

CAMPUS NOTES



FLORIDA INST

NOLOGY

OCTOBER 1984



Back to school!

Selecting the right classes for the Fall Quarter could be a tough chore for Lori Long, a senior in Biological Sciences. If it were not for the helpful wags of "Wiggles," whose major is undeclared,

Jerome Lauderbaugh, Dean of the School of Aeronautics, recently visited Dayton, Ohio, for the enshrinement of Marine hero Joe Foss and Henry Ford into the National Aviation Hall of Fame. He also attended the National Dayton Air Show, and thereunion of his 49th Air Force Fighter Squadron.

Aeronautics Associate Dean John Carkeet was the guest of Marine Corps Development and Education Command Post at Quantico, VA, where he viewed some of the activities that F.I.T. graduates participate in on their way to becoming officers.

Jim Constantine of Aeronautics attended the Florida Airport Managers Association meeting in Orlando, and will be attending the FAA conference for international airport managers in Oklahoma City during October.

Associate Professor Jack W. Schwalbe and adjunct Professor Gary Ledford of Civil Engineering were responsible for conducting a summer seminar on "Design Considerations for Wind Loading on Structures," sponsored by the American Society of Civil Engineers (ASCE) and held at F.I.T.

Dr. Andrew W. Revay, Dean of the College of Science and Engineering, offered welcoming remarks. He was introduced by Richard Wood, President of the Cape Canaveral Branch of ASCE.

Some 65 engineering and scientific professionals from the Southeast attended. Speakers included Schwalbe, Glen Winslow of Southern Building Code Congress International, consulting engineer Herbert Saffir, Byron Spangler of the University of Florida, and Walter Bowman of Walter Bowman Associates.

The library staff has invited students, faculty and staff to inspect and to use the new Evans Library. Hours of operation for the Fall Quarter will be:

Mon. - Thurs	8 to 11
Friday	8 to 5
Saturday	9 to 5
Sunday	10 to 10

Schwalbe also attended a meeting of the American Society of Civil Engineers, Engineering Mechanics Division Conference, at Laramie, WY to deliver a paper on "Analysis of Concentric Stiffened Cylinders."

Ralph Johnson, Director of Development, reports the successful conversion of donor and alumni records from paper to computer. The records are now under the care of the Administrative Computer

Center, and the IBM equipment located there.

The work to put the records "on-line" has taken more than a year. Cooperating in the venture were Johnson, Eddie Brock, Director of the Computer Center, programmer David Chou, Assistant Comptroller Walter Stumpf, and Judi Marino, Director of Alumni Affairs.

Gene lab opens

A new laboratory for use in teaching genetic engineering has been completed by Biological Sciences on the second floor of Link Engineering Building. The lab is under the supervision of Dr. Charles D. Polson, Assistant Professor of Biological Sciences.

The lab will permit extensive work by molecular biology students in gene splicing and related technology. F.I.T. has one of the very few undergraduate programs in genetic engineering in the country.

Military Science has updated its list of faculty and staff to include LTC Michael W. Daly, CPT John W. Campbell Jr., MAJ Robert L. Ingram, CPT Mark D. Daniels, SGM James A. Benton, SGM Donald K. Vick, MSG Charles W. Gibson, MSG Jimmy L. Johnson, SFC Steve R. Shirah, Geraldine Blackford, Neoma McMahon, and Judith Malone.

Dr. John C. Hozier, Associate Professor of Biological Sciences, recently participated in several meetings in Great Britain, including "Oncogenes in Clinical Diagnosis" in Leeds, "Micro-84" in London, and a conference at Oxford on "Mouse Cytogenetics."

Dr. Kenneth L. Kasweck, Associate Professor of Biological Sciences, served as a faculty member for a workshop on "Plasmids in Biotechnology," held at Colorado State University under sponsorship of the Society for Industrial Microbiology. The workshop had faculty from F.I.T., National Institutes of Health, Purdue, I.I.T., and Batelle Laboratories. It provided training in the latest techniques in the use of plasmids, which are tiny circles of DNA used in genetic engineering.

Biological Sciences faculty have continued the publication of reports describing ongoing research. Articles have included a work by Dr. Kerry B. Clark, entitled "New records and synonymies of Bermuda opisthobranchs," published in *The Nautilus*.

An article on "*Echinaster graminicola*, a new species of spinulosid sea star from the west coast of Florida," by D.B. Campbell and Dr. Richard L. Turner was published in

Proceedings of the Biological Society of Washington

An article by Dr. George C. Webster and Sandra L. Webster on "Specific disappearance of translatable messenger RNA for elongation factor one in aging *Drosophila melanogaster*," was published in *Mechanisms of Aging and Development*.

Dr. Alejandro Mayer and wife Beatriz, both of the Consejo Nacional de Investigaciones Cientificas and Technicas, Argentina, recently visited Oceanography and Ocean Engineering. Beatriz Mayer discussed her common interest in dinoflagellates with Dr. Dean Norris.

Oceanography and Ocean Engineering is hosting Trisevyene Yiannakopoulou for a three-month visit from Democritus University of Thrace, Xanthi, Greece. Venny, as she is known in the department, is working with Dr. Walter Nelson and Norris, along with personnel of the Harbor Branch Foundation, in the analysis of phytoplankton and ecological data collected from an estuary in northern Greece.

Danny E. Blanchard, an adjunct faculty member at the Redstone Arsenal, AL graduate study site, has received the Distinguished Service Award from Oakwood College, Huntsville, AL. He received his undergraduate degree from Oakwood, has worked in behalf of the institution both as volunteer and a faculty member, and in 1982 was Oakwood College Alumnus of the Year.

While receiving his master's degree from F.I.T. at the Army Logistics Management Center at Fort Lee, VA, MAJ Douglas J. Brown also received a research award. The Old Dominion Chapter SOLE Research Award for best logistics research paper resulted from his paper on "A study of factors contributing to waste and inefficiency in Defense Contract Administration Services plant representative offices."

Dr. Albert E.J. Bachmann, Chairman of the Management Department's graduate engineering management and systems management programs, has published an article entitled, "A product/market project system" in *Engineering Management International*.



At the boardwalk

The seashore in Indalantic provided a dramatic setting for NOAA (National Oceanic and Atmospheric Administration) head John Byrne's announcement of a \$160,000 grant to an F.I.T.-based project headed by Dr. Ivar Duedall. Duedall (at left) displays waste materials that end up in the sea, which is the topic of a "Wastes in the Ocean" series of books being produced by the F.I.T. Center for Academic Publications. Looking on are Byrne (at right) and Congressman Bill Nelson.

Bio-environmental graduate student Luis Mitchell was awarded a scholarship to attend a summer course at the Bermuda Biological Station for Research. In addition to course work in "marine natural products chemistry," he confirmed the presence of *Gambierdiscus toxicus* in Bermuda. The distribution of this benthic dinoflagellate — a causative agent of tiquatera poisoning in the tropics — has not been well defined. That subject is part of studies by Mitchell, graduate student Jeff Bomber, and Dr. Dean Norris.

Dr. Maurice Kurtz Jr. of Civil Engineering attended a conference on "University Programs in Computer-Aided Engineering, Design, and Manufacturing" held at Lehigh University in August. He presented a paper on "Interactive engineering graphics for sophomore civil engineers," co-authored by Georgios Georgiadh, who earned his M.S. in computer science from F.I.T. this year.

Infrared photographs by Mark Taylor, Chairman of the Photography Division at Jensen Beach, are being shown in galleries in

Paris and two other French cities in a Kodak exhibition. The inclusion of his work in a publication called "American Infrared Survey" led to selection for the tour and for U.S. exhibits.

Two persons will be adding their expertise to the faculty of the School of Aeronautics this fall. Lynne Lunnen, co-owner of a business called Travel with Class, will teach a course on the travel and tour industry. A graduate of Dickinson College with a B.S. in German, she resides in Suntree with her husband and two children.

Joseph F. Connolly II will be commuting from Orlando to teach a new course in air search, survival and rescue. He received his J.D. from Blackstone School of law.

Jeanne Flanagan was a member of the first American women's crew team to capture a gold medal in the eight-with-coxswain event, also becoming the first F.I.T. alum to earn the title of Olympic champion. A 1979 grad, she majored in oceanography.

Aviation training is real

The "Summer '84 Training with Industry" (TWI) program administered by the School of Aeronautics was one of the largest ever. Some 20 aero students trained with the aviation industry, both overseas and in the U.S.

One student was placed with Swedair in Stockholm, another with Nigeria Airways, and a third interned at Munich International Airport

In this country, the interns' employers included the Ft. Lauderdale Executive Airport; Mall Airways in Albany, NY; Midnight Express in Atlanta; the Aircraft Owners & Pilots Association, Washington, D.C.; Lyon Aviation at Pittsfield, MA, and Union Carbide Flight Department at Danbury, CT.

The TWI program has grown steadily under the guidance of Jim Constantine, a 13-year faculty member for Aeronautics. He works with students to identify a suitable aviation enterprise where the student can undergo management training.

Normally the student participates in TWI in the 11 weeks prior to his or her final quarter at F.I.T. The internship experience is then the subject of a report presented in a briefing for students preparing for the TWI experience.

Often, the TWI student is offered permanent employment at the internship site after graduation.



Jim Constantine



Summer news

Activities catching the eye of the press during the summer ranged from President Keuper's hobby of restoring MG automobiles, to an international visitor at Summer Commencement. Dr. Keuper is pictured in his home auto workshop. At graduation ceremonies, Dr. James Lyons, Chairman of the F.I.T. Board of Trustees, presented an honorary doctor of science degree to General Wei-yuan Cheng, Chairman of the Republic of China's Vocational Assistance Commission for Retired Servicemen. The general took the reins of the Commission after a highly distinguished career in his nation's army.



Car burns the "press," impresses researchers

For Markus Bowman, the phrase "power of the press" — or, more precisely, the power of newspapers — has taken on new meaning.

And it has nothing to do with the lofty jargon of media critics.

For the past six months, Bowman, an 18-year-old Melbourne resident, has been running his 1976 Fiat with a mixture of gasoline and liquid partially derived from, of all things, shredded newspapers.

Bowman's car is a guinea pig of sorts.

The sleek, black sports car is being used by two of Melbourne's Florida Institute of Technology professors trying to develop an efficient liquid fuel additive made from materials with a high cellulose content. Newspapers fit the bill.

So far, the professors say, their results are encouraging.

Bowman agrees. Just recently his car churned out 34 miles per gallon using the shredded newspaper mixture. With only unleaded gasoline in the tank, the Fiat gets about 27 miles to the gallon, according to Bowman. (He is the son of Dr. Tom Bowman, head of Mechanical Engineering and Dean of the Graduate School.)

But John Thomas and Ronald Barile, the two F.I.T. minds behind the project, admit they are two to three years from perfecting their fuel.

We don't think we have the ideal agent yet," says Thomas, "but we think there's a good chance we might come up with one."

For the past two years, Thomas and Barile have been experimenting with different biomass materials derived from living



Dr. John Thomas



Dr. Ronald Barile

things to produce a fuel additive to one day replace ethanol.

Newspapers, sawdust, sugar or other products with a high cellulose content can be used in the process, but Thomas says newspapers seem the best bet.

"It's cheap," he explains, "and we don't have to use materials that compete with food supplies. Nobody is eating newspapers these days."

Ethanol, on the other hand, usually is made from corn. It tends to corrode engines and only can be used in small quantities (about a 10 to 20 percent mix with gasoline) before engine adjustments must be made, says Thomas.

The P.I.T. researchers believe their newspaper-based additive can be produced more cheaply than ethanol and will be a more efficient fuel.

The process to make the substance is relatively simple. A mixture of hydrochloric acid and shredded newspapers is placed in an autoclave, which provides steam under pressure. The end result, after some additional steps, is levulinic acid — the key component. The acid is chemically converted to the fuel additive.

Thomas believes, however, that the process probably is too costly and cumbersome for individuals to convert their newspapers.

Once the product is perfected, the biggest stumbling block to getting the material on the market probably will be the government, according to Thomas.

Obtaining Environmental Protection Agency approval will be a difficult process, he says.

Reprinted from TODAY Newspaper

Reef changes captured on film

A scientist at the Florida Institute of Technology is conducting a pioneering study to determine the long-term effects of increasing human activity and subtle environmental changes on Florida's fragile coral reef ecology.

"One of the major questions of reef ecology is what are the inherent long-term changes in coral reefs," said marine ecologist William Alevizon. "Are the fishes stable over hundreds of years, thousands of years or are there natural cycles of fluctuations?"

"Nobody knows that. We're just at the point now where people are starting to get good enough quality data to start to assess changes or non-changes over long periods of time."

In 1974, Alevizon first visited Key Largo Dry Rocks and Grecian Rocks, two reef sanctuaries protected by the National Oceanic and Atmospheric Administration. He made 72 underwater films of the reefs that were analyzed to obtain relative fish populations.

But he realized the 2-minute films contained much more information than just fish populations. By comparing those films with video tapes made 10 years later, Alevizon would have a clear indication of how the reef environment changed over time.

"What we're going to do is compare the changes, if any, take a look at the fish populations 10 years later, the percent of live to dead coral and the other animals that grow on the reef," he said.

"By having a permanent record and doing this in a set way you really are better able to assess changes."

In June, Alevizon and two assistants returned to the reefs and made 72 more films under a \$9,300 grant from NOAA. The result was an overlapping series of views of the delicate underwater tableau and its teeming life.

Alevizon said the tapes will be used to analyze the populations of 40 representative fish species, non-reef-building and reef-building corals

"We're choosing representative groups to serve as what we call indicator species," he said. "You figure that if the indicator species haven't changed there's a good probability that most of the reef is fairly healthy."

"The original samples were taken strictly for the purpose of analyzing fish and we thought about it later and said, look, we've got a lot more information on these films than fish. Why don't we try to use some of it?"



Dr. William Alevizon

The two reefs under study are just a few miles away from Molasses Reef, where a freighter ran aground Aug. 4, causing extensive damage.

Alevizon said studies like his will help ecologists better assess such damage if a similar incident occurs again.

But that is an isolated example. Alevizon said the general effects of increasing human activity are what concern him. While spear fishing is prohibited in the sanctuary, hook-and-line fishing and lobstering are allowed.

"Hook-and-line fishing removes the top line carnivores, groupers, snappers, the things that eat other fish," he said. "So we have a situation where we have a protected sanctuary where it's still legal to remove the top of the food chain."

Reprinted from the Orlando Sentinel



Precocious and precious

Brandi Rodriguez (at left), age seven, and year-younger Carrie Wicklund join one of Professional Development's summer computer workshops under the gaze of wide-eyed Robina Lee Ann — a real doll to Brandi. Workshops for all ages, held in the Shephard Seminar Building, were sell-out successes.

Video expanded at Jensen

The successful raising of private and corporate money to allow an expansion of video programs at the Jensen Beach campus was announced. Trying out equipment are Mike Meyers (at left), Mark Taylor, head of the Photography Division at the campus, and Deanna Gene. In addition, Taylor plans to produce video tapes that will aid educational programs by allowing instructors to examine their classroom performances. Lectures and lab demonstrations will also be recorded and stored for use by both students and instructors.



WIN!

Guess the subject of the picture below and you may win an F.I.T. tee-shirt, along with a free subscription to "Campus Notes." Just include your best guess with departmental news that you submit for use in the next issue of "Campus Notes."



Please make sure your contributions and suggestions reach Mike Moore, Editor, Information Services (ext. 8084) prior to Oct. 12 for consideration.