman, STL/ACD, and Mr. David W. Misk of the AFAL Electronics Warfare Division presented a paper entitled "Operational ECM Pod Modification" at the Third Annual Electronic Warfare Symposium held at Robbins Air Force Base, March 20-24, 1978.

Jerry Heckman, Harry Andrews and **Don Gordon** recently completed a one-month ECM test program at the AFAL Electronic Warfare Anechoic Chamber. While at AFAL, Harry attended an FTD briefing sponsored by the Kittyhawk Old Crows Club.

The following people have joined the Systems Development Div. during February and March: **Denise J. Brewbaker**, Sec. I for SDD/EDB (Charles L. Hilbers); **Wilbur W. McMichael**, Electronics Specialist from ET III; **Joe K. Parks**, Sr. Research Scientist; **David A. Price**, Electronics Technician III and **P. Stuckey McIntosh**, Electronics Specialist.

International Programs

AID Water Pump Project

AID Washington is sending copies of IPO's "Second Progress Report on the Utilization/Evaluation of an AID Hand-Operated Water Pump" to all its missions worldwide. Several missions already have evinced interest in starting similar projects in other areas. **Phillip Potts** made a second visit to the Dominican Republic February 27-March 3 to draft a project paper for the AID Mission on a rural water pump supply program that tentatively will start in May, and an extensive rural water pump program may be set up in Pakistan. **Kermit Moh** will be monitoring the progress of the AID pump project in Costa Rica in April.

Small Industry Grant Project

Dick Johnston will be in the Philippines in April and in South Korea in May in connection with the AID Small Industry Grant project. He will be helping the Institute for Small-Scale Industries in the Philippines and Soong Jun University in Korea on their small industry extension programs.

Both of these Georgia Tech counterpart institutions are actively engaged in the design of appropriate technology devices to meet the needs of their industrial clients.

In 1977, the staff of ISSI's field office in Tacloban, P.I., designed and constructed a wood lathe now in use by a local furniture plant. They also designed a cart for handling raw materials and waste in a wood products plant and began work to adapt an improved band-saw design for future use in the region's wood-working plants.

New Guatemala Project

Nelson Wall was in Guatemala March 13-14 at the request of the AID Mission to prepare a project design and implementation paper for a rural development and appropriate technology project. He will return to Guatemala in April and May to carry out the work over a four- to five-week period, as well as to conduct a training program for staff members of the Central American Research Institute for Industry (ICAITI). **Ross Hammond** was in Guatemala in the first week in April to plan phase two of the ICAITI industrial extension program.