CAMPUS NOTES

OUR SILVER ANNIVERSARY
25th
1958 - 1983

Dr. Alan Rice, assistant professor in Oceanography and Ocean Engineering, was presented a travel award by the European Geophysical Union. The award was for his research in "double diffusive and soret convections," and made possible trips to France and England for presentations of research findings to scientific groups.

Rice, serving as club secretary for F.I.T.'s chapter of Sigma Xi (the Scientific Research Society), has announced grant-in-aid recipients for 1983. They include students Martha Kelly of Satellite Beach, and Ann Atkinson of Waukesha, WI. Dr. Barbara Bernabe, assistant professor of psychology, was also awarded a Sigma Xi grant. Kelly is a senior majoring in chemical engineering and Atkinson is a graduate student in biological sciences. The grant money will help support research projects.

Dr. T. Roger Manley, head of Management, presented an address entitled, "Human Resources. Management in the Computer Age," at the recent annual national conference of Marriott Corporation on Human Resources Development Directors, in Dallas.

Dr. George C. Webster, head of Biological Sciences, reports that Dr. Leonard Hayflick, one of the world's leading cell biologists, recently visited F.I.T. to present a seminar on "Cell Biology and Human Aging" to faculty. Hayflick is director of the Center for Gerontological Studies at the University of Florida. He is the recipient of numerous awards for research on the use of cultured human cells to study aging.

Dr. Richard L. Turner, associate professor for Biological Sciences, recently completed a 10-day Atlantic research cruise aboard the *R/V Delaware II* — a 155-foot stern trawler owned by the National Marine Fisheries Service. Turner collected large numbers of echinodermsalong the continental shelf.

Dr. Glenn Cohen, associate professor, and Dr. Janie C. Park, instructor in Biological Sciences, presented research papers at the annual meeting of the Southeastern Electron Microscope Society in Atlanta.

Dr. William S. Alevizon of Biological Science recently participated in a meeting of the Association of Marine Stations of the Caribbean at Miami

Electrical and Computer Engineering faculty members who participated in a recent Southeast Conference of the Institute of Electrical and Electronic Engineers include Dr. Junho Choi, Dr. George K. Kostopoulos and Dr. Dimitri S. Bugnolo.

Dr. Wesley W. Shelton, associate professor for Electrical and Computer Engineering, co-authored a research paper entitled, "Attempts to Alter 45Ca 2+ Binding to Brain Tissue with Pulse-Modulated Microwave Energy," which was published in a recent issue of the *Bioelectromagnetics* Journal.

Congratulations Dr. Randall

President Keuper awards the honorary doctor of science degree to B. Camr Randall, senior vice president of Sun Banks Inc., speaker at Spring Commencement.

Dr. C. Allen Tucker, founder of the F.I.T. Language Institute and its director for 13 years, died on May 20.

Dr. James Stoms, Dean of the School of Management and Humanities, has a p pointed Dr. Randall Alford as d i i t o r of the Language Institute, it was announced by Dr. John Miller, Vice President for Academic Affairs.

Under Dr. Tucker's leadership, the institute grew to an average quarterly enrollment of 200. Students are from some 60 nations.

Dr. Tucker, who completed academic work at U.C.L.A., was an English instructor and school administrator when blindness caused him to change career directions. Turning to the field of English as a second language, he was education coordinator at the Chinatown English Language Center in San Francisco when recruited by F.I.T. m 1970.

Dr. Randall Alford, director of the Language Institute, was elected to the executive board of the Gulf Teachers of English as a Second Language (TESOL), at the organization's recent annual conference in Clearwater. Judith Strother and Grace Wylie of FITLI also attended the conference.

Strother also recently attended a seminar on the "Foreign Language Oral Proficiency Assessment," at the Educational Testing Service (ETS) headquarters in Princeton, NJ.

James R. Wetherington, adjunct faculty member for Management, recently had an article entitled 'Management by Objectives in Procurement: A Government/Industry Comparison," published in the National Contract Management Journal. The contract specialist for NASA is pursuing his doctoral degree at Nova University. Wetherington holds a bachelor's degree in management science and a master's in contract and acquisition management from F.I.T.

Dr. Thomas E. Bowman, head of Mechanical Engineering, has announced that Dr. Pat L. Mangonon will join the faculty in September. Mangonon was recently elected a Fellow by the American Society for Metals (ASM).

Dr. Robert Shearer, professor of philosophy and music, recently hosted a "Chopin Hour" in the W. Lansing Gleason Auditorium.

Jack Hughes, financial aid coordinator, was recently honored as "Administrator of the Year" by the Student Government Association (SGA) at the organization's annual awards banquet. This is the third consecutive year Hughes has been the recipient of the GSA award. Hughes and wife Lois Beaty will transfer to F.I.T. affiliate Hawthorne College in Antrim, NH, in August. Hughes will become director of public relations and alumni affairs. Beaty will serve as director of the Library there.

Dr. Arvind M. Dhople, head of the Division of Infectious Diseases at the Medical Research Institute (M.R.I.), recently visited for a month at the Research Institute for Experimental Biology and Medicine at Borstel, West Germany. The trip allowed establishment of collaborative programs in leprosy research between M.R.I. and the Institute's departments of Biophysics (Prof. U. Seydel), Pharmacology (Prof. J.K. Seydel), and Veterinary Medical Microbiology (Prof. J. Kazda).

During the same period, Dr. Dhople also presented seminars in West Germany at the Institute of Tropical Diseases at Hamburg, Keil University at Keil, University of Wurzburg at Wurzburg, Institute of Hygiene at Halle in East Germany, Tropical Disease Institute at Antwerp, Belgium, and Catholic University of Louvain at Brussels, Belgium.

Dr. Thomas Hand of Mathematical and Computer Sciences is attending two summer conferences, one on the FORTH programming language at the University of Rochester, and the other an ACM conference on computer graphics in Detroit.

Dr. Fred Buoni is working at the Jet Propulsion Laboratory in Pasadena, CA, on a NASA/ASEE Summer Faculty Fellowship program for the space agency. He is working on artificial intelligence applications to decision support systems.

Soccer leader new

Gianni Grimaldi, a former Rutgers College soccer star and a coach with unique qualifications, has been appointed to guide the F.I.T. soccer team.

The 29-year-old Grimaldi will replace Mike Eldridge, who had coached the Engineers since 1976. Eldridge resigned after accepting employment in another state, Jurgens said.

The native of Italy attended high school in Willingboro, NJ, winning all-state soccer honors. At Rutgers, where Grimaldi received his bachelor's degree in geography, he was a starter for four years of play and was a team captain.

From 1976 to 1979 Grimaldi played semi-professional soccer in New Jersey and in Washington, D.C., before an injury ended aspirations for a professional career.

The new F.I.T. mentor served in assistant coach positions at American University, Princeton University and at Indiana University of Pennsylvania (IUP). At IUP Grimaldi earned his master's degree in geography.

Anxious to broaden his knowledge of soccer, Grimaldi — who speaks both Italian and Spanish in addition to English — attended Italy's National Coaching School at Coverciano. He was the first North American and the youngest coach ever to complete the course.

Management expert helps with fund raising activities

Nancy Hanam, a management consultant with international experience, has been named special assistant to President Keuper. Her duties include assisting President Keuper in fund-raising activities.

"As the university continues to grow it is imperative that we expand our donation acquisition from individuals, endowments, and patrons," said Hanam. She noted that she is coordinating all her fund-raising activities with Tom Adams, Vice-President for Public Afairs.

The Pennsylvania native completed undergraduate work at Waynesburg College, and studied at other schools. She has more than 17 years experience in the management consulting field and in fund-raising for charitable organizations.

Nancy Hanam

Hanam began her career as a staff associate to Edward Green, president of Planning Dynamics Inc. — a Pennsylvania-based management consulting firm. Later, Green was instrumental in helping Hanam establish her own consulting firm. In 1970, she also became executive director for the Planned Parenthood Center of Pittsburgh, increasing the operating budget from $447,000 to $1,200,000 in 18 months.

In 1972, she was recruited by the Nixon administration as special assistant to the secretary of the Department of Health, Education and Welfare.

She later reestablished her firm and worked in France under a contract with the European Economic Community. She next worked under subcontract to a Congressional committee. And in 1979, Hanam's firm joined a consortium of consulting firms working on urban redevelopment for the Peoples Republic of China and Liberia. The group also worked for the National Science Foundation and Association for Advancement of Science.

Hanam resides in Melbourne with husband Bernard Caruhel. Her hobbies include sailing and reading.

Coach to Peru

Crew Coach Bill Jurgens, who also serves at athletics director, recently headed a delegation of Florida rowers participating in national competition in Peru.

Twenty F.I.T. rowers made the trip, along with 20 other athletes from Jacksonville University, the Palm Beach Rowing Club. Florida Athletic Club. and the University of Tampa

The Floridians participating in competition at Lima sponsored by the "Club Regata Lima" were invited as a result of Peruvian rowers being asked to join in the Miami International Regatta at Miami for the last several years.

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Molecular biology graduates are scarce commodity

Graduates emerging from F.I.T.'s molecular biology degree program face a "genetic frontier" that could yield ways to control aging and cancer.

The program was initiated in 1981, and until the Spring Commencement in June only two students had received the bachelor's degree in molecular biology. At that graduation ceremony ten additional students received diplomas signaling their completion of the undergraduate program.

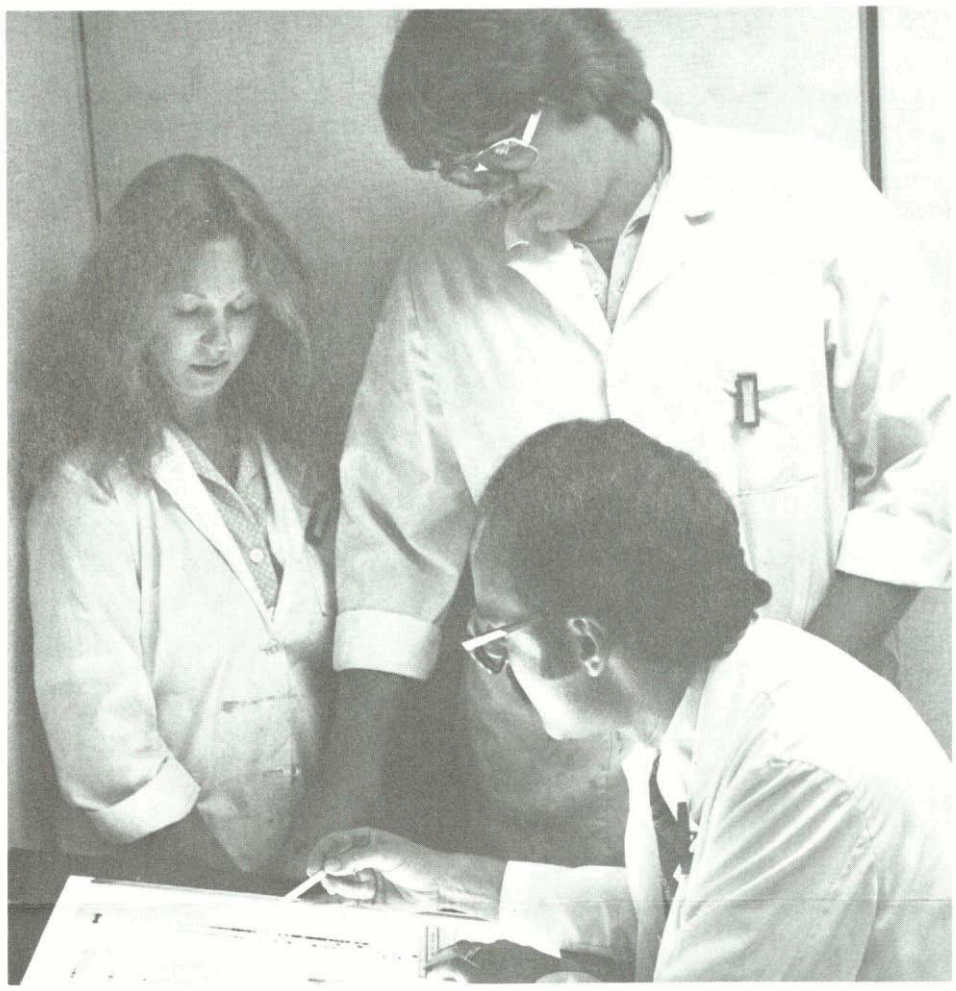
University officials believe that the F.I.T. graduates are among the first in the country to receive the B.S. in molecular biology.

The program is also unique in that it provides undergraduates with "hands-on" laboratory experience.

"The biggest part of the program is laboratory training in genetic engineering," said Dr. George C. Webster, head of Biological Sciences.

In addition, students take a variety of specialized courses ranging from cytogenetics (the study of changes in the number and structure of chromosomes in humans), to DNA sequencing (the study of hereditary information coded in human chromosomes).

Genetic engineering — sometimes called gene splicing — is the process of changing the genetic makeup of an organism for a specific purpose.



"The process involves taking a gene from one chromosome and splicing it into another chromosome," said Webster.

Chromosomes are the microscopic, rod-shaped bodies in a cell which carry the genes that determine hereditary characteristics. Every gene contains the whole "blue-print" for that particular organism.

Webster has studied the aging process for the past decade. He is now using genetic engineering techniques, and believes that such methods could soon yield important insights into aging and cancer.

"It is looking more and more like aging is the process where certain genes that have to do with the repair and replacement of cell parts are suddenly switched off. In cancer, it is believed that certain dormant genes are switched on, causing tumors to form and grow," said Webster. Researchers seek information about regulating genes to control both aging and certain cancers.

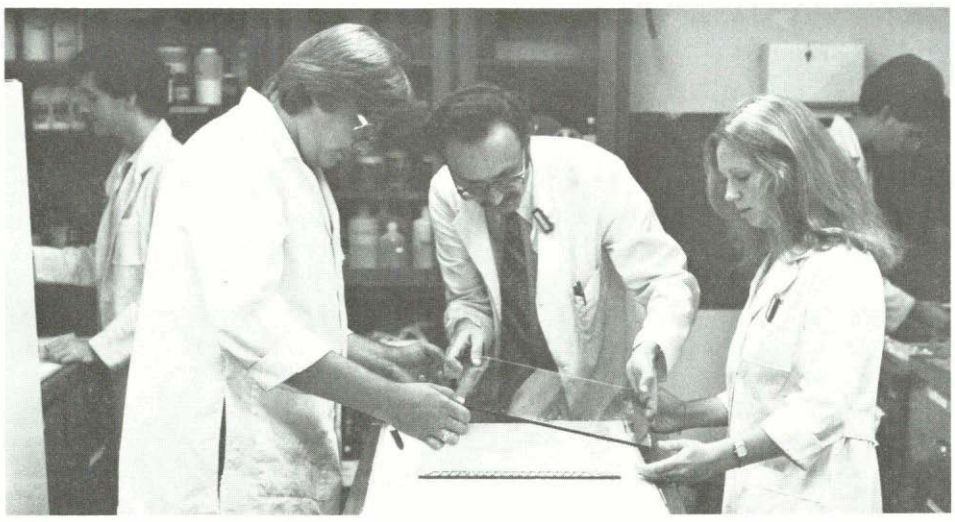
'With the explosion of research in genetic engineering, we are giving students experience at the undergraduate level that will provide them with more job opportunities," said Dr. Charles D. Polson, assistant professor of biological sciences. He is the first graduate of the university's doctoral program in molecular biology.

Polson explained that of the few universities which do have a bachelor's degree program in molecular biology, even fewer allow undergraduates access to research laboratories. The F.I.T. program requires 12 academic credit hours of senior research.

'The key is to have the experience doing them (experiments). Students may fail sometimes. And sometimes they may succeed. But that is basically what science is all about — knowing why something failed and how to go about fixing it," said Polson.

According to a recent national survey by the federal Office of Technology Assessment, there will be a need for 30,000 to 75,000 workers in biotechnology in the next 20 years.

Story by Mary Deese



Gene talk

Dr. Charles Polson shows students Mark Wadhams and Kirsten Breiter procedures for preparfng X-rays of genetic material for examination. The X-rays make it possible to determine if a student experiment designed to alter genetic makeup has been successful. F.I.T. undergraduates in molecular biology are somewhat unique in gaining laboratory experience as part of their studies.

Photos by Bob Goldberg

Gasoline 'extenders' are object of biomass work

Researchers recently completed construction on a $120,000 state-funded "biomass" pilot plant at the Medical Research Institute (MRI) to produce and evaluate various gasoline "extenders." The goal is to find an economical method of such biomass conversion.

Grant money for the project was approved last year by the Florida legislature as part of a $2.3 million allocation to the Florida Solar Energy Center (FSEC). The Center entered into a joint venture with F.I.T. to construct the pilot plant.

F.I.T. has worked in cooperation with the FSEC since the Center was established by the Florida legislature in 1974. Located at Cape Canaveral, the FSEC is part of the State University System and is the most active solar energy research center in the country.

Florida senators Clark Maxwell of Melbourne and Curtis Peterson of Lakeland were instrumental in winning legislative approval of funds needed for implementation of the energy project.

The F.I.T. biomass conversion process uses natural waste products such as shredded newspapers, starches and sugar to produce gasoline "extenders" — chemical additives which can replace gasoline normally required to operate an automobile.

"A vast amount of the biomas research around the country currently involves converting something to alcohol," said Dr. John Thomas, head of the MRI's chemistry division, and principal investigator on the project. He noted that such biomass conversion methods used are both complex and expensive.

'The beauty of our appoach is that we can derive several gasoline extenders from the same waste product in just a few simple steps," said Thomas.

F.I.T is currently using a method of biomass conversion that was developed in Germany in the late 1800's.

The method involves heating under pressure a mixture of mineral acid and raw materials to obtain a product called "levulinic acid.'

"Currently the acid costs about six cents per gallon to produce," said Thomas. The researcher explained that although the final production cost of the gasoline extender derived from the acid is not yet known, it is believed that a gasoline extender can be produced at a lower cost than fuel from petroleum products.

Through distillation, the acid can be converted into a number of gasoline extenders including angelicalactone — a sweet smelling liquid fuel that is light ello ow-green in color.

Thomas said that in test runs conducted on a 1975 Pinto engine at F.I.T., up to 50 percent angelicalactone — also called lactone — blended with gasoline resulted in satisfactory engine performance.

The researcher explained that the lactone also appears to burn cleanly, prevent knocking, and increase the operating performance of the car by automatically working to clean the engine. He added that more research is needed to know the longevity of such effects on the car's engine.

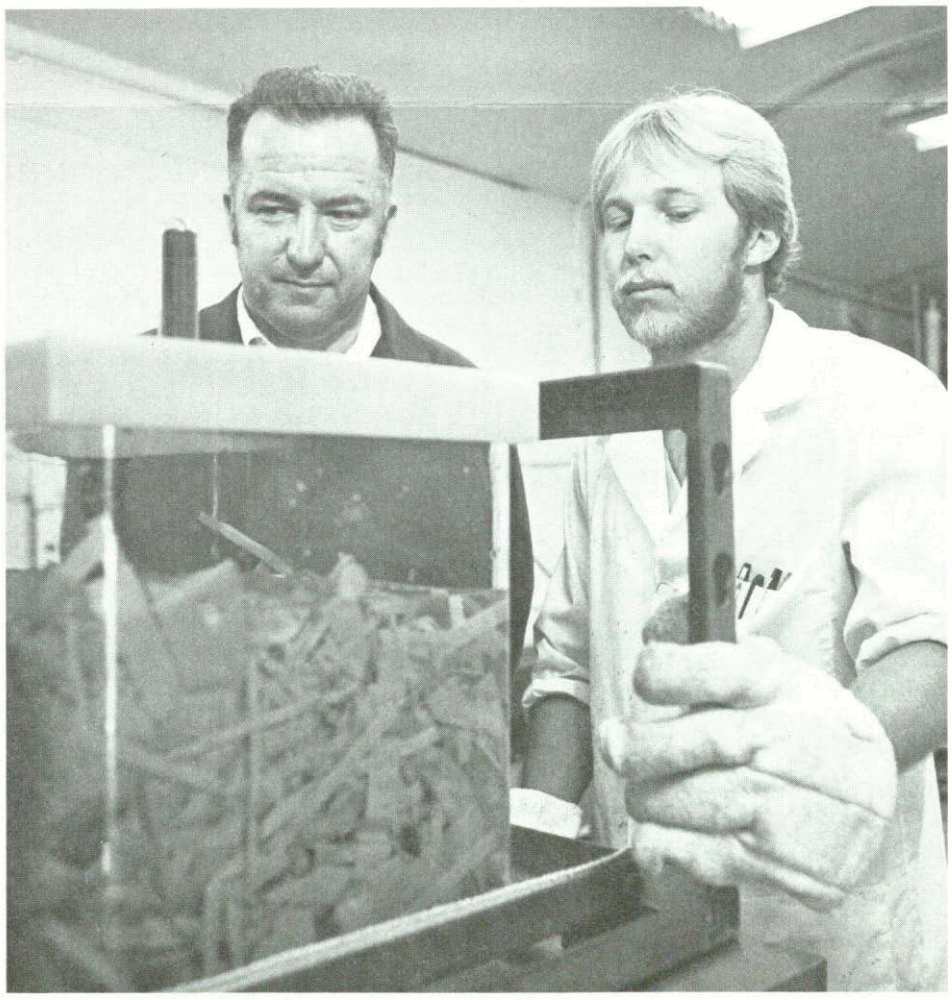
The pilot plant contains some $40,000 worth of equipment, including two steam powered "reactors" used in the production of gasoline extenders. A test engine is used to measure operating performance of the various gasoline extenders developed at the plant.

"Future experiments in the pilot plant will be geared toward optimizing the biomass conversion process currently in use," said Thomas.

The researcher explained that he hopes to produce two other gasoline extenders derived from levulinic acid – methyltetrahydrofuran, and methylethylketone. Both gasoline extenders have already been tested at the F.I.T. plant and found to result in satisfactory engine performance.

Thomas noted that a computer program was recently developed at F.I.T. to help determine the impact on total operating costs of the plant when any part of the biomass conversion process currently in use is changed.

Story by Mary Deese



Into the hopper

Dr. John Thomas, left, and technician Scott Foster put a container of natural waste materials into a reactor that can produce materials leading to gasoline "extenders."