Environment is the topic of graduate's decade-long study

It has been nearly ten years since Diane Barile selected her master's degree thesis topic. And though she earned her master's quite some time ago, she still hasn't quite given up on the study.

That's the hazard in selecting a study specimen in your own "backyard," and one which is 110 miles square. It is also because the thing that intrigues Barile is "taking scientific information and turning it into action."

In getting the information, "I wore out a car," Barile says of work started in the 1970's. That was when she began to run scientific fingers over the complexion of a sprawling but little-populated city called Palm Bay.

"I went with the garbage men, because they were the only ones who knew where all the houses were," Barile said.

A development company put down miles upon miles of streets, and many of those remote avenues sported only a h—— *ot two.* Barile cruised that sun-baked skeleton of a city-in-the-making, gathering hasp-line information about her study @? —

Her project would expand to embrace study techniques ranging from scrutiny of actually knocking on every fourth door in town.

The project demanded that Barile become versed in subjects ranging from local history to geology and, above all, hydrology. She quickly confirmed that water was indeed the universal solvent for Palm Bay's environment.

The lessons have served her well in seven years of teaching at F.I.T. as an adjunct faculty member, and in service as a guiding hand in development of the coastal zone management program within Oceanography

Nearly all of the water that falls on a 110-square-mile area in and around Palm Bay ends up flowing past Barile's home at the mouth of Turkey Creek. There the creek empties into the Indian River.

She and husband Tony, a Harris Corp. employee, have been witness to the flow since 1965. Five children have joined in the watch since then.

The water is muscled to the picturesque creek by a vast system of canals built during one of Florida's long-forgotten boom eras. Natural patterns of water flow were considered nuisance to agricultural development plans which eventually went bust.

The canals remained, dutifully routing huge amounts of water to Turkey Creek and the Indian River, when General Development Corp. asked Palm Bay to expand its city limits to accommodate plans for a new community of ambitious proportions — Port Malabar.

When Barile began her work, not even the public agency in charge of the web of canals knew where they all were.

Now they do-

Work done & Barile and other F.I.T. graduate students working with her has yielded that information and far more.

"He sat m the cafeteria at F.I.T. and said, 'you do it and I'll help you.' " Barile needed to look no further for a master's thesis topic. At F.I.T., Dr. John Morris directed her werk.

It turned out that others were anxious for such a study. Financial backing came from the Florida Sea Grant program, from the Qty of Palm Bay, and from the Army Corps of Engineers. "I was documenting material that was not available anywhere else," Barile explains.

A contract with NASA provided satellite images of the study area. (That subject was the basis of a doctoral dissertation by F.I.T. graduate student Bob Pierce, who later guided satellite mapping of Georgia for the U.S. Geological Survey.)

A computer was fed the satellite data and further enlightened with such earthly information as water table depths and soil types could answer important planning questions. Example: "What is the best place in Palm Bay tor septic tanka?"

The City of Palm Bay was anxious for technical information to aid in its work to produce and implement a comprehensive land use plan A contract with F.I.T. provided for collection of the information.

"The town population has doubled since 1978," Barile said. About 30,000 people now call Palm Bay their home. The city and its major employer, high-tech giant Harris Corp., are still growing rapidly. The city now has a complete planning staff, and Barile continues service as a consultant.

Continued on beck page

A Saving Gesture

Diane Barile explains to youngsters in the Turkey Creek hammock area how sand banks can be preserved without ending traditional swimming activities.

The individual accomplishments of Diane Barile were cited earlier this year as the reason she was presented the Grand Award of the East Central Florida Regional Planning Council.

"Ms. Barile's dedication and initiative are exemplary of how a single individual can influence public perception and involvement in the resolution of resource planning and management issues," the regional planners said.

She was cited for "her leadership in promoting public awareness of environmental and planning issues associated with growth and development . . . (and) for many significant contributions to resource planning and management (including) her efforts at preserving Florida's fragile coastal resources."

Also winning the Grand Award this year were two organizations, Disney's EPCOT, and the St. Johns River Water Management District.

Barile has recently been appointed by Gov. Bob Graham to serve on the Governor's Coastal Resources Advisory Committee.

Barile's relationship with F.I.T. began back in 1965. She signed up for the school's first course in biology. She held a B.S. in biology from the University of Florida.

It was several years later, after Barile became a degree-seeking graduate student, that she read a newspaper article telling of plans for General Development to build a lock and dam structure across Turkey Creek not far upstream from her home.

When Barile inquired about the purpose of the structure, an elected official told her that the dam would be built "so there would be more fish in the river." She was skeptical.

Barile subsequently asked one of the University of Florida's top environmental scientists, Dr. H.T. Odum, to consider a UF study of the area affected by the lock and dam. Odum had a better idea.

Florida Institute of Technology

F.I.T. Update

on education • research • alumni

December 1983 • Volume 1 • Number4

Graduates tell "fish farm" story at EPCOT

Picture yourself in the middle of a huge greenhouse of the future, surrounded by world food crops growing in controlled environments. You view plants growing in sand, as if a desert had been transformed into a garden. Other plants are suspended in air, as they might grow inside a space station.

Next, you are bathed in red light as you enter a unique "aquacell" where a variety of food fish are raised. Some are later served at a nearby restaurant.

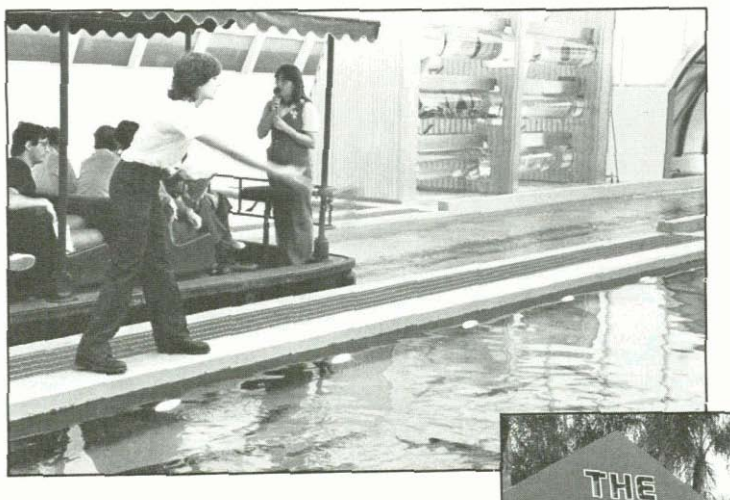
Though the scenes may sound like flights of the imagination, they are very much like the "real-world working environment of F.I.T. graduates Mike Andrew and lane Evans.

The dream is really the "Disney magic" found in the "Harvest Tour" portion of the "Listen to the Land" attraction at Walt Disney World's EPCOT Center near Orlando That attraction is part of a six-acre pavilion called "The Land."

Andrew and Evans are among the team of specialists at The Land who enlighten the public about the unique agriculture and aquaculture growing systems located there.

The two F.I.T. graduates were hired by Peter C. Cook, a technical specialist in aquaculture for Disney. He is responsible for all aspects of aquaculture.

'We couldn't have picked a better crop of aquaculturists, they are well suited for what they are doing here and are qualified to do much more," said Cook. He explained that he chose Evans and Andrew for the jobs after reviewing resumes from around the country. He was impressed by their "well-rounded" academic backgrounds and their "enthusiasm" toward working in the field.



EPCOT

Jane Evans feeds the aquatic stock (at right) as EPCOT visitors view her work area. Both Evans and Mike Andrew (below) are part of "The Land" attraction.

Photos by R. Goldberg

The two Florida natives received B.S. degrees in environmental science at the Jensen Beach campus, Evans last June and Andrew in March of 1982.

"The principle emphasis at F.I.T. was on the farming of food fish because that is where the future of aquaculture seemed to be." said Andrew.

As aquaculturist technicians, the two assist Cook in the operation of a unique aquacell where a variety of food fish are raised for exhibit and harvest. Current plans call for harvesting 6,000 pounds of fish on a quarterly basis. The fish are served in the restaurants of Walt Disney World.

Though most visitors ride attraction boats through the exhibit area, a limited number are guided on walk-through tours hosted by the two F.I.T. graduates or other specialists of The Land.

Andrew and Evans are more involved in educating the public in aquaculture than the actual process of fish farming. And that is no small job when you consider more than 22 million persons have visited EPCOT since it opened just over a year ago.

"Basically, aquaculture involves the farming of any aquatic organism," explained Andrew. He said that food organisms grown at The Land includecatfish, tilapia (anexotic fish from Africa) and eels.

"Japan and China have been doing it for centuries, but it is just beginning to emerge in the U.S. as an important business," said Andrew.

Most aquaculture today is conducted by individuals who enter cooperatives to purchase large tracts of land for ponds. Bii business accounts for only a small part of aquaculture, and most often "raceways" or cement pools are used to hold their fish.

Continued on back page

62

George Sirbola (MS-Space Tech.) resides in Thousand Oaks, CA, and is employed as manager for RES Rusco Electronic Systems in Glendale.

69

Ira B. Cottrell (BS-Math) tells us he is a computer analyst at Sperry Corporation in Dahlgren, VA, and lives in King George, VA.

70

Bill Seatz (BS-EE) lives in Atlanta and is a systems analyst for Southern Bell Telephone & Telegraph. He is responsible for the Yellow Pages system. Bill has three children, Debbie (11), Tonya (12) and Terri (18).

73

F. Bruce Kovacs (BS-ME) has set up his own consulting firm in industrial radiography and radiation safety in Randolph, NJ. In March he was appointed to the Subcommittee on Nondestructive Examination of the ASME Boiler and Pressure Committee. Bruce has been residing in Randolph for eight and a half years, is still single, and would like to get together with old F.I.T. friends who may be in his area or who plan to pass through.

74

Clinton M. Hamilton (BS-ME) is technical supervisor at the Bell Laboratories in Holmdel, NJ. He supervises a group having responsibility for quality analysis (reliability, manufacturing quality, physical design and software quality) for interoffice and distribution transmission products used in the Bell System. Clinton and wife Lisa and four-month-old son, Scott, live in Freehold, NJ. He received his MS-ME in '76 from the State University of New York - Buffalo.

Roger A. Amende (BS-Biology) is a captain in the Army, and has been selected to command the service's most prestigious engineer company in support of the elite Berlin Brigade, Defenders of Freedom in Western Europe.

75

David R. Motschman (BS-Phys. Ocean.) is a senior associate engineer at IBM in Rochester, MN.

Robert Smelzer (BS-Air. Com.) is residing in Palatine, IL. He is employed by United Airlines as a second flight officer on a B-727 and flies out of Chicago.

Robert L. Smith Jr. (BS-Applied Math.) is a senior associate computer programmer with IBM in Endicott, NY. He presently is living in Johnson City, NY.

76

Scott W. Meade (AS-Air. Com.) is a captain flying a "Westwind 2" business jet for the Culbro Corporation in Teterboro, NJ. He and wife Nancy celebrated their first wedding anniversary in August and are making their home in Denville, NJ. (Congratulations!)

William Einziger (BS-Bio. Ocean.) is attending University of Florida and pursuing a master's degree in mechanical engineering. He is living in Gainesville. (Good luck!)

Richard Stiffler (BS-ME) lives in Blacksburg, VA, and is completing his Ph.D. in materials engineering science at Virginia Polytechnic Institute in the area of nondestructive testing of composite materials. He married Sandra Henning on June 11. (Congratulations!)

Albert A. Sykes (BS-Sci.Ed.) is a commercial lines broker with Associates of Glens Falls, NY. Albert is responsible for commercial accounts including aviation insurance. He also received his instrument rating, airplane SEL. Recently he and Glen L. Floyd (BS-Mgt.-'77) flew Albert's Cessna 150 to F.I.T. and were impressed with the campus, flight line and the people they met. His wife and he will be adopting a Korean baby in the near future.

77

James T. Barnes (MS-Trans. Mgt.) is living in Downingtown, PA and tells us he is the purchasing manager at Smith Kline Clinical Laboratories located at King of Prussia, PA.

Christopher Modert (MS-Ocean.), after working in marine plankton research for several years, has switched to medicine. Chris is now in medical school at the University of Kansas Medical Center in Kansas City, KS.

78

Peter S. Hanson, Jr. (BS-Ocean. Eng.) is a corrosion engineer at General Cathodic in Houston, TX, in which city he resides.

From the Alumni Director

Dear Alumni:

The campus is alive again with new and returning students. That's what keeps everyone here so busy. We've also been busy here in Alumni Affairs. We have been donating many hours to the organization of our program, as well as integrating our activities with those of the other departments in the university.

Most of you have probably received our membership and survey packets with your new alumni decals. I am looking forward to good response, so please make your opinions known! All the information you supply will be retained in our new on-line alumni data system. This system will allow us to store almost all the information, personal and historical, that you provide on our data sheet. With this data, we can put you in touch with fraternities, sororities, clubs and organizations you may have lost touch with.

We can inform you of other alums in your area, in your major, or just friends you have lost. Plus, we can have complete information on you for our alumni directory.

If you take a look in your packet, you will find a tentative alumni weekend schedule. We plan to have a great time this year, so bring your sweetheart to Florida for Valentine's Day! This is a special year for graduates of '79, '74, '69, '64, who will be celebrating 5, 10, 15 and 20 year anniversaries. We'd like to extend an extra invitation to those alums to make a special effort to be here and see how F.I.T. has progressed.

We are planning a barbecue on Friday, so you can meet current students and faculty as well as old friends. We will have a special Valentine's dinner and following that — CASINO NIGHT! That is a sure-fire way to gamble and not lose a cent! We are also going to try to schedule "hard-hat" tours of the new library, have campus tours, intramural sports events, crew races, and a champagne brunch on Sunday. We will also be electing four new Board of Directors members for the Alumni Association, so come to the annual meeting to vote. And don't forget, for some of you Monday is a holiday (that's George Washington's birthday)! We would like to print a list of those who plan to attend alumni weekend in the February edition of UPDATE, so please let us know early.

Other accomplishments through this office include:

1. Availability of a manual for the organization and establishment of alumni clubs for those interested. The high concentration of alums in certain areas is amazing! You may have F.I.T. alums as neighbors and not know it!
2. We have located and verified hundreds of new addresses. I can use any and all help in this endeavor. I would like to give those "out of touch" the opportunity to be "in touch."
3. We have designed and implemented reply cards to those of you who send alumni notes and address updates so you *know* your information was received.

As you know, we feature articles on alumni in UPDATE. If you have an interesting story to tell or some valuable accomplishment, we'd love to hear from you.

By the way, I enjoy hearing from you just to say "hi" or to assist you. I can try to find friends, supply job leads if you are unemployed, and just talk. God knows (and so do those of you who know me) I can talk!!!

Have a safe, happy and healthy holiday season!

Judi Marino

79

Claudia Kropas (BS-Appl. Math.) has left Southern Bell in Ft. Lauderdale, FL, to attend the University of Dayton/Air Force Logistics Command Reentry Program which allows math or science graduates to become certified as electrical engineers.

81

Michael Petock (BS-Mgt. Sci.) is a first lieutenant and battalion construction officer at Ft. Lewis, WA. He coordinates the 864th Engineer Battalion personnel and heavy equipment resources to perform heavy construction operations. He was selected in May as Outstanding Junior Officer for Ft. Lewis. (Congratulations!)

Brian Richmond (BS-Air Com./Flt. Tech.) is an aircraft dispatcher in St. Louis, MO, in charge of eight 727's. He says to tell everyone the field is wide open for qualified people. He had four offers before he took the job and several more after. He said flight instructing was fun, but this is the real thing! (Thanks for the info, Brian.)

Kenneth D. Welton (MBA) has been promoted to manager in the consulting division of Arthur Andersen & Co. in Houston. The corporation is an international audit, tax, and information consulting firm.

Peter Raducha (BS-Ocean. Eng.) has left engineering and is now social director at Palos Verdes Racquetball Club in San Pedro, CA. Peter has plans to move to New Zealand next year (Good luck!)

Donald Charles Anne' (MS-Chem. Ocean.) is working for O&M Contractors as an environmental chemist on the Department of Energy's SPR projection in Freeport, TX, and resides in Clute, TX.

Dorothy Clegg (BS-Air Com.) is working as a co-pilot/captain on a Beech 99 for Purolator. She lives in Houston.

John Matthews (BS-Mgmt.) works for Martin Marietta in Orlando, and is pursuing

Stephen Lilly (BS-Air. Com.) is a Benedictine monk at St. John's Abbey in Collegeville, MN. Stephen is pursuing an MA in theology at St. John's University, Collegeville.

Evan Futterman (BS-Air. Com.) is working as an aviation consultant with Howard, Needles, Tammen & Bergendoff in Alexandria, VA. Evan has recently married and resides with his wife in Alexandria. (Congratulations!)

Capt. William R. Johnson (BS-Air Com.) is aide-de-camp for the commanding general at Joint United States Military Advisory Group in Seoul, Korea. Capt. Johnson received the Meritorious Service Medal as a tank company commander in the Republic of Korea before receiving his new assignment with the U.S. Army.

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Intercollegiate athletic teams are to be known as the F.I.T. panthers, Athletics Director Bill Jurgens has announced.

"The official F.I.T. mascot is now a panther," said Jurgens. "For many years F.I.T. has been considering adoption of a mascot which we felt was appropriate to identify with this university."

The athletics director noted that F.I.T. teams will continue to be known also as "Engineers," but that the panther would be favored for most uses. "We felt that we needed a stronger identity."

We're looking for information about you and your classmates to share with other graduates. And if you have changed your address, or know of an alumnus who is not receiving **UPDATE,** please let us know. Send the completed form to the Alumni Relations Office, P.O. Box 1150, F.I.T., Melbourne, FL 32901. Thanks. *(Please print or type).*

Name _____ Student No. _____

Class Year _____ Major _____ Degree _____

Street Address _____

City _____ State _____ Zip _____

Home Phone _____

Job Title _____

Business Address _____

_____

_____

News of Interest _____

_____

_____

_____

Your alumni information is sought

F.I.T. Corporation initiates long-range planning

Leaden from local industry and government have joined ina new organization that is helping to shape the university's future.

A major activity to be overseen by the newly formed F.I.T. Corporation is creation of a comprehensive development plan that will forecast university needs over the next five years.

Vincent Lamb, chairman of the F.I.T. Corporation, says that the organization is designed "to get community leadership from industry, government and nthrr organizations actively involved in the continued development of F.I.T."

Lamb is president and chairman of the board of Melbourne-based Scientific Systems Services (SSS), one of the nation's rapidly growing high technology companies.

Heexplained that the F.I.T. Corporation is an organization that serves in an advisory capacity to the university's Board of Trustees. All trustees are members of the F.I.T. Corporation.

The Corporation iscomprised of some 60 members from government and industry.

Lamb said the corporation was formed in January 1983 to expand university-industry interaction for the mutual benefit of both

"The Corporation is currently assisting the university in the development of its hrst long-range plan," said Lamb He noted that tour of the Corporation's six committees are involved in the development of the plan. scheduled fur completion in May.

"The long range plan will identify the university's major goals over the next five years. It will represent a comprehensive plan for the university hy forecasting university resource requirements on the basis of predicted student enrollment. Those resource requirements include faculty, buildings and laboratory equipment," said Lamb

Lamb noted that the plan will provide a general framework for the Corporation to identify F.I.T 's needs on a continuous basis. It will also provide information needed to launch a capital fund drive.

Vincent Lamb

The four committeesengagedinthe long-range planning process are the Long Range Planning Committee, the Management and Humanities Visiting Committee, the Science and Engineering Visiting Committee and the University Facilities Committee.

"The Long-Range Planning Committeeis the primary group in charge of assisting F.I.T. administration in the development of the university's five-year plan." said Frank Kinney, executive director of the Corporation.

The committee will compile information gathered by the visiting committees in a report to be presented by President Keuper to the trustees for approval.

"Thevisitingcommitteesare theeyesand ears ot the long-range planning committee." said Kinney. He explained that those committees continue to work closely with the individual deans and department heads to assess their goals. Three other visiting committees will soon be established so each of the university's five schools will be represented in the planning process.

"The University Facilities Committee is also closely related to long range planning," said Kinney. Heexplained that that committee will develop a land use plan designed to recommend future building sites on F.I.T. campuses, and propose methods to finance new construction.

Two other committees of the F.I.T. Corporation are involved in the development of innovative programs designed to meet the specialized needs of local industry and government. They are the Industrial Outreach Committee and the Governmental Outreach Committee.

Lamb said that one program initiated by the Industrial Outreach Committee will allow his employees to attend classes at SSS as part of work toward master's degrees in computer science or business from F I.T.

"We are paying more than just the full-tuition costs (of employees) for the added advantage of inviting F.1.T senior faculty to teach In-house, graduate-level courses tailored to the specific needs of our company," said Lamb "We are interested in the contmued development of our employees to ensure that they will be better qualified to be promoted as our company grows." he added

DBA Systems Inc. is another local firm benefiting from contractual arrangements with F.I T The university is providing consulting services to that company on specialized government contracts.

"The Governmental Outreach Committee was established to ensure that various governmental organizations throughout Florida are aware of and appreciate F.I.T.'s research capabilities," said Lamb.

He said that the committee has already initiated the Marine Resources Council, the primary purpose of which is to bnng F I T faculty in contact withgovernmentalgroups in need of environmental and oceanographic studies

I.T.T. President visits

The following remarks are excerpts from a speech by Dr. Tom Martin, President of Illinois Institute of Technology, before members of the F.I.T. Corporation.

Thank you very much. It really does feel likea homecoming to come back to Florida. I know the first year I was in Florida I drove 50,000 miles inside the State of Florida on behalf of the issue of graduate education in the State. I have great affection for the State and, as many of the people that were associated with what was then Brevard Engineering College remember, we worked very hard to develop some way to meet the educational needs of this area.

Fist person I ran into when I came in the door was Tom Adams, (F.I.T. Vice President for Public Affairs) who was Secretary of State when I was Dean of Engineering at Gainesville. And I was brought to the University of Florida to try to solve the problems that Florida Instituteof Technology has in fact solved.

What I discovered is that we have in Jerry Keuper one of the great educational innovaton in the United States I think all of vouin Brevard County, and here in Melbourne in particular, perhapsdon't fully appreciatethe contributions that he has made in the field of education. A lot of people get awards and honorary degrees and things like that But Jerry Keuper took literally nothrng more than a handful of volunteersand a storefront classroom, and built it into this great institution that you have here today. . .

I believe that business, industry, government and labor — indeed all of contemporary society — exists in a symbiotic relationship with education. Particularly professional education.

As you know, symbiosisis defined as the process of living together in more or less intimate association, or even close union, of two dissimilar organisms. It is usually also inferred that this association is advantageous to one or both of the two organisms and is not harmful to either one . . .

A positive symbiotic relationship between society and professional education is an absolutely necessary requirement to maintain the integrity of our contemporary social structure and the ongoing vitality of business and industry.

But this very critical relationship between education and society as a whole generally is not realized because, the components of society as a whole — business, industry, and government, andeducation — fail to take the importance of this relationship into consideration and fail to take the step to achieve it. There are very few educational institutions that do recognize this. They are the ones that are recognized as those being at the absolute pinnacle of quality in higher education today. We need only mention M.I.T., Stanford, Cal Tech, and sister institutions of comparable quality . . .

So the goal of professional education is to achieve a condition of synergistic symbiosis between society and theschool. That's what I think the F.I.T. Corporation is all about. . .

How are we going to achieve synergistic symbiosis7 There are some very simple things that you can do.

The first of these is to have cooperative programs. For example, undergraduate programs, which F.I.T. has, where students work in industry and go to school alternating the periods back-and-forth . . .

We also have faculty consulting for industry. Most of my faculty — I would judge 85 percent — have major consulting

Dr. Tom Martin

practices and I think that's a real element of strength. Because they learn what the problems of industry are, they become problem solvers in real time, and that they bring to the campus and it makes for strength. You can also use the other way. You can use industrial people as instructors on your campus . . .

To sum up, the economic strength and the national security of the United States in any particular locality in the United States depends upon the vitality of the private sector of American society. And that private sector is private business and industry and privateeducation. This vitality and the ability to compete effectively in theinternational arena depends upon the creative productivity of the people who study at these educational institutions.

So, the availability and the excellence of an outstanding educational institution like F.I.T. is absolutely essential to the ongoing economic vitality of this region.

So, I salute what I believe to be the goal of the F.I.T. Corporation in generating this synergisticsymbiosis between F.I.T. and the community.

M.I.T. also represented . . .

The following remarks are excerpts from a speech by Dr. Vincent Fulmer, Secretary of the M.I.T. Corporation, before members of the F.I.T. Corporation.

I bring you greetings from M.I.T. to its sister institution in Florida and its distinguished alumnus. Jerome P. Keuper.

We have awarded 100,000 degrees at Massachusetts Institute of Technologysince 1861, yet only two dozen of our graduates serve as presidents of colleges and universities around the world. We brought one of them back this year, the president of the University of California, to serve as chairman of our corporation — David S. Saxon.

Dr. Vincent Fulmer

Like Jerry Keuper he is a physicist. Unlike Jerry, he did not found his university. In fact, Jerry is the only living alumnus of M.I.T. who is both founder and president of a higher education institution . . .

I feel comfortable and relaxed being here tonight - truly - trying to understand the future and the fortune of Florida's Institute of Technology. What you are doing on a regional level, M.I.T. is doing on an international level. You are doing roughly the same thing, but with that difference in dimension . . .

F.I.T. and M.I.T. share an important common heritage. They both were born of necessity. M.I.T. had the great good fortune to be born at a time when our industrial technology nationwide was also developing The school was designed as a challenge to classical education. We did not even apply for a degree granting status until seven years after the institution was founded . . .

At M.I.T., as one goes down through the institution, one encounters the phenomenon of the active presence of technology-based businesses interacting with theinstitution, in its curriculum, with students, with its faculty and research projects, and M.I.T. administration. What do we do in return for all this? We educate, and we do research.

But, we also serve companies directly through consultants, liaison services, patent licensing, help in recruiting, use of our facilitres, publications, technical needs, use of our libraries, short special courses, cooperative courses, T.V. tapes of M.I.T. courses based on the Stanford design, off-campus internship, regular undergraduate subjects, invention and innovation to promote entrepreneurship.

Those are just some of the ways that we interact with the businesscommunity. But if one looked for the single most important factor in the life of the institution, you would have to say that it was the attitude of the administration . . .

Yes, wehavedone our share of agonizing and introspection about the industry/university interface. I personally have spent my lifetimethereat that interface. Lifeisnot perfect. We recognize the fundamental differences in goals, time scales and life styles between industry and universities.

But we don't shrink back in horror or self-righteous indignation about being well-connected to business and industry. Why7 For us it's a part of our metabolism because 95 percent of what is important to M.I.T.. to any engineer or scientist, happens outside of that person'sownlaboratory. And so weencourage our faculty and students to become involved . . .

After all, less than 10 percent of the 3000 colleges and universities in our country support schools of engineering. There are only 266 of them. And only 17 percent of all the college and university professors in the country do research on their campuses with outside sponsorship under grants and contracts . . .

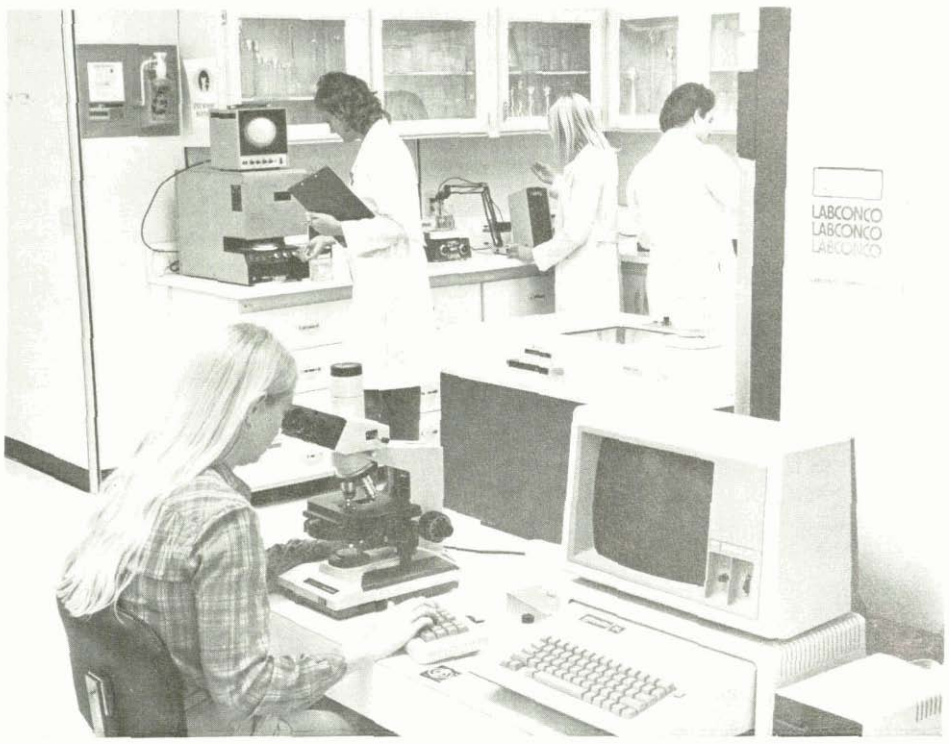
Our experience at M.I.T. and elsewhere has shown that contractual arrangements can be developed that will permit private sponsorship of research at a university. on terms that satisfy both businesses need for a competitive advantage and preserve the essential openness and independence of the university. You have to be smart to do it. .

Florida has in F.I.T. a university for our times. It is a shiningasset that not every state has, but that every state desperately needs. Used and supported correctly, F.I.T. could become an even greater contributor to the advent of Florida and the whole Southeast — not only in Florida, but the whole Southeast — as a major high technology employer in the nation.

Test will find causes of genetic change

A contract with IBM is allowing F.I.T. researchers to unravel mysteries surrounding genetic changes in living cells. The work is aimed at further development of a test system to detect chemical compounds that are potentially hazardous to human health.

Dr. John C. Hozier, director of the Medical Genetics Laboratory, was awarded a $50,000 contract with IBM Corp. for a one-year study. Preliminary work to develop the test system was supported by a $245,000 contract from the Environmental Protection Agency.



Genetic laboratory

The laboratory of Dr. John Hozier accommodates research that includes computerized examination of genetic material.

The test system currently under development involves scrutiny of mouse cells grown in the laboratory, and the ability of chemicals to alter the biochemistry of these cells by changing their DNA.

Hozier explained that the test system is able to measure the exchange of genetic material between different chromosomes. Chromosomes are the microscopic rod-shaped bodies containing the DNA and are found in the cell nucleus. The exchange process is expected to yield information about agents which damage chromosomes. Such events can result in human disorderssuch as cancer or birth defects.

The IBM contract will support efforts to isolate and reproduce — or "clone" — many copies of a specific piece of DNA, the mouse thymidine kinase gene. That will allow changes in the chromosomes to be examined at the molecular level, and will make the results from animal cell studies more indicative of the risk involved in human exposure to potentially hazardous chemicals.

Assisting Hozier in the study are co-investigator Dr. Kenneth L. Kasweck, associate professor in Biological Sciences, graduate student Meg Snowden, and post-doctoral fellow Mastha Applegate.

Story by Mary Deese

Jaok and Patricia Scott, with Dr. John E. Miller (center), Executive Vke President, examine an antique Bible given to F.I.T. by the couple.

Bible is gift

An antique Lutheran Bible was recently a personal donation to F.I.T. from Patricia and Jack Scott. He is chairman of the board of the Gannett Foundation. The Bible is to be on display and used in special religious ceremonies on campus.

The gift is a large Bible published in 1730 in Lubingen, Germany, according to Nancy Hanam, special assistant to F.I.T. President Jerome P. Keuper. The 2,000-page text of the Bible is in German, and it features woodcut illustrations.

'We wanted to donate it to F.I.T. because it would be close to home," said Scott. The Scotts live in Cocoa Beach. He said the Bible has great sentimental value, since it has been in his wife's family for years.

Scott said he believed that the gift would also complement F.I.T. projects to raise funding for an "All Faith Religious Center," and to acquire $4 million worth of new books for the expanded library that is being built.

New computer education program will benefit teachers

With more than 6,000 microcomputers currently in use for instruction in Florida elementary and high schools, F.I.T. is taking a leadership role in training teachers to use the machines.

As of the Winter Quarter, the Science Education Department will be among the few university programs in the state to offer a master's degree program in computer education.

'The degree program a aimed at high school and elementary school teachers with a wide variety of teaching backgrounds," says Dr. Robert H. Fronk. head of Sdence Education.

"Many of these teachers hold college degrees in history or English, have a strong desire to learn more about microcomputers, but lack the prerequisite undergraduate science and math courses necessary for admission into a graduate-level program in computer science," said Frank.

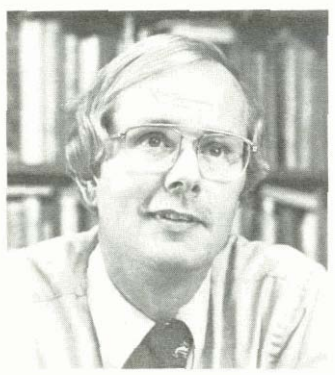
"We hope the teachers we train through this new degree program will return to their schoolsand help lead the way in the introduction of microcompters into their schools," he added.

Persons seeking admission into the new program must have a bachelor's degree and be proficient in college Algebra and "BASIC — the most widely used computer programming language in elementary and secondary schools.

The degree program will be taught cooperatively by faculty members from Computer Science and Science Education. Persons enrolled in the program will take specialized courses in several computer languages including advanced BASIC, PASCAL, LOGO and PILOT.

Fronk said the program will offer multiple benefits for teachers. "If teachers know how to design computer programs for their particular class, then they will have a better idea of what to look for when evaluating instructional software," he noted.

Fronk said that state law already requires students to takecomputer coursesin order to earn a high school diploma, and state lawmakers are currently in the process of developing new certification requirements emphasizing computer literacy for secondary school teachers.

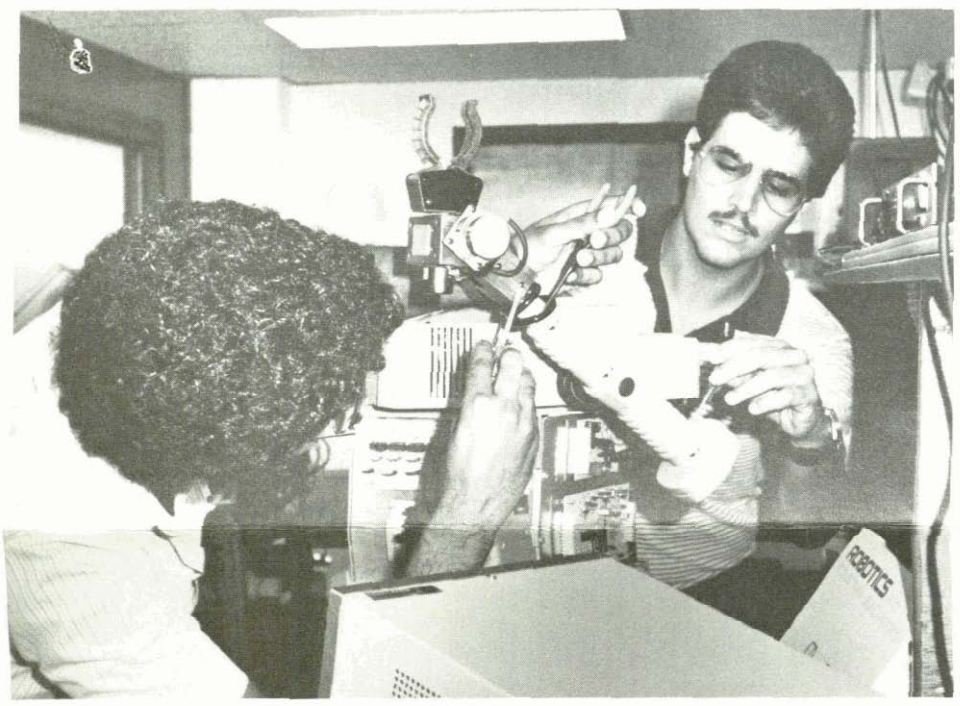


Dr. Robert Fmnk

Fronk explained that while the term "computer literacy" remains undefined by legislators, new laws may require that teachers be able to operate a small computer as well as be familiar with computer programs that apply to theirteachingdiscipline.

Tuition reductions are available to Florida teachers enrolling in a degree program offered by Science Education.

Story by Mary Deese



Robot fixers

Electronics students David Pinto and Jarge Jarrot learn the ins-and-outs of a "HERO 1" robot, part of the equipment being used in the robotics technology degree program recently begun at the Jensen Beach campus.

Robots arrive at Jensen Beach

Degree programs in robotics technology have been initiated at the Jensen Beach campus. according to Dr. Wilham Gehring, dean of academics for programs there

"We are now in the dawn of the robot revolution," Cehnng said. "Robots are entering the work place in largenumbers and changing the job market in most of the world's industrialized nations.

"Presently robots perform simple repetitious mechanical tasks which require accuracy or strength that human beings find difficult or dangerous to match," Gehring continued.

'The future holds far more sophisticated robots. Robots will be found in research, industry, health care, education and home maintenance. Robots will be capable of more varied tasks, and they will be better able to perform 'human' functions such as seeing, walking, discriminating and talking. Robots will be part of our daily lives." said Gehnng.

F.I.T. developed its new program with the cooperation of major robotics manufacturers and industrial users of robotics systems.

"The robotics program will give students the applied courses necessary to participate in thisdramaticrevolution." said Lee Harris. robotics department head.

"The curriculum includes relevantcourse work in both software and hardware which will allow students to become technicians and technologists involved in the installation, maintenance and modification of industrial robotic systems," he said.

Students can choose either the two-year associate degree program or the four-year bachelor of science curriculum.

Who's Who honors F.I.T. students

The names of 25 F.I.T. students studying at the Melbourne campus have been included in the 1984 edition of Who's Who Among Students in American Universities and Colleges. The persons honored were selected as "national outstanding leaders."

The students selected are among persons so honored From 1,500 colleges and universities in the U.S. and several other nations, according to an announcement from the directory. The annual publication, headquartered at Tuscaloosa, AL, was first published in 1934.

Selection is b a d on academic achievement, service to community, Leadership in extracurricular activities, and potential for continued success. Campus nominating committees submit names of candidates for review by directory editors.

Students honored by Who's Who include:

JoAnn Maria Alden, ocean engineering, Willowbmok, IL; Scott James Barberides, flight technology, Newton, PA; Harry Lloyd Chin, transportation technology. Miami, FL; Jose Enrique deAlvare, business administration, Madrid, Spain; Todd Alan Fancher, pre-professional biology, Birdsboro, PA.

Julian R. Field, electrical and computer engineering, Venezuela; Gregg Edward Fraker, business administration (graduate), Middle Point, OH, Donald Joseph Hammel, ocean engineering. Longwood, FL; Stephanie L. Lee, molecular biology, Hyattsville, MD; Gail Amanda McGarry, geological oceanography, Sarasota, FL.

William Jeffrey Miller, biological oceanography, New Carlisle, OH: Mojgan Moallem. computer science. Ithaca, NY; Mary Margaret Moore. biological and chemical oceanography, Penacook, NH; Seshagiri Munipalli, electrical engineering and physics, Jacksonville, FL; Thomas Robert Murray. ocean engineering, Webster, WI.

Christine Anne Panico, chemical oceanography, Bayonne, NJ; Nancy Lynn Phillips, computer science (graduate), Hampton, VA; Iraj Robati, electrical engineering. St. Augustine, FL; Amy Marie Roy, computer science, Indian Harbour Beach, FL; Debra Ann Santasieru, pre-professional biology, Melbourne, FL.

Robert Glenn Stewart, electrical engineering, Titusville, FL: Lynn D. Wentworth, electrical engineering, Tampa, FL; Karen Elizabeth Williams, marine biology, Pompano Beach, FL; Ida H.C. Yuan, business administration and computers, Miami. FL; and Luis Alfredo Zedan, electrical and computer engineering, El Salvador.

his MBA from the University of Central Florida.

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Alan Binder (BS-Civ. Eng.) resides in Summit, NJ, and heads up the marketing division of New Construction Inc. in Cranford, NJ. Al is also a cost engineer and he is a member of the NSPE Association.

Alan Homan (BS-Air Com.) has recently moved to Cape Coral, FL, and is an executive pilot for Amerijet International. Alan has upgraded his FAA license to air transport pilot, captain in C-402's, second officer in Falcon 20 and Learjet 23.

Duane Defreese (MS-Bio) has just returned from a graduate exchange program in Sweden for marine biologists funded by Hasselblad Foundation. He is currently pursuing a Ph.D. in biology here at F.I.T.

Pam Walden (BS-Air. Com.) is living in Ridgewood, NJ, and working for Aeroservices International at Teterboro Airport, NJ, and Butler Aviation at Newark Airport, NJ.

Warren Bizub (BS-Ocean. Eng.) has recently been employed with the Dept. of the Navy as a quality assurance engineer intern in Corona, CA. His internship lasts three pears with a different field assignment every six months. As of January 1984, he will he assigned to Portsmouth, VA.

James D. Winkler (BS-Air Com.) is a second lieutenant in the Air Force and attend d i i pilot training at DelRio AFB, TX.

Lisa Wyckoff (BS-Mgt. Sci.) is project director for RMH, Research lac. at River Edge, NJ. She tells us that RMH is a market research firm which does mostly media research. She loves her job!

Scott Stout (BS-Geo. Ocean.) is pursuing h a master's degree in geology at Penn State and residing in eastern Pennsylvania.

Michael Bowker (BS-Ocean. Eng.) is living in Philadelphia and working for the Navy at the Philadelphia Naval Shipyard as an ocean engineer.

Ted Howes (BS-Ocean. Eng.) is working for RCA Corporation m Camden, NJ, and lives in Vorhees, NJ.

Brett Helsel (BS-Geo. Ocean.) is residing in Philadelphia and is employed with Sperry Corporation as an analyst/programmer. Brett has kept in touch with several alumni and has supplied us with some valuable information. He is hoping to relocate in the Melbourne area, so if any of you know of positions in your companies (locally) that may have use for his services, please contact our office.

Diana Daly (Boucher) (BS-Air Com.) is married to Mark Boucher (BS-Bio. Ocean.-'81) who is an animal trainer for Sea World in Orlando. Diana is a communications specialist in the operations department at Orlando International Airport. (Congratulations!!)

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Donald A. Stewart (Psy.D.) recently joined the clinical practice of psychology as doctor of psychology with Drs. R.J. O'Halloran and H.R. Bernstein in Merritt Island, FL. Wife Cathy and 18-month-old daughter Meaghan are doing beautifully, he says. (Congratulations.)

Maj. Brian D. Mitchell (MS-Prof. Mgt.) was recently assigned as an Army advisor with the 45th Field Artillery Brigade in the Oklahoma National Guard. He resides in Lawton, OK.

Chris M. Chen (MS-CS) is living in Los Angeles, CA and employed as a computer graphic system designer/analyst with HARTOG also in Los Angeles.

Jon Gwin (BS-Chem. Eng.) is employed by RCA Solid State in West Palm Beach, FL, as a chemical engineer. In the October 1983 issue of UPDATE, in the "New Grads Rep ~ . under "BS-Mechanical Engineering," we inadvertently put Elizabeth A. Heneghan's name where Jon Gwin's name should have been. We apologize for the mix-up.

Terry Bernes (BS-Chem. Eng., Env. Eng.) has recently secured a positon with Sikorsky Aicraft in Stratford, CT. (Congratulations, Terry!)

John A. Jenkins (MBA) is a senior financial analyst for Pratt & Whitney Aircraft in West Palm Beach, FL, and now lives at Palm Beach Gardens.

CAN YOU HELP US LOCATE THESE GRADS?

GRADUATE	GRADUATION DATE	DEGREE
DEAN REIMER	1967	BS-Elec Eng
JESSE SLATER	1371	MS-Elec Eng.
MICHAEL ZACCARDO	1872	BS-Mgmt Sci.
CRAIG BRAMMER	1974	MS-Log. Mgmt.
SANDRA TYLER	1975	BS-Marine Bio
DAVID STUBBS	1977	MS-Mech. Eng.
ROBERT SCHOENE	1978	AS-Ocean. Tech.
JOHN MURRAY	1979	BS-Chem Ocean
SALLY HARRINGTON	1980	BS-Mgmt. Sci
KANDACE KRAMER	1983	BS-Air. Com.

Board of Directors are at work

The Board of Directors of the F.I.T. Alumni Association held a board meeting September 27, 1983. At that time, several policies were revised and implemented. Those items of importance included:

1. Elimination of $10 renewable membership fees in favor of a $1 renewable membership fee or $1 of an alumni donation. The $1 fee is a token fee so that membership cards are generated only for those with some interest in the association, rather than generate a card for every alumnus.

2. Definition of F.I.T. alumni to include only those who were granted a degree from F.I.T. This excludes those who attended but did not graduate from F.I.T.

3. Implementation of a Friday afternoon event at the beginning of Alumni Weekend. This event is to be attended by alumni, faculty and students, in an effort to promote the interaction of past and present students, share ideas, employment information and college experiences (scheduled for February 17, 1984).

4. Design and distribution of new F.I.T. Alumni decal to all alumni with current addresses.

5. Recommendation for "split-theme" in Annual Giving program whereby alumni have opportunity to support theme for *the* year or area of preference. Main theme for 1983-84 to be "Buy-a-Book" campaign far new Evans Library.

Other subjects discussed with decisions pending: 1) Preliminary alumni weekend activity schedule; 2) Hosting of pre-graduation event each quarter by alumni association for graduating seniors; 3) Initiating network for locating lost alumni; and 4) Organization and distribution of alumni packet including survey, decals, data sheet and calendar of events for alumni weekend by end of November 1983.

Annual giving for new library

by Judi Marino

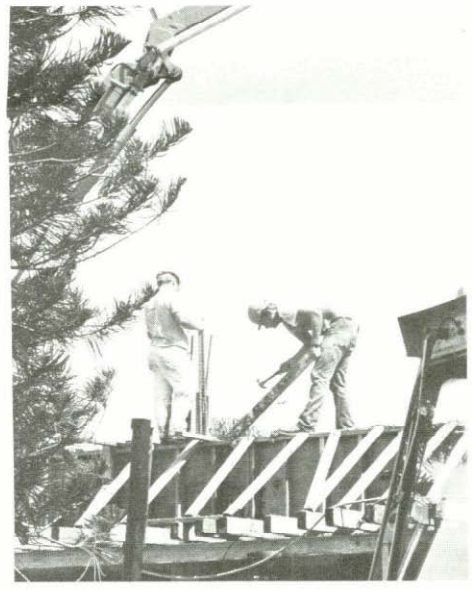
F.I.T. is launching our Annual Giving Campaign in early December.

The Evans Library is progressing at an amazing speed. The skeletal structure is all in place, tons of cement have been poured, A/C ducts and system are in, electrical wiring is being worked on, and lots and lots of support steel! The building is one of the largest, if not the largest building on campus. It will be a huge campus improvement upon completion.

What we are concerned with is stocking our shelves. We are asking for donations to purchase books, annuals, periodicals as well as support equipment such as microfiche readers, computer software, microcomputers, etc.

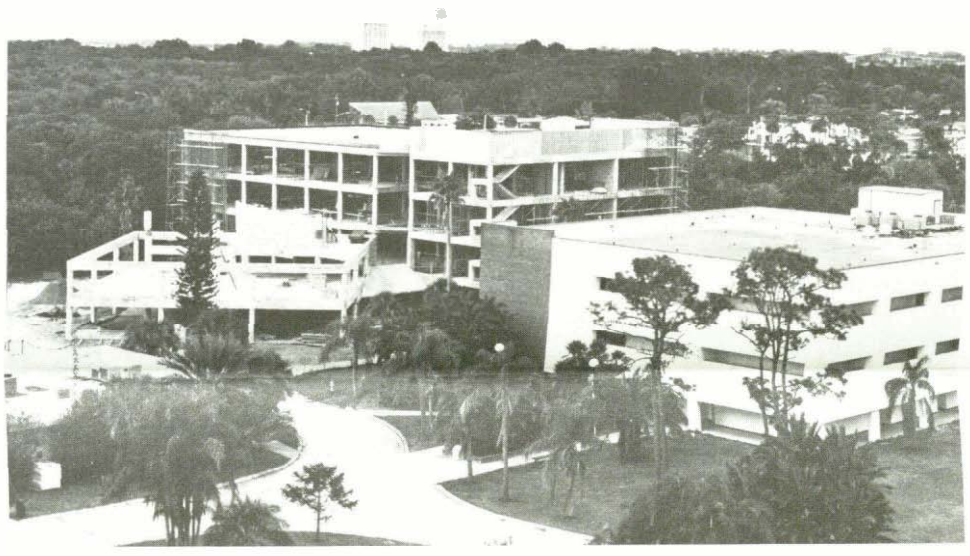
We feel many of you will see the need for a "state-of-the-art" library. Remember back to when you used the Library? Help us improve; this is a worthwhile cause. You may donate books to the department from which you graduates, or you may donate your own unused texts, manuals and current periodicals. Your company may have books, computer software, manuals or equipment to donate in your and their name. And, of course, monetary donations are acceptable.

Remember, all types of donations are tax deductible.



Steady progress

Work on the $6 million Evans Library, to open in the spring, is continuing at a steady pace. Pictured below is the new structure, being built beside the Link Engineering Building, as it appears to a viewer atop Crawford Science Building. The diamond-shaped extension at the front of the new structure is to become a teaching auditorium and a computer center.



PLAN FOR ALUMNI WEEKEND!

(Tentative Schedule)

FRIDAY, FEBRUARY 17, 1984
- Engineering Day
- Alumni/Student Barbecue Dinner in Classroom Quad
- Alumni Check-In
- Student Homecoming Dance (alumni invited to attend)

SATURDAY, FEBRUARY 18, 1984
- Aviation Management Symposium
- Alumni/Admissions Recruiting Workshop
- Alumni Association Annual Meeting and Luncheon
- Traditional Alumni Crew Races
- Annual Alumni Banquet with theme dinner
- Alumni Casino Night
- F.I.T. Baseball Team vs. Florida Atlantic University
- Intramural games (sports equipment available)

SUNDAY, FEBRUARY 19, 1984
- Alumni Champagne Brunch

**All events subject to change.*

For further information, write or call the Alumni Affairs office, 150 W. University Blvd., Melbourne, FL 32901 (305) 723-3701, ext. 261.

New Grads Report:

Congratulations and "Best of Luck" to the following graduates who have secured positions since our last issue:

Terence Bernes	BS-Chem./Env Eng	Sakorsky Aircraft, Stratford, CT
Christopher Norton	BS-Avia. Mgmt./Flt.	Peoples Express Airlines, Newark, NJ
Lynn A Warner III	BS-Comp. Sci.	Harris Corp., Melbourne, FL
Joseph V. Camera	BS-Mech. Eng.	U.S. Navy, Orlando, FL
Brian Y Stewart J	BS-Mech. Eng.	Applied Energy Systems, Cocoa Beach, FL
	BS-Ocean Eng.	Army Corps. of Engineers, Ft. Carson, CO
Linda Lee Loyd	BS-Elct. Eng.	Chrysler Corp., Huntsville, AL
Henry Nizko	BS-Elect. Eng.	Texas Instruments, Dallas, TX
Jerry Conner	BS-Elect. Eng.	U.S. Air Force, Wright-Patterson AFB, OH
Dennis Pelon	Ph.D.—Clin Psych	Resuming private practice, East Longing, MI
Don Stewart	Psy.D.	Drs. O'Halloran & Bernstein, Merritt Island, FL
Tawatchai Sriwatana	MS-Sci Ed.	Math teacher, Thailand
P. Ramakrisham	MS-Mech. Eng.	National Semiconductor Corp. Santa Clara, CA

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Environment is Topic

Continued from page one

Preservation of a hardwood hammock or forest area along Turkey Creek is a major goal of the comprehensive plan adopted by Palm Bay in 1981, as was also recommended in Barile's thesis.

'There were all kinds of reasons that came out in the study that said the hammock was an extraordinary place," Barile notes. Among them were its utility for storing water during flood periods, and for maintaining dean water.

About 100 acres of wilderness in all, the hammock stretched through Palm Bay to southern neighbor Malabar. "It was everybody's secret place. . . everybody had their own way in, and everybody thought it was their own."

Fishermen had secret trails and youngsters had hidden tree forts and swimming holes. Centuries-old quiet was being displaced by off-road vehicles. Nahve plants were being pushed out by exotics.

Erosion triggered by visitors' footprints was taking a heavy toll on the high sand-bluffs along the creek. (Old-timers recall when the bluff line was the domain of panthers, bold enough to stalk fish-laden boats moving along the waterway.)

In the mid-70's General Development deeded 27 prime acres of the hammock to the Florida Audubon Society. The transfer occured as the company sought state pennis sion to build its lock and dam.

Barile was made a member of a caretaker committee. (Another piece of the hammock is owned by the city. That 40-acre recreation area is adjacent to the Audubon land.)

"It took more than just fencing the area off. It took an awareness of just how vulnerable the area is," Barile said of the committee's work. Barile and others got into the habit of one-on-one discussions with people damaging the area.

'The community saw there was very little good happening, and a lot of bad." A joining of hands in defense of the hammock began, involving individual citizens and businesses as well as groups ranging from native plant buffs to Scouts and garden dubs.

In 1980 the group overseeing the area became an expanded Turkey Creek Sanctuary Committee, incorporated to act as an advisory board to Palm Bay as well as to Audubon. Representation now includes General Development and Harris Corp.

Plans have been made for creation of a Turkey Creek Sanctuary Park under city sponsorship and with state funding, opening the hammock to citizen uses ranging from exercise paths to nature study sites.

A Turkey Creek Day issponsored by the city as part of the effort to rally the community, and Gov. Bob Graham dropped by to commend the effort. A second annual installment of that event was held this year.

Barile has also guided a city program to gain acceptance of measures to protect manatees in Turkey Creek. The bulky aquatic mammals are so anachronistic that there is some sense to people calling them sea cows and mermaids.

Three F.I.T. graduate students aided by Barile identified nearly fourdozen of the rare animals wintering in the creek. Prior to that work, thereexistedno scientific record of the federally-protected creatures in the waterway.

The committee is also encouraging developers with property along the waterway to leave natural buffer zones.

'The incredible thing is that so many people with such diverse views have gotten together on this project," said Barile.

"As a scientist, your duty is to pursue the study wherever it takes you. . . You have to hope the total outcome is something most people want . . . because without support you just can't do anything at all."

Small t h i like bumper stickers and posters can help spark environmental interest. Barile even created a game that simulates political processes related to enn-ronmental matters. Players across the country have tried their hand at planning for Barile's make-believe city.

There is also a cartoon book entitled, "Man Meets Coast," written by Barile in 1980 undera Florida Sea Grant contract with F.I.T.

Barile managed to boil 300 pages of scientific findings down to 30 illustrated pages. She has no doubt about which one will attract the mwt readers.

Story by Michael Moore

On Turkey Creek

Diane Barile and son Peter travel on Turkey C m k

Graduates tell "fish farm" story

Dec. 1983

Continued from page one

Water is pumped in at one end of the rare way, and discarded at the other.

The aquacell at The Land is experimental. Various aquatic organisms are raised in h i densities in a closed, recirculating, and water-conservingsystem.

"The entire system uses about 30,000 gallons of water," said Andrew. He noted that the Disney aquacell consists of four raceways and six exhibit aquariums called 'aqua-tubes."

Long View

Mike Andrew examines an "aqua-tube" that provides a growing area for eels as well as an exhibit f a EPCOT visitors.

Andrew explained that unlike industry's raceways at Disney water leaves the raceways and goes to a life support building where it is cleaned, and then pumped back again to the raceways.

He said that the aquacell is bathed in red light because some scientific studies suggest that it creates a less stressful environment for the fish. Lower stress is believed to help increase their growth and reproduction.

Evans assists Andrew in monitoring water quality and temperatures, dissolved oxygen rates, and food intake of aquatic organisms raised in the aquacell.

She explained that the aquatic organisms require constant attention, since any contaminants in the water or disorders among the fish could affect the entire population.

Both aquaculturists believe that large corporations could one day dominate the business, since such enterprises require large initial investments and offer no quick profit.

"It is like a garden, you put a lot of money and a lot of work into it," said Evans.

"I do not think you will see the emergence of backyard aquaculture in this country," said Andrew.

As for their future plans, Evans hopes to start her own family run aquaculture business in Pierson, Florida. She already envisions some 15 acres of ponds on family property there yielding an estimated 10,000 pounds of fish.

Andrew's long-range goals include working for a governmental aquaculture project at the forefront of cross-breeding high protein food fish. It is the same path to better food sources that agriculture has taken over the last 40 years, he noted.

Story by Mary Deese

F.I.T. offers one of the nation's few bachelor degree programs in environmental science that allows students to gain "hands-on" experience in growing a variety of aquatic organisms.

"The aquaculture program we offer here is completely unique in the U.S.," said Dr. Michael Hartman, head of the Natural Sciences and Aquaculture Department at the Jensen Beach campus.

Hartman explained that aquaculture involves the farming or rearing of aquatic organisms ranging from plants such as kelp and algae to fish such as trout, catfish and crayfish — the principal aquaculture crops in the the U.S.

"Our students study several aquatic organisms we raise here including everything from tilapia (an exotic fish from Africa), to freshwater shrimp, and crayfish," said Hartman. The aquaculture facility at F.I.T.'s Jensen Beach campus includes a half-dozen 3,000 gallon tanks and several smaller "raceways," as concrete aquaculture tanks are called.

CAMPUS NOTES

OUR SILVER ANNIVERSARY
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FLORIDA INSTITUTE OF TECHNOLOGY DECEMBER 1983

Dr. Donald K. Stauble and Dr. Walter G. Nelson of Oceanography and Ocean Engineering have co-authored a research paper entitled, "Beach Restoration Guidelines: Prescription for Project Success." Dr. Stauble presented the paper at a recent joint conference of the American Shore and Beach Preservation Association, and the Florida Shore and Beach Preservation Association held at Boca Raton. Attending the meeting were federal, state and local officials, coastal engineers, and scientists from throughout the U.S.

Dr. George C. Webster, head of Biological Sciences, and Sandra L. Webster, recently co-authored an article entitled, "Decline in Synthesis of Elongation Factor One (EE-1) Precedes the Decreased Synthesis of Total Protein in Ageing." Their article was published in the latest issue of *Mechanisms of Ageing and Development*.

Dr. Kenneth L. Kasweck, associate professor for Biological Sciences, was recently named "chairman-elect of the education committee" of the American Society for Microbiology.

Dr. Edwin F. Strother, associate professor of Physics and Space Sciences, was the recent recipient of the American Institute of Aeronautics and Astronautics (AIAA), national "Outstanding Section Award." The award was presented during the society's September meeting held at Patrick Air Force Base. Dr. Strother has served as chairman of the AIAA Cape Canaveral Section since 1978.

F.I.T.'s student branch of t k AIAA offers students the opportunity to interact with a wide range of aerospace professionals through its association with the senior chapter.

Dr. Susan Braunstein, associate professor of Fine Arts at Jensen Beach, addressed the American Sports Education Institute in North Palm Beach recently. The topical her presentation was "Organizational Publicity in the Print Media," and included a discussion of theoretical and practical methods of public relations. The American Sports Education Institute represents 17 different national sporting associations which have their home offices in Florida.

Dr. Randall L. Alford, director of the Language Institute, was recently selected as one of the "Outstanding Young Men of America" for 1983. The young men so recognized are chosen on the basis of their service to others, professional excellence, civic and professional recognition, and community activities.

Reference librarian Debbie Anderson-Mosby recently attended NASA/Recon computer literature search training at the NASA/Scientific and Technical Information Facility in Baltimore.

Susanne L. Sellars, marketing analyst for the Graduate School, participated in the Educational Testing Service's Graduate and Professional School Forum recently in Philadelphia. She also attended the University of Maryland's state university consortium Graduate School Fair held in Baltimore.

Dr. Arthur A. Kimball, director of the Florida-Colombia Partners has announced that the Partners of the Americas XU International Convention was held November 17 through 20 Merida, Yucatan Peninsula, Mexico.

Attending from F.I.T. were President Keuper; John Carkeet, associate dean of the School of Aeronautics; Joy Dickens, international student advisor; Ralph Johnson, director of development; Bob Kirkland, admissions director for the School of Aeronautic% and Grace Wylie of the Language Institute.

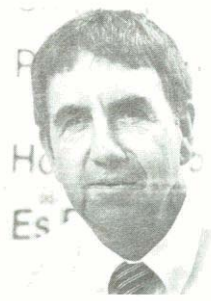
Carolyn Drown of Off-Campus Programs has announced the opening of a new office at the university's combined Patrick Air Force Base/Kennedy Space Center site. The new office is located at the NASA Headquarters Building at KSC.

Jackie Lorick coordinator for Veterans Affairs was the recent recipient of the National Association of Veterans' Programs Administrators (NAVPA) "President's Award." NAVPA is comprised of administrators of Veterans Programs from colleges and universities nationwide. The award was presented to Lorick by NAVPA president Marvin Peterson in recognition of-b outstanding service" to the organization at a NAVPA conference held in Honolulu, Hawaii. Lorick was also elected treasurer of NAVPA at the conference. She currently serves on the Board of Directors of the national organization.

Exxon gift will aid air lab

Equipment that will form the nucleus of a laboratory for air pollution research at F.I.T. has been given to the university by Exxon Company U.S.A. of Pensacola, a division of the Exxon Corp.

In making the announcement, Dr. N. Thomas Stephens said the $11,000 gift "will be put to use immediately in air pollution research projects involving acid rain." Stephens is chairman of the Environmental Science and Engineering program.



Dr. Thomas Stephens

Of special interest to F.I.T. researchers, he explained, is sulfur that is released into the air by plants and soil bacteria.

Sulfur put in to the air as a byproduct of human activities has received major study as a cause of acid rain. But Stephens termed the natural releases "an unknown factor but possibly a significant one in this part of the country."

Exxon Company gave F.I.T. a sophisticated automatic atmospheric sulfur analyzer, a calibration unit, and a recorder, said Stephens

Computer Center meets university needs with double power

The capability of F.I.T.'s Academic Computer Center, which serves both students and faculty, has doubled for the new academic year.

There is more computer power available, and there is an expanded center to hold more terminals.

There are also such niceties as the computer's new ability to assign terminals to users on a first-come, first-served basis.

The changes, guided by an Academic Computing Committee, were a response to the growth in demand for computer access. explains Dee Dee Pannell, center director.

The behind-the-scenes work of Pannell and her staff must be responsive to more than 3,000 users. Most are students who travel to the center to do programming assignments. The heavily used VAX 11/780 computer now sports 41 terminals at the center, compared to M f that many last year.

Inaddition, there are two VAX terminals plus microcomputers in a faculty-use room at the center. All academic departments also have their own terminals that tie into the VAX, and faculty members as well as graduate students have the option of talking with the computer from home through the use of "dial-up lines."

The VAX handles the major portion of academic computing activity. It is a primary tool of researchers, and is a critical part of programming instruction in major computer languages. The languages it can hold range from COBOL and FORTRAN to Pascal and APL.

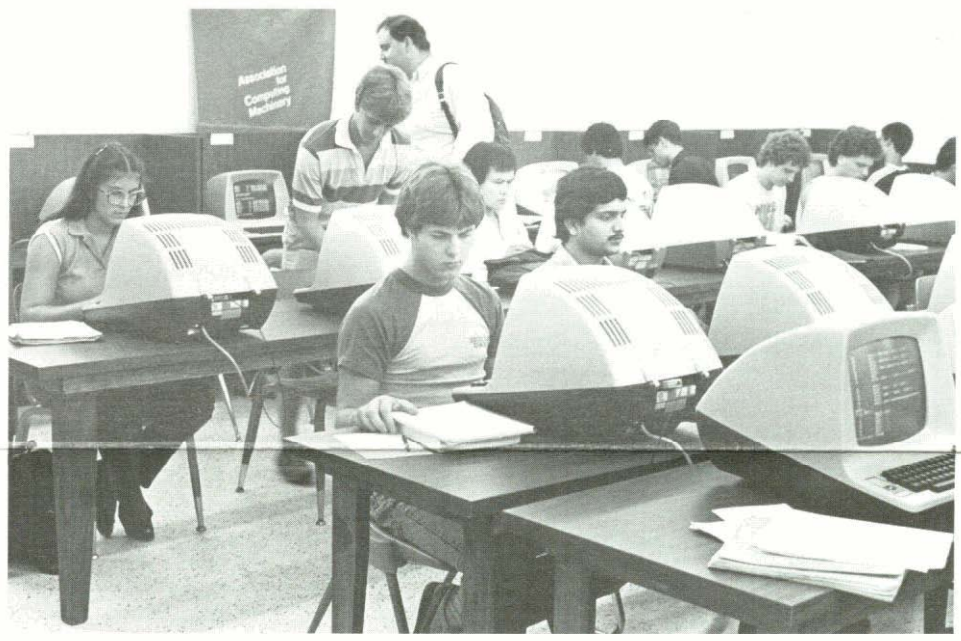
That machine's memory — which dictates the capabilities of the VAX – was doubled during the summer (from four to eight megabytes, which is the ability to store eight million characters of information).

In a "specialty room" adjacent to the VAX terminal room, a different set of 10 terminals tie into a PDP 11/34 computer (which like the VAX is a product of the Dital Equipment Corp.). That machine is used for teaching "BASIC computer programming. Also in the room are terminals dedicated to computer graphics, and two VAX terminals for use by reservation,

The duties of the center's staff are multiple, ranging from monitoring of computers' internal activities to the writing of programs that make the machines more responsive to diverse F.I.T. needs.

Staff members include John Adams, Kevin Hester, Mike Newell and Ann Brossard. A bevy of student workers handle routine operations in the terminal rooms, and offer assistance to struggling programmers.

One example of ongoing work is the center's capability to offer same-day grading of placement tests given to incoming freshmen, and to provide recommendations on classes to which students should be assigned.



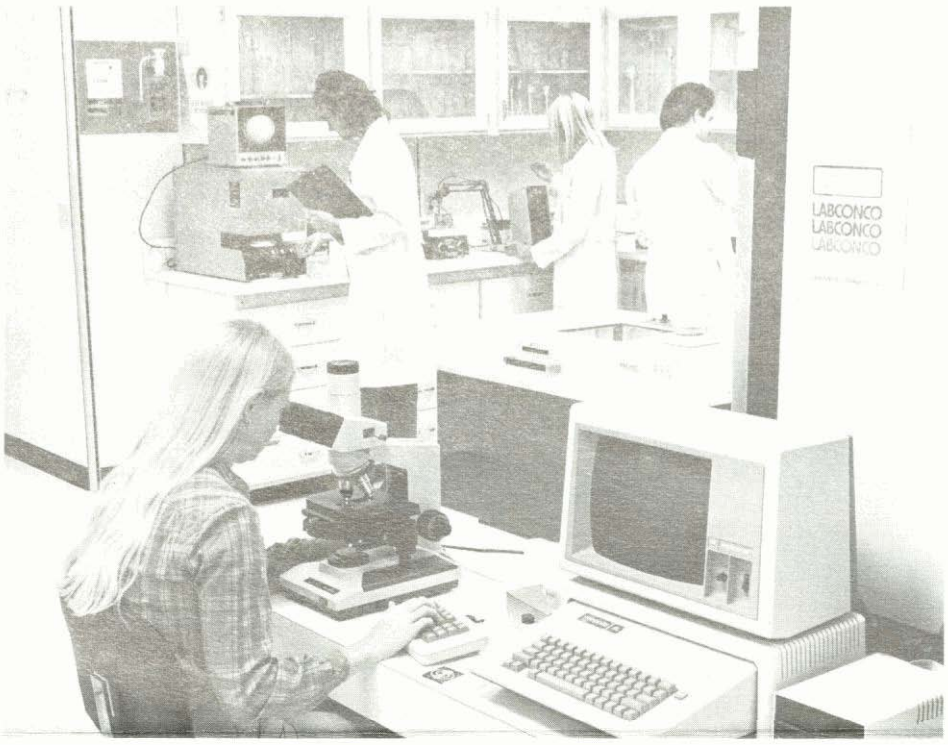
Center of activity

Above, programmer **Mike Newell awaits** a **print-out** of **computer-generated information. Above at right, students find** a spot **in** the **terminal** mom that **allows access to** the VAX **computer. At right, Center** director **Dee** D m Pannell discusses **operations with programmer** Ann **Brossard.** In the **background** a n **tapes** used for **recording computer programs** and data.

Test will find causes of genetic change

A contract with IBM in allowing F.I.T. researchers to unravel mysteries surrounding genetic changes in living cells. The work is aimed at further development of a tea system to detect chemical compounds that are potentially hazardous to human health.

Dr. John C. Hozier, director of the Medical Genetics Laboratory, was awarded a $50,000 contract with IBM Corp. for a one-year study. Preliminary work to develop the test system was supported by a $245,000 contract from the Environmental Protection Agency.



Genetic laboratory

The laboratory of Dr. John Hozier accommodates research that includes computerized examination of genetic material.

The test system currently under development involves scrutiny of mouse cells grown in the laboratory, and the ability of chemicals to alter the biochemistry of these cells by changing their DNA.

Hozier explained that the test system is able to measure the exchange of genetic material between different chromosomes. Chromosomes are the microscopic rod-shaped bodies containing the DNA and are found in the cell nucleus. The exchange process is expected to yield information about agents which damage chromosomes. Such events can result in human disorders such as cancer or birth defects.

The IBM contract will support efforts to isolate and reproduce — or "clone" — many copies of a specific piece of DNA, the mouse thymidine kinase gene. That will allow changes in the chromosomes to be examined at the molecular level, and will make the results from animal cell studies more indicative of the && involved in human exposure to potentially hazardous

Assisting Hozier in the study are co-investigator Dr. Kenneth L. Kasweck, associate professor in Biological Sciences, graduate student Meg Snowden, and post-doctoral fellow Mastha Applegate.

Story by Mary Deese

Jack and Patricia Scott, with Dr. John E. Miller (center), Executive Vice President, examine an antique Bible given to F.I.T. 4 the couple.

Bible *is gift*

An antique Lutheran Bible was recently a personal donation to F.I.T. fmm Patricia and Jack Scott. He is chairman of the board of the Gannett Foundation. The Bible is to be on display and used in special religious ceremonies On campus.

The gift is a large Bible published in 1730 in Lubingen, Germany, according to Nancy Hanam, special assistant to F.I.T. President Jerome P. Keuper. The 2,000-page text of the Bible is in German, and it features woodcut illustrations.

'We wanted to donate it to F.I.T. because it would be close to home," said Scott. The Scotts live in Cocoa Beach. He said the Bible has great sentimental value, since it has been in his wife's family for years.

Scott said he believed that the gift would also complement F.I.T. projects to raise funding for an "All Faith Religious Center," and to acquire $4 million worth of new books for the expanded library that is being built.

New computer education program will benefit teachers

With more than 6,000 microcomputers currently in use for instruction in Florida elementary and high schools, F.I.T. is t a k i i a leadership role in training teachers to use the machines.

As of the Winter Quarter, the Science Education Department will be among the few university programs in the state to offer a master's degree program in computer education.

'The degree program is aimed at high school and elementary school teachers with a wide variety of teaching backgrounds," says Dr. Robert H. Fronk, head of Science Education.

"Many of these teachers hold college degrees in history or English, have a strong desire to learn moreabout microcomputers, but lack the prerequisite undergraduate science and math courses necessary for admission into a graduate-level program in computer science,"said Fronk.

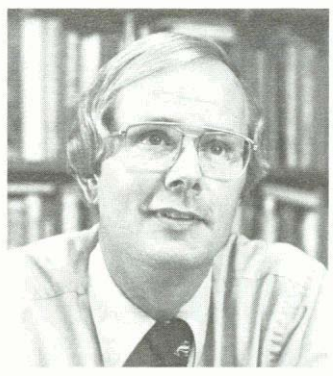
"We hope the teachers we train through this new degree program will return to their schools and help lead the way in the introduction of microcompters into their schools," he added.

Persons seeking admission into the new program must have a bachelor's degree and be proficient in college Algebra and "BASIC – the most widely used computer programming language in elementary and secondary schools.

The degree program will be taught cooperatively by faculty members from Computer Science and Science Education. Persons enrolled in the program will take specialized courses in several computer languages including advanced BASIC, PASCAL, LOGO and PILOT.

Fmnk said the program will offer multiple benefits for teachers. 'If teachers know how to design computer programs for their particular class, then they will have a better idea of what to look for when evaluating instructional software," he noted

Fronk said that state law already requires students to takecomputereoursesinorder to earn a high school diploma, and state lawmakers are currently in the process of developing new certification requirements emphasizing computer literacy for second~ school teachers.

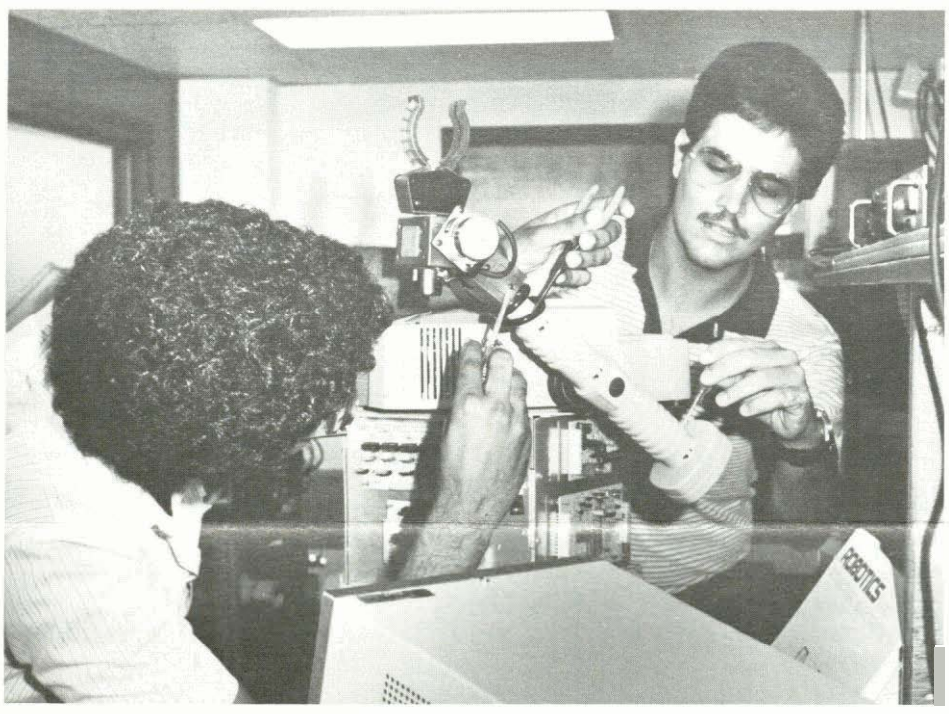


Dr. Robert Fronk

Fronk explained that while the term "computer literacy" remains undefined by legislators, new laws may require that teachersbe able to operate a small computer as well as be familiar with computer programs that apply to their teachingdiscipline.

Tuition reductions are available to Florida teachers enrolling in a degree program offeredby Science Education.

Story by Mary Deese



Robot fixers

Electronics students David Pinto and Jarge Jarrot learn the ins-and-outs of a "HERO 1" robot, part of the equipment being used in the robotics technology degree program recently begun at the Jensen Beach campus.

Robots arrive at Jensen Beach

Degree programs in robotics technology have been initiated at the Jensen Beach campus, according to Dr. William Gehring, dean of academics for programs there.

'We are now-in the dawn of the robot revolution," Gehring said. "Robots are entering the work place in large numbers and changing the job market in most of the world's industrialized nations.

"Presently robots perform simple repetitious mechanical tasks which require accuracy or strength that human beings find difficult or dangerous to match," Gehring continued.

'The future holds far more sophisticated robots. Robots will be found in research, industry, health care, education and home maintenance. Robots will be capable of more varied tasks, and they will be better able to perform 'human' functions such as seeing, walking, discriminating and talking. Robots will be part of our daily lives," said Gehring.

F I.T. developed its new program with the cooperation of major robotics manufacturers and industrial users of robotics systems.

"The roboticsprogram will give students the applied courses necessary to participate in this dramatic revolution," said Lee Hams. robotics department head.

"The curriculum includes relevantcourse work in both software and hardware which will allow students to become technicians and technologists involved in the installtion, maintenance and modification of industrial robotic systems," he said.

Students can choose either the two-year associate degree program or the four-year bachelor of science curriculum.

Who's Who honors F.I.T. students

The names of 25 F.I.T. students studying at the Melbourne campus have been included in the 1984 edition of Who's Who Among Students in American Universities and Colleges. The persons honored were selected as "national outstanding leaders.

The students selected are among persons so honored from 1,500 colleges and universities in the U.S. and several other nations. according to an announcement from the directory. The annual publication, headquartered at Tuscaloosa, AL, was first published in 1934.

Selection is based on academic achievement, service to community, leadership in extracurricular activities, and potential for continued success. Campus nominating committees submit names of candidates for review by directory editors.

Students honored by Who's Who include:

JoAnn Maria Alden, ocean engineering, Willowbrook, IL; Scott James Barberides, flight technology, Newton, PA; Harry Lloyd Chin, transportation technology, Miami. FL; Jose Enrique deAlvare, business administration, Madrid, Spain: Todd Alan Fancher, pre-professional biology, Birdsboro, PA.

Julian R. Field, electrical and computer engineering, Venezuela; Gregg Edward Fraker, business administration (graduate), Middle Point, OH; Donald Joseph Hammel, ocean engineering, Longwood, FL; Stephanie L. Lee, molecular biology, Hyattsville, MD; Gail Amanda McGarry, geological oceanography. Sarasota, FL.

William Jeffrey Miller, biological oceanography, New Carlisle, OH; Morgan Moallem, computer science, Ithaca, NY; Mary Margaret Moore, biological and chemical oceanography, Penacook, NH; Seshagiri Munipalli, electrical engineering and physics, Jacksonville, FL; Thomas Robert Murray, ocean engineering, Webster, WI.

Christine Anne Panico, chemical oceanography. Bayonne, NJ; Nancy Lynn Phillips, computer science (graduate), Hampton, VA; Iraj Robati, electrical engineering. St. Augustine, FL; Amy Marie Roy, computer science, Indian Harbour Beach, FL; Debra Ann Santasieru, p=-professionalbiology, Melbourne, FL.

Robert Glenn Stewart, electrical engineering, Titusville, FL; Lynn D. Wentworth, electrical engineering, Tampa, FL; Karen Elizabeth Williams, marine biology, Pompano Beach, FL; Ida H.C. Yuan, business administration and computers, Miami, FL; and Luis Alfredo Zedan, electrical and computer engineering, El Salvador.