

# STATION NEWS



ENGINEERING EXPERIMENT STATION • GEORGIA TECH

VOLUME 2 NUMBER 7

AUGUST, 1973



Nickel-tin alloy sphere.

## SKYLAB SAMPLES STUDIED

The Analytical Instrumentation Lab (AIL) is studying unique and valuable metal specimens — small spheres approximately  $\frac{1}{2}$  inch in diameter manufactured during the recent 26-day Skylab experiment. Considering the proportionate costs of the Skylab program, the value of the spheres is conservatively estimated at several million dollars each. NASA considers them far more valuable than moon rocks.

The object of the experiment is to

study the solidification behavior of molten metals in the absence of gravity. The spheres are alloys of nickel, and a series of specimens produced on earth has already been analyzed for comparison with the Skylab samples. It is hoped that the zero-gravity samples will show unique metallurgical structures not evident in the ground-based samples.

The combined results of AIL and the other investigators across the country will represent the sum total of world knowledge on the behavior of molten metals under zero-gravity for years to come.

**Metric System.** More and more companies are discussing what may soon be our national method of measurement. One of the most amusing appeared in *Moonbeams*. The Editor asked readers to suggest well-known songs, sayings, movies, etc., that would pass into

obsolescence with metrication. A few entries: pound cake would now be 0.45 kilogram cake; "Five Foot Two, Eyes of Blue" would now be sung "1.5748 meters, eyes of blue; "20-20 vision would be 6.09-6.09 vision, etc. *Proctor & Gamble*, Cincinnati, OH

## MASTER CAMPUS CALENDAR

Before scheduling any official event, occasion, affair, etc., check the availability of suitable dates with the Office of Public Relations, Ga. Tech. After ascertaining the availability of said dates officially notify the Office of Public Relations of the desire to reserve such dates.

Note that this does *not* change the procedure for scheduling and reserving *facilities*, but merely establishes a master calendar. The method now used for reserving auditoriums, meeting rooms, etc., should continue to be used.

It is the hope that the master calendar will be of benefit to the entire Georgia Tech community and will serve a useful function in the orderly scheduling of events. If you have any questions about this new procedure please call Mr. John Culver, Director of Public Relations, Ga. Tech, at Ext. 2454.

## FISH STORY

A news release about the work of Radar Division's Lee Edwards on the reaction of fish to electric currents was sent to various media in April. One early July morning Claudine Taylor was deluged with requests for reprints of Lee's report. The mailman brought her 41 requests from 20 states and Canada, colleges, fish farms, game and fish commissions from Maine to California, the U.S. Department of Interior and the U.S. Army. The Sport Fishing Institute publication of the work had resulted in the numerous requests and publicity for EES.

## STUDENTS TOUR EES

Thirty-one high school students toured the EES facilities June 27. They are taking part in a National Science Foundation program, spending seven weeks on the Tech campus studying textile engineering with **Dr. John Lundberg**.

Assistant Director **Rudy Yobs** welcomed the students on their tour, then they went to the Analytical Instrument Lab where **Wayne Cooper** showed the various microscopes. **Dr. C. O. Pollard** told about the Crystal Physics Branch before the group went to the Nuclear Reactor to be guided by **N. Kirkland**. The tour ended at the High Temperature Materials Division where **E. Welsh** was host.

**Dr. Stephen Spooner** of ASD toured with nine of his senior chemical engineering students July 10. They visited the Analytical Instrument Lab and the Industrial Development Division.

**Dr. John Husted**, TAG, contributed a section on Nonmetallics, Industrial Minerals and Rocks to the *S.M.E. Mining Engineering Handbook*. This will be an up-to-date general reference on mining engineering, published by the Society of Mining Engineers of the American Institute of Mining, Metallurgical and Petroleum Engineers.

Mr. and Mrs. Henry Cotten have announced the birth of a daughter, Lydia Meryl, on June 8.

## IDD ADDS EMPLOYEES

**Nancy McHan** is the new senior secretary in IDD's Area Development Branch, replacing **Judi Germano**. Now that her husband, Trent, has received master's degrees in civil engineering and city planning, Judi is looking forward to full-time homemaking and motherhood (in August). This is a promotion and a transfer for Nancy, who formerly worked at Tech's Nuclear Reactor.

IDD also welcomes **Linda Harley** as secretary in the Industrial Services Branch. On July 2, **Earl Logan** will join the International Development Branch with the title of Senior Research Engineer.

## EES PEOPLE ON THE MOVE

**H. S. Taylor**, IDD, attended the National Council for Small Business Management Development conference in West Virginia June 23-28. . . **S. P. Brookshire**, S&T, attended the Coherent Radiation Systems conference in Henniker, N.H. July 1-6. . . Publications Head **J. A. Donovan** was at the American College Public Relations Association conference in San Diego July 9-11. . . IDD's **G. Parets** attended the Southeast Asia Development Advisory Group conference in New York July 9-12. . . S&T's **G. W. Spann** presented a paper at a U. of Maine conference July 9-13. . . July 10 **M. E. McLain**, NBSD, met with a pulmonary research group at Baylor U. School of Medicine to organize an evaluation study. . . **A. H. Becker** of the Office of Research Administration attended the National Classification Management Society seminar in Washington July 15-20. . . PSD's **J. W. Johnson** and **J. L. Brown** attended a contractor's conference and received samples produced in Skylab I in Huntsville July 16-17. . . **E. F. Greneker**, S&T, attended the Southeastern States Game and Fish Committee conference in Florence, Ala. July 16-18. . . **R. W. Hammond** of IDD participated in a seminar on University-Community Interactions and Industrial Development at the East-West Center in Honolulu July 20-28. . . **E. Martin** and **N. Currie**, S&T, attended Data General Corporation Computer School in Boston July 22-27. . . **K. E. Newkirk**, Accounting, attended the Annual College Business Management Institute at the U. of Kentucky July 29-Aug. 3. . . HTMD's **H. L. Bassett** and **J. B. Langley** made measurements at the solar furnace July 30-Aug. 24. . . **F. C. Apple**, NBSD, will attend the ANS Reactor Operations conference at Myrtle Beach, Aug. 5-8. . . HTMD's **M. Marek** will be in Des Plaines, Ill. for an NIDR symposium on dental biomaterials Aug. 6-8. . . **W. C. Howard**, IDD, will be at the U. of Oklahoma for the Industrial Development Institute Aug. 13-18.

## Editorial

In today's interdependent society all institutions are invested with public responsibilities. They must accept accountability for their actions as they affect others. The trend towards full acceptance of their public obligations to those they serve or affect is becoming increasingly clear to all institutions and organizations. Most business leaders today are convinced that they must manage their operations in a way that is fair to everyone who is affected, making a constructive contribution to society of which they are a part. Management is constantly having to consider how discussions, policies and production will affect the various public groups involved. Responsible performance on the part of a corporation, governmental agency or non-profit organization is the foundation of sound public relations. In the broadest sense, public relations are the responsibilities of an organization's directing executives — not its staff specialists. The purpose of public relations is to influence public opinion — and it is a basic function of management and administration.  
*(From "Effective Public Relations," Cutlip and Center).*

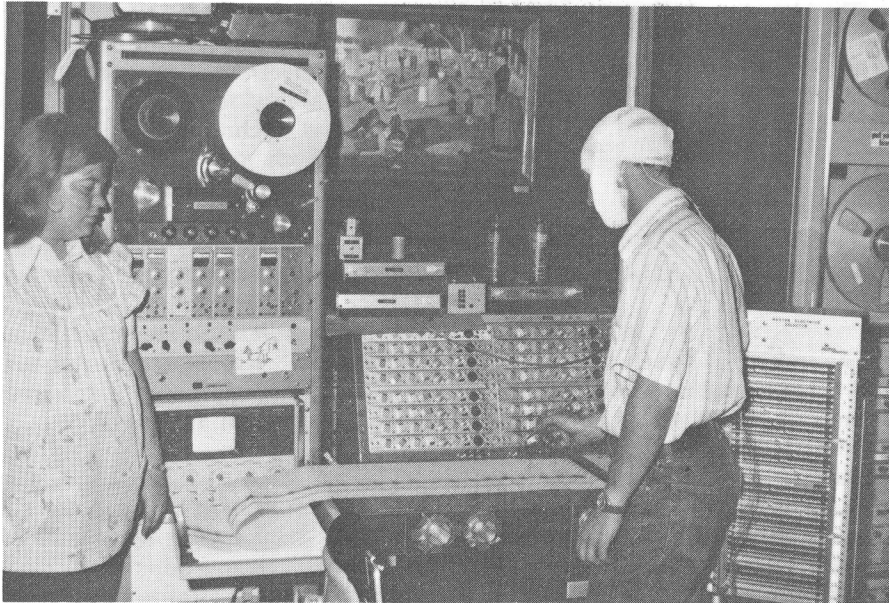
**Anne Clayton**, who has been working the Radar Division as a GRA, is now an Assistant Research Scientist in that Division.

**Linda Beasley** is a new employee in Reports and Procedures.

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### ... Is That My Chart?

Talk about odd hobbies. **Harris T. Johnson**, ARE with Systems and Techniques, has spent many nights at the Georgia Mental Health Institute in a drug effects study conducted by **Dr. Gerald S. Vogel**. In these studies subjects such as Mr. Johnson are wired with electrodes to monitor EEG, Eye Movement, and EMG. Then a chart recording is made of each of these vital statistics. This chart is later analyzed for changes in the normal pattern of sleep due to various new and previously untested sleeping drugs. Harris says "Not only have the people I've met and the things I've learned been interesting, but where else can you get paid for sleeping on the job?"

S&T Dept.

E. E. Donaldson and J. C. Toler, Communications Division, were in New York City July 21-23 to attend the 1973 IEEE International Symposium on EMC. Jim was on a panel to discuss "EMC and the Pacer-maker."

S&T staffers attending the Tri-Service Radar Symposium in Colorado Springs in July were **R. C. Johnson**, **H. A. Ecker**, **H. A. Corriher, Jr.**, **J. L. Eaves**, **R. J. Hodges**, and **E. K. Reedy**. **Dr. Ecker** and **Messrs. Eaves and Hodges**, all of the Radar Division, presented papers at the Symposium.

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### BUSBY JUDGES

**William H. Busby, IDD**, served as one of the preliminary judges for the first Miss Bronze Atlanta Pageant held July 20 at the **J. F. Kennedy Community Center**. Ten semi-finalists will compete in the state finals whose winner will go to the national competition.



### IDD ON THE GO

**Jerry Webb** has transferred from the Photo Lab to IDD, replacing **John Cuevas** as staff artist. John has become art director for Farnan Advertising.

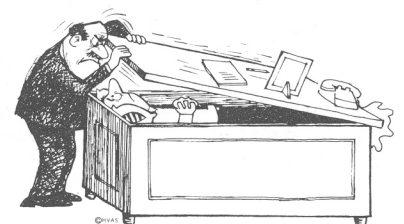
**Mary Camp**, secretary for IDD's International Development Branch, spent the month of July in Guayaquil, Ecuador, visiting her family.

**George Dodson, IDD**, presented the Certified City awards to seven Georgia cities at the Georgia Municipal Association Annual Meeting in Savannah June 25.

**Ross Hammond, IDD** chief, was in Honolulu, Hawaii, July 20-28 at a Workshop on Innovative Action for Better University-Community Interaction sponsored by the Technology and Development Institute of the East-West Center. He presented a paper entitled "Benefits and Problems Associated with University-Community Interaction: A Case Experience."

### TWENTY COMMON ERRORS IN GOAL SETTING

1. The manager doesn't clarify *common objectives* for the whole unit.
2. He sets goals too low to challenge the individual subordinate.
3. He doesn't use prior results as a basis for using *intrinsic* creativity to find new and unusual combinations.
4. He doesn't clearly shape his unit's common objectives to fit those of the *larger unit* of which he is part.
5. He *overloads* individuals with patently inappropriate or impossible goals.
6. He fails to *cluster responsibilities* in the most appropriate positions.
7. He *allows two or more individuals to believe themselves responsible* for doing exactly the same things when he knows that having one responsible party is better.
8. He stresses methods of working rather than clarifying individual areas of responsibility.
9. He emphasizes tacitly that it is *pleasing him* which counts rather than achieving the job objective.
10. He makes *no policies* as guides to action, but waits for results, then issues *ad hoc* judgments in correction.
11. He doesn't probe to discover what his subordinate's *program* for goal achievement will be. He accepts every goal uncritically without a plan for successful achievement.
12. He is too reluctant to add his own (or higher management's) known needs to the program of subordinates.
13. He ignores the very real obstacles which will face the subordinate in achieving his goals, including many emergency or routine duties which consume time.
14. He ignores the proposed new goals or ideas of subordinates, and imposes only those which he deems suitable.
15. He doesn't think through and act upon *what he must do* to help his subordinate succeed.
16. He fails to set intermediate target dates (milestone) by which to measure progress of subordinates.
17. He doesn't introduce new ideas from outside the organizations, nor permit nor encourage subordinates to do so, thereby freezing the status quo.
18. He fails to permit targets of opportunity to be seized in lieu of stated objectives that are less important.
19. He is rigid in allowing the knockout of previously agreed upon goals which have subsequently proven unfeasible, irrelevant, or impossible.
20. He doesn't *reinforce* successful behavior or unsuccessful behavior when goals
  - are achieved or missed.





## EES PERSONNEL PARTICIPATE IN TUTORING EFFORT

by J. Conrad Meaders

In the latter part of 1971, Dr. Vernon Crawford issued a memo to members of the Tech faculty and staff. Plans had been made for the Continuing Education Department to offer a twelve-hour training course to train prospective tutors for Tech employees in the Food Preparation and Building and Grounds Departments. Literacy Action, Inc., a non-profit agency in Atlanta, conducted the course. The tutoring system taught was that developed (and later improved) by a missionary, the late Dr. Frank Laubach, in the Philippines in the 1920s. Currently, the system is available in over 300 languages, and the English system has been used 21 years in the United States. Basically, reading and writing skills from illiterate to the seventh-grade level are taught by the tutors.

The need for literacy training to benefit both the employees and Tech was obvious for a number of reasons. As an example, supervisors frequently had to seek employees and give instructions verbally since many could not read notes or schedules. This was a time-consuming effort. When canvassed, many employees indicated their interest if tutoring were made available to them.

Eighty faculty and staff members volunteered to take the tutoring course, and sixty-seven were able to complete it. There were some who could not be away from their offices sufficiently to take the course which was offered during the work day. Ultimately, forty-five tutor-learner groups were brought together.

Among the original tutor group were the following EES staff members: Betty Yarborough, Bill Acheson, Bob Bullock (and Mrs. Bullock), Jim Toler, Nick Poulos, Charles Smith and Conrad Meaders. Many factors contributed to the necessity for some of these to terminate their tutorial efforts. (Of the original forty-five, some twelve tutor-learner groups are still together at the beginning of 1973). Both black and white employees have taken advantage of the opportunity to be tutored, and there has been a range of ages with both sexes represented. At the present time, Charles Smith, Jim Toler and Conrad Meaders are still working with their learners.

Charles is working with a black man, and they are working in the third skill book. Jim is working with a Negro maid, and they are in skill book two. Conrad began with a black man who was in charge of several janitors in a building. When his student could not continue, Conrad began working with another. He is a white man who works on the grounds of the President's home. They are working in skill book four. Recently, these three completed, essentially, a year of working with their learners.

There have been many problems to overcome for each tutor-learner team, but their efforts still continue essentially at two hours of class time each week. The rewards are not all tangible, but one thing is sure — and that is, it is difficult to say who benefits more — the learner or the tutor.

## IDD LEADS COOPERATIVE PROGRAM EFFORTS IN SIX STATES

The Industrial Development Division is spearheading an effort by the organizations designated by the U.S. Economic Development Administration (EDA) as University Centers in the Southeast to find other funding as EDA is being phased out of existence. Representatives from six states met at IDD July 12-13, their third monthly meeting, and established a "formal organization to promote economic and business development" in the southeastern states, designating Hardy Taylor of IDD as spokesman.

**ABANDONED CARS** — Call the Police — 659-1313 to request removal.

## MIDGETS

Mitch Fowler (age 9) takes his victory lap in the final heat of 1/4 midget racing for his class. These races, which are sponsored by the Metro Atlanta Quarter Midget Racing Association, provide an interesting Sunday afternoon for spectators (its free) and a safe form of racing for boys and girls age 5-15. Emphasis is placed on

The Small Business Administration has invited a proposal for a "pilot project" to demonstrate the group's ability to provide management and technical assistance to clients, both pre- and post-loan. IDD would administer the contract, subcontracting portions of the work to other members. The consortium also may solicit funding from the Office of Minority Business Enterprise, the U.S. Department of Agriculture Rural Development Program, or any other interested U.S. Government agencies.

Dr. Jim Elliott of London is spending a month at EES to work with Drs. Ray Young and Paul Mackie on a crystal apatite study in the Crystal Physics Branch of ASD. Dr. Elliott is senior lecturer in biochemistry at the London Hospital Medical College. He was a postdoctoral fellow in physics at Tech in 1964-65.

**AMBULANCE EMERGENCY** — Call 659-1212.

sportsmanship, safe driving skills, and respect for the other drivers. EES fathers with children from 5 to 15 who desire information about a safer alternative to Little League baseball or football call Harris Johnson, S&T, 3553 or write:

Metro Atlanta Quarter Midget  
Racing Association  
P. O. Box 797  
Marietta, Georgia 30060

