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Marine Science Booms at Bayboro: USF St. Petersburg Lands New \$21-Million Sea Center

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Pamela Hallock Muller

DON'T FORGET THE SPF40

Miners used to carry canaries into the mines to forewarn them about lethal air quality. The fact that tiny protozoa on Florida Key reefs are getting sunburned may be equally demonstrative of the increasingly dangerous depletion of the ozone layer. USF marine scientist Pamela Hallock Muller has been studying amphistegina, tiny single cell creatures for the past 25 years. Because of the eroding ozone layer, they are being bombarded with too much ultraviolet and have been sunburned for the past three summers.

"The amphistegina's signs of stress are another piece of evidence that the Florida Keys are in danger," Hallock Muller says. The recipient of a \$7,000 grant, she is now doing research at various reef levels to determine how far down the protozoa are being damaged.

\$84.9-MILLION RECORD

For the second year in a row, USF has set a record in attracting research grants. For fiscal year 1993-94, USF research awards totaled \$84.9 million — or 30 percent above last year's \$65.4 million record. Only 10 years ago USF was bringing in approximately \$21 million in sponsored research. Today it is among the top 50 public research universities in the United States. This past spring USF was elevated to Research II status by the Carnegie Foundation for the Advancement of Teaching. According to George Newkome, vice president for research, USF is expecting several large federal awards this fall — including \$9.7 million for the Marine Engineering Institute — and should set new records next year, likely topping the \$100-million mark.

TOP RESEARCHERS GO TO THE HEAD OF THE CLASS

Fifteen of the University of South Florida's leading research faculty have united to teach an unprecedented class this fall. "Frontiers of Research" is a lecture series which focuses on a diverse range of scientific studies — from nuclear waste disposal to the development of drugs to treat cardiac arrest. Some of the distinguished research professors or endowed chairholders teaching the class include Dr. Robert Good, an internationally known expert in bone marrow transplantation; Professor Kristin Shrader-Frechette, an environmental ethicist; and Professor John Hardy, discoverer of a gene mutation believed responsible for one type of Alzheimer's disease.

USF students may take the course, which has no prerequisites, for three credits. All lectures are free and open to the public.

\$2-MILLION COASTAL WATERS STUDY

USF's Institute for Marine Engineering has received a \$2-million grant from the U.S. Office of Naval Research for research and development of sensors that can generate instantaneous information about wind, current, nutrients and salinity changes of Gulf waters. The research is a collaborative effort between the USF Marine Science department and the College of Engineering and will result in sensors being placed in fixed locations in Gulf waters and on a remotely operated submersible. The eight-foot-long submersible, the product of a joint venture between USF and Florida Atlantic University, will be effective in studying Florida waters during rough weather and tracking oil spills.

RADIOLOGIST WINS EARLY CANCER DETECTION GRANT

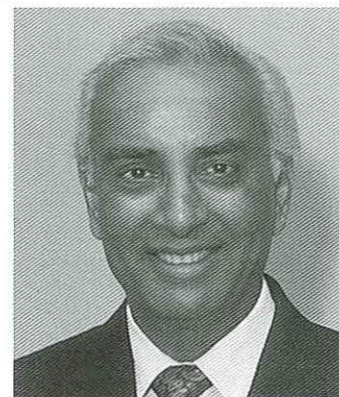
Dr. Robert A. Clark, a USF professor of radiology and program leader for H. Lee Moffitt Cancer Center's screening program, is one of only three physicians in Florida to receive a \$40,000-per-year American Cancer Society grant award to teach future doctors about cancer screening and prevention. Clark is the first diagnostic radiologist ever to receive the award.

The educational program includes a comprehensive text, *Cancer Screening*, that covers topics such as how to screen for a specific cancer to molecular and genetic screening, as well as a practical guide for medical students, *A Handbook for Can-*

cer Screening and Prevention. In the program, students will rotate to Moffitt's Lifetime Cancer Screening Center to observe and participate in screening services.

MEDICAL BREAKTHROUGH

A promising new treatment for a rare blood disorder has been found by Dr. Hussain Saba, hematologist and professor of medicine at USF. Amniocaproic acid, a clotting agent appears effective in controlling the ongoing and disabling bleeding disorder called hereditary hemorrhagic telangiectasia (HHT). Dr. Saba serves as co-director of H. Lee Moffitt's Leukemia Lymphoma Center and director of USF's Adult Comprehensive Hemophilia Clinic. His findings have been published in the *New England Journal of Medicine*.



Dr. Hussain Saba

ALZHEIMER'S GRANT

USF medical researchers have received a \$600,000 grant from the National Institutes of Health to study the genetic risks of Alzheimer's disease.

The study, conducted with the University of Miami and Mount Sinai Medical Center in Miami Beach, will examine blood samples from 3,600 elderly Floridians in an effort to pinpoint genetic links and determine an individual's risk for the disease.

"We want to know who is at risk in the general population as well as among whites, African-Americans and Cuban-Americans," says Michael Mullan, who along with fellow USF researcher Fiona Crawford helped discover a gene which leads to early-onset Alzheimer's.

Mullan and Crawford's research was recognized in the August 22 edition of *The Scientist* for having the most citations in genetics.

Marine Science Booms At Bayboro

USF St.Petersburg Lands New \$21-Million Sea Center

In 1940, the U.S. government constructed a Merchant Marine training base on the shores of St. Petersburg's Bayboro Harbor. In 1965, those barracks were converted to classrooms and dormitories for the new University of South Florida St. Petersburg.

Two years later, the newly acquired maritime training facility also began supporting a fledgling marine science program. As that program grew and became nationally recognized, there was a critical need for a larger state-of-the-art building to allow the burgeoning group to pursue its important research.

"We filled up every broom closet and corner of the building with faculty and labs," says Peter Betzer, chair of the USF Marine Science department since 1982.

In 1987, Betzer began the tough task to get the OK for a new building. The following year the U.S. Geological Survey established its national Center for Coastal Geology on the St. Petersburg campus. With that, the Florida Legislature passed an initiative to bring more faculty to the Marine Science department, which added to the already "standing room only" situation. It was obvious something had to be done soon.

The result is the new \$21-million Knight Oceanographic Research Center at USF St. Petersburg that provides a unique link between two government agencies. Located on the magnificent Bayboro waterfront, the 139,000-square-foot glass-and-concrete structure houses the USF Marine Science department and the Florida Department of Environmen-

tal Protection's Florida Marine Research Institute.

Even before its completion, building architects were receiving much-deserved recognition for the design of the Knight Center. The Tampa Bay Chapter of the American Institute of Architects presented the firm of Reeve, Yamada and Associates with the Merit Award at the 1993 Design Awards Program. And there are additional plans to enter it in a national design award competition.

Although Betzer speaks about the Knight Center almost as proudly as he does of his children, he says the leap ahead is not just in space, but in how it will enable USF oceanographers to take a better look at the oceans and nearshore environments.

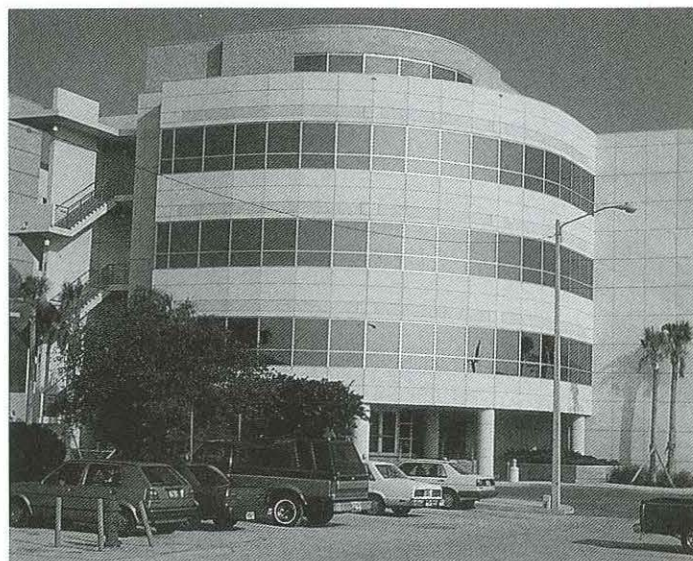
"A lot of chemical and biological research could not be done in the old building," he explains. "This building has been engineered from the ground up to handle all processes.

"We have several new analytical facilities we didn't have before. One of the most important is the new Induction Coupled Plasma Spectrometer, which allows us to do very sophisticated chemical analysis."

Betzer also points to a new transmission electron microscope and a remote sensing center housed in the new facility. The remote sensing center receives satellite images that will enable not only USF oceanographers, but also USGS researchers and DEP scientists to monitor the vast waters of the Caribbean Sea. It will provide them with constant, up-to-the-minute water temperature measurements and information on microscopic plants that are important controls for carbon dioxide in both the ocean and the earth's atmosphere.

"All three agencies will be working together, a unique arrangement in itself among government agencies," says Betzer.

The completion of the Knight Oceanographic Research Center comes none too soon. The Florida Legislature earmarked \$600,000 earlier this year to the USF Marine Science department for added faculty, research and academic



The new Knight Oceanographic Research Center

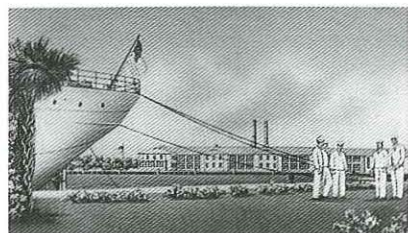
programs. The U.S. Geological Survey's Center for Coastal Geology also announced plans earlier this year to construct a \$2.5-million facility next to the existing Studebaker Building in the downtown district of St. Petersburg, adjacent to the campus.

Six agencies — including the USF Marine Science department — and the more-than-500 people currently working in marine-related activities in St. Petersburg make up the largest oceanographic facility in the Southeast. And according to community and political leaders, this is just the beginning.

"St. Petersburg is really going to become one of the main marine science research centers in the world," says U.S. Rep. C.W. "Bill" Young. Young was responsible for bringing more than \$7 million to the USF Institute on Marine Engineering from the Office of Naval Research.

"The building is just one of the first seeds," he says. "We have some grandiose plans for this campus and this city as it relates to what we know and how we're going to use what we know about the oceans of the world. People of the world will look to St. Pete for scientific information about the oceans."

By Ron Faig



Circa 1940s postcard of the U.S. Maritime Service Training Station, which was converted to the St. Petersburg campus' first classrooms.