

CAMPUS NOTES



FLORIDA INSTITUTE OF TECHNOLOGY

MAY JUNE 1984

Oceanography and Ocean Engineering was well represented at the 48th Annual Meeting of the Florida Academy of Sciences, held in late March at Florida Atlantic University.

Several graduate students presented papers resulting from research work. Presentations included, "Beach profile response after beach nourishment at selected projects in Florida and New Jersey," by Jeffrey Hoel, co-authored by Dr. Donald Stauble; "Temporal and spatial variations of sediment textural characteristics at several beach nourishment projects in Florida and

New Jersey," by Wade Blake, co-authored by Stauble.

"Oil ash as a waste material, the disposal options," by Vincent Breslin; "A comparative study of trace metal pollution in the Ivory Coast and Florida," by Issifou Kouadio, co-authored by Pogban Toure and Dr. John Trefry, and "Seasonality, specificity and geographic distribution of benthic toxigenic dinoflagellates in the Florida Keys," by Jeff Bomber, co-authored by Dr. Dean Norris.

A party of engineers representing F.I.T. at the Academy of Sciences meeting included Dr. Ron Barile, who chaired the engineering section of the meeting, which included topics such as electronics, computers, robots, polymers, air pollution and biomass auto fuels.

Engineers presenting papers included Dr. Don Mason, head of Chemistry and Chemical Engineering, Dr. Tom Stephens, head of Environmental Science and Engineering, and Dr. Muserref Wiggins and Barile of Chemical Engineering.

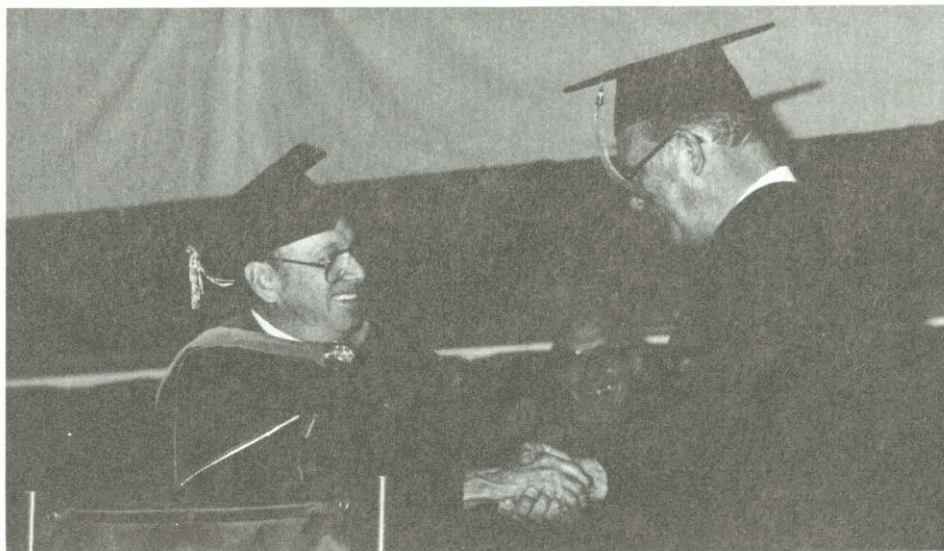
Dr. Dan Canary of Humanities has offered information to update his research effort over the last six months.

He has just completed a book for Praeger Publishers entitled, Attitudes and Behavior: An Annotated Bibliography. The book, to be in print in July, is co-authored by Dr. Dave Seibold of the University of Illinois-Urbana. It offers more than 600 annotations of studies focusing on the relationship between people's beliefs and behavior.

The communications researcher has also presented papers including, "Attributions of Loneliness and Relational Competence," co-authored by Dr. Brian Spitzberg of North Texas State, and delivered at the International Communication Association Convention. A paper entitled, "Argument and Group Decision-Making: An Interim Report of a Structural Research Program," was co-authored by Seibold and Nancy Ratledge of the University of Southern California, and delivered at the Speech Communication Association Convention.

A paper by Canary titled, "An Empirical Investigation of Attitudinal, Relational, and Situational Predictors of Interpersonal Communication," has been accepted for a May convention of the International Communication Association. He has also submitted an article co-authored by Dr. Kenneth Sereno of the University of California which analyzes the relationship between interpersonal control and intimacy.

The promotion of Dr. Robert Shearer to the rank of associate professor has been announced by Dr. Jane LeMoine, head of Humanities.



Schroter awarded

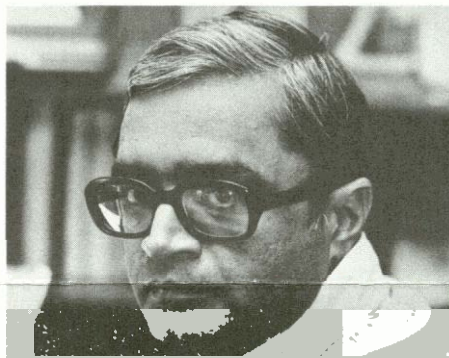
Albert R. Schroter, an aerospace industry leader and currently President of Lockheed Space Operations Company, receives the honorary doctor of science degree from President Keuper in recent commencement ceremonies. Schroter leads the Titusville-based organization responsible for Space Shuttle processing operations at KSC. He is an engineer and executive whose work in aerospace spans three decades.

Two researchers visit India

Dr. Arvind M. Dhople, head of the Division of Infectious Diseases at the Medical Research Institute, has returned from India after attending the 12th International Leprosy Congress held in New Delhi.

He served as a member of the Microbiology Expert Committee of the International Leprosy Association, and also as a member of the Congress workshop on microbiology of leprosy. At the Congress, he also presented a paper entitled, "Application of ATP Assay to Patient Care in Leprosy."

In New Delhi, Dhople met with Prof. J.K. Seydel and his staff from the Borstel Research Institute, West Germany. Preliminary discussions were held to initiate another collaborative program between Borstel Institute and M.R.I.



After the Congress, he visited the Institute of Medical Sciences of the Banaras Hindu University, and presented a seminar. Dhople also met Drs. Gurnohon Singh and Pramject Kaur, and discussed the possibility of initiating a collaborative program in leprosy research between M.R.I. and an Indian counterpart agency under the Indo-U.S. (PL-480) program. It was decided to continue those negotiations, now at N.I.H. (U.S.) and I.C.M.R. (India) levels.

Later, Dhople visited the Bombay Leprosy Project in Bombay with which he has been involved in a collaborative program for the past two years. He toured the field stations of the collaborative program and discussed the progress of the program with Dr. Gmapati, the director and his staff.

During his stay in India, Dhople also visited other institutions and presented seminars on his research. They include the Foundation of Medical Research (Bombay), Grant Medical College (Bombay), Institute of Science (Bombay), Madras Medical College (Madras), Voluntary Health Service Leprosy Research Unit (Madras), B.C.G. Institute (Madras), and Central Leprosy Research Institute (Chingleput).



Dr. Eleanor E. Storrs of M.R.I. and her husband Dr. H.P. Burchfield were delegates to the XII International Leprosy Congress in New Delhi. The Congress was inaugurated by the President of India, Giani Zail Singh, and the keynote address was given by Prime Minister Indira Gandhi. Following the plenary session, the two leaders hosted a reception at which Storrs was introduced to them. She also met Mother Teresa, Nobel Prize winner for her work with leprosy victims and the poor of Calcutta.

Storrs presented a paper, co-authored by Burchfield, on "Epidemiology of Leprosy in Wild Armadillos." She also participated in a pre-Congress workshop on experimental leprosy.

Burchfield presented a paper, co-authored by Storrs, entitled, "Sulfone Levels in Armadillo Plasma on Administration of Dapsone in Feed and Repository Doses of Acedapson." The presentation was at the session on experimental leprosy for which Storrs was rapporteur.

Before the meeting the two visited the Jalma Institute for Leprosy Research at Agra, to which they have supplied armadillos. After the meeting, they visited the Foundation for Leprosy Research in Bombay, which has a joint project with M.R.I.

During their return trip to Melbourne, they were guests of Dr. Oliver Hasselblad, Medical Director of the Kalaupapa Settlement at Molokai, Hawaii, where Father Damien once ministered to leprosy patients.

Back on their home grounds, the pair gave talks at a meeting of the South Brevard Historical Society. Storrs spoke on "The Armadillo in Leprosy Research" and Burchfield on "History of Armadillos in the Americas." Storrs also gave a talk on "The Amazing Armadillos" at a meeting of the American Association of University Women.

Grant is for new computer

A \$30,000 "topping grant" from the William G. Selby and Marie Selby Foundation is to help in the purchase of a new central computer to support academic programs at the Jensen Beach campus.

The Foundation, a perpetual trust established in 1955, provides scholarships for Florida residents and supports higher education in the state, as well as many social services, cultural and youth programs. The Selby Foundation is administered by the Southeast Bank, N.A.

In announcing the grant, F.I.T. Development Director Ralph Johnson said the university has launched a fund drive to raise \$50,000 needed to go with the Selby funds.

"We will be seeking and welcoming support for the project from friends, organizations and businesses," said Johnson.

Dr. William Gehring, academic dean for the School of Applied Technology at Jensen Beach, said \$80,000 is needed to allow purchase of an IBM 4331 computer.

Academic computing needs have outgrown the capacity of the existing computer, he noted. A rapidly growing degree program in computer technology demands added computer terminals.

"The new computer will service our needs for at least the next five years, we feel," Gehring explained.

The grant money from the Sarasota foundation will be given to F.I.T. only after the rest of the project money is raised, Johnson said. The university has one year to accomplish that task.

Since 1968, F.I.T. has received grants totaling \$452,200 from the Foundation and the late Mrs. Selby.



To the victors

Winning the Jerome P. Keuper Cup competition on a canal south of Melbourne was one of the steps for the crew team in its quest to repeat as a national contender among "small college" teams. With the prize are from left, sophomore Mike Kelly, frosh Coach Eric Smith, and senior Christie Bredenkamp.

Senior projects polish mechanical engineers

Editor's Note: The following story provides a glimpse into the workings of the senior project, an academic mainstay in engineering. This particular project was concluded at the close of the last academic quarter. The two seniors involved have graduated.

"We've been working full-steam all quarter building this." So says Don Hamlin as he and fellow mechanical engineering senior Rod Stabile make last-minute adjustments to their project.

A klatch of faculty members and students is loosely assembled nearby, awaiting the start of the senior project demonstration.

What they expect to see — and what the two seniors certainly hope to show — is a manufacturing process controlled by a computer.

"The senior project normally takes a full year. Every mechanical engineering student has to do one," explains Dr. Tom Bowman, head of the department. Each of the projects must be accompanied by a demonstration, and by a report.

The trial-by-project has been part of the educational process for mechanical engineering majors at F.I.T. for more than a decade. Bowman notes that interest in the field is high. "and it is strongly on the upswing across the country."

Also within the spotlight of high technological interest are applications that mate manufacturing equipment and computers, which is exactly the kind of work that Hamlin and Stabile have undertaken.

"This is probably the first time a student has used a computer to control a manufacturing process," the department head says of the work.

In the meantime, the demonstration has

hit a snag. "We tried to make a last minute improvement and it didn't work," laments Stabile.

The manufacturing process that is to be demonstrated is an automated system for drilling a line of 40 holes at exact locations along a 30-inch length of plastic pipe.

The seniors' system relies on machinery that damps a piece of pipe in place on a moving carriage. Movement of the pipe beneath a drill is accomplished by computer-controlled motor. The pipe is then ejected into a bin.

The students accomplished all of the machinery design, tooling and assembly. Another task for the duo was figuring out how to make a computer "talk" to an electrical motor.

The pipe, providing it is properly drilled, can become a spray bar. Such bars are used to spray water required in the rinsing of chemicals from large photographic surfaces.

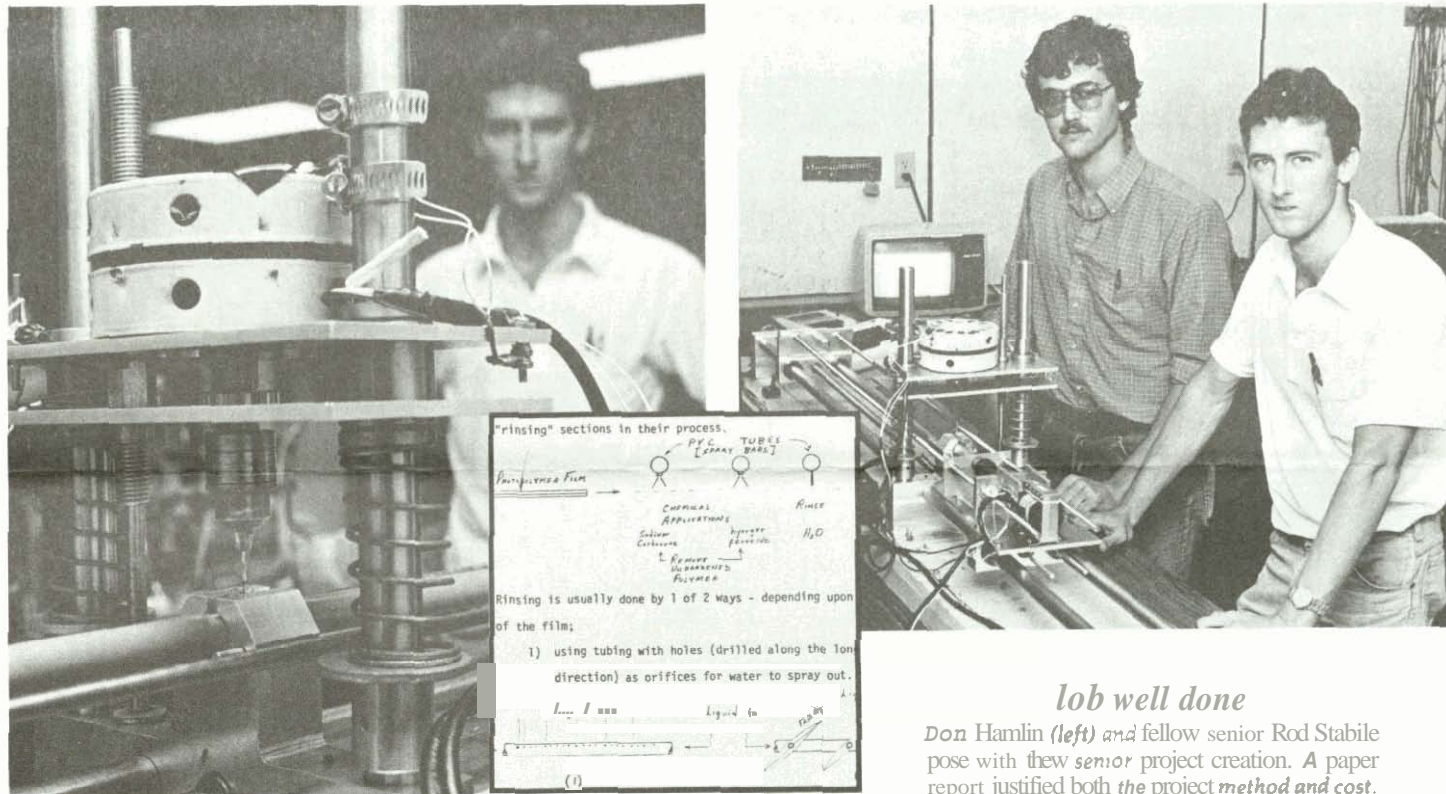
Inspiration for the project was rooted in a summer job held by Hamlin. The Cherry Hill, NJ, senior's duties with a large chemical

company included manually drilling spray bars.

An economic analysis of automating the procedure determined that the effort can save money, said Stabile. He is from Bethesda, MD.

As professors offer helpful suggestions, the two students are able to complete minor adjustments. They then pronounce their work ready for "the moment of truth."

And the truth is, it works.



Job well done

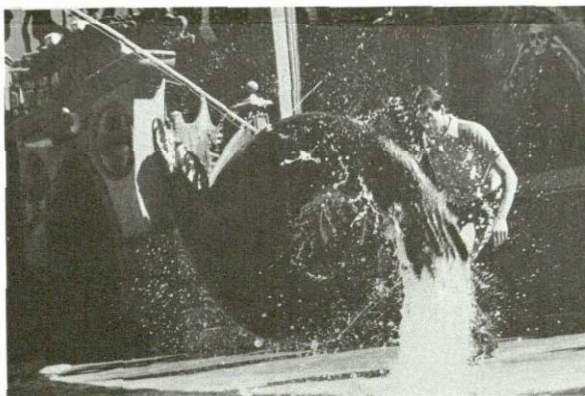
Don Hamlin (left) and fellow senior Rod Stabile pose with their senior project creation. A paper report justified both the project method and cost.

Sea World provides unique teacher training site



At Sea World

Barbara Emmert (above) learns to teach with a marine backdrop. Her resources also include the advice of Sea World's Peggy Kinder, pictured at right, as well as animal performers.



F.I.T. and Sea World have joined hands in an innovative program to prepare teachers to expand learning opportunities far beyond traditional classroom walls. The cooperative effort is believed to be the first of its kind in the state.

Though the program is in its infancy, one veteran teacher who endorses it thoroughly is Peggy Kinder. She already had 13 years of in-the-classroom teaching experience when she took the reins of Sea World's highly regarded educational program two years ago.

Kinder's experience allows her to speak with authority as she points out that when school groups travel to the theme park near Orlando, "we're giving them materials that they simply cannot get in the classroom."

Some 65,000 students receive tutoring at

Sea World each year, and what they get is far more than a glance at a killer whale.

Sea World's educational program has been designed to excite and inform students "from pre-kindergarten to college," explains its Education Director.

And that makes Sea World the perfect setting for a unique program with F.I.T. Degree seeking students majoring in Science Education now have the opportunity to help develop educational projects at the popular attraction as well as conduct classes there.

That's a first, Kinder notes. "So far as I know, this is the first time that a university and an attraction have cooperated to allow a practicum in teaching outside of the classroom," said Kinder.

For the record at F.I.T., the program exists under the title of "Practicum in Non-



Classroom Science Education." It is an elective course, and can provide a portion of the experience required for teacher certification.

To Dr. Robert Fronk, head of Science Education, the practicum is part of a larger movement to augment traditional classroom learning.

F.I.T.'s teacher programs have taken a leadership role in developing opportunities for preparing teachers to pursue their profession outside of the classroom. F.I.T. summer academic programs for teachers, for instance, include workshops in the Smokey Mountains, Appalachian Mountains and the Florida Keys.

"F.I.T., both in undergraduate and graduate-level programs, continues to emphasize strongly the importance of classroom instruction," said Fronk.

"However, there are today many community resource centers, such as science centers and museums, where additional teaching opportunities exist," said Fronk. "We want our graduates to be able to take advantage of these opportunities to strengthen local education programs."

"In that respect, Sea World offers a unique resource both for students and student teachers," said Fronk. "Where else can you find marine animals from around the globe, plus sophisticated educational programs developed specifically for various learning levels?"

"They also have lab facilities, and a staff which understands and appreciates the nature of this education outreach program," said Fronk.

Barbara Emmert, one of four F.I.T. students — three of them graduate-level students — participating in the practicum with Sea World, is a master's degree candidate who is also seeking teacher certification. She earned her bachelor's degree in marine biology at F.I.T.

"Since I'm also a marine biologist, this is a perfect situation for me," she noted. "I think learning here is a lot more fun for the kids, and I think it is a lot more interesting to them."

Kinder explained that the Sea World programs provide classroom materials for use by teachers both before and after the visit to the theme park. "Hopefully, their visit here is a culmination of what has happened in the classroom."

"Backstage" tours can be provided for small groups interested in special subjects, such as the system that Sea World uses to maintain the salinity of its water tanks.

Marine subjects can provide learning experiences that relate to other disciplines. Figuring the ratio of an animal's body weight to food intake, for example, can provide a lively math problem.

"There is an expanding opportunity for out-of-the-classroom education in the state," said Kinder. Educators note that "any learning activity that involves all of the senses is going to be more beneficial."

Fronk explained that the practicum program has the added benefit of alerting students to work opportunities beyond institutional walls.

For Sea World, the cooperative program has already yielded a new employee, Kinder said. "We have already hired a permanent instructor one of the first interns to complete the program. That alone validates my feeling that teachers and learning need not, and ought not be confined to the classroom."