

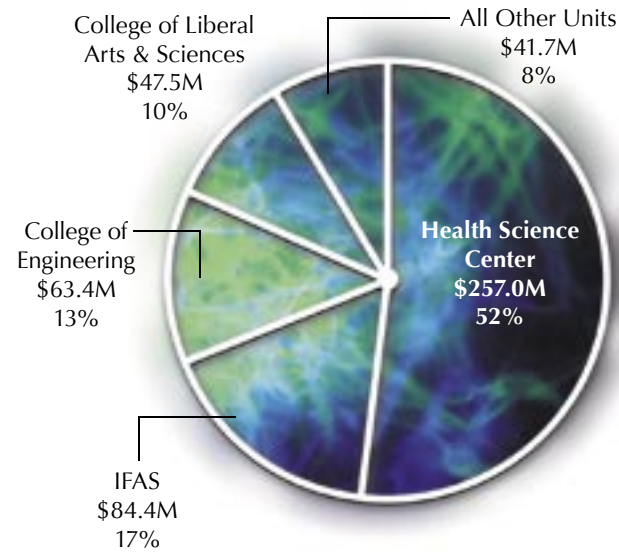
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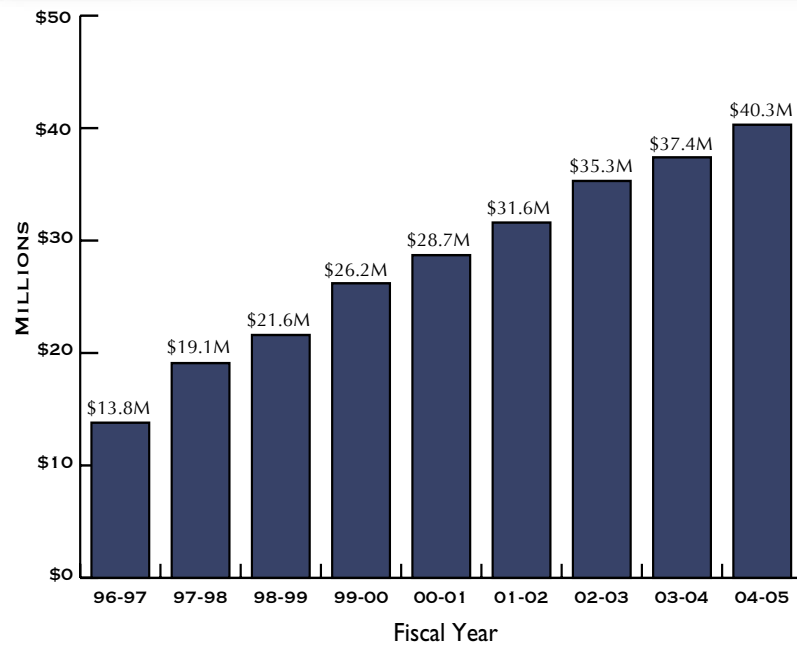
FISCAL YEAR 2004-2005

RESEARCH AWARDS BY ACADEMIC UNIT



ALL OTHER ACADEMIC UNITS TOTAL \$41.7M			
Academic Affairs	\$7.3M	Design, Construction & Planning	\$2.6M
Business Administration	\$6.1M	Journalism & Communications	\$1.9M
Health & Human Performance	\$5.7M	Continuing Education	\$429K
Florida Museum of Natural History	\$5.1M	Libraries	\$334K
Research & Graduate Programs	\$4.6M	Fine Arts	\$71K
Education	\$4.4M	Law	\$61K
Centers & Institutes	\$3.0M	Finance & Administration	\$37K

TECHNOLOGY TRANSFER INCOME — 1997-2005



“FACULTY AND GRADUATE STUDENTS ARE THE INTELLECTUAL ENGINES BEHIND OUR SPONSORED RESEARCH SUCCESS.”

— WIN PHILLIPS
Vice President for Research

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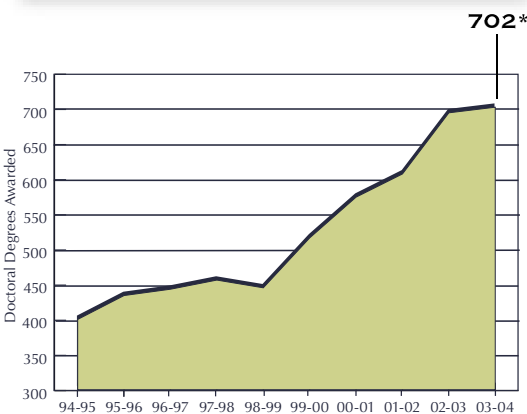


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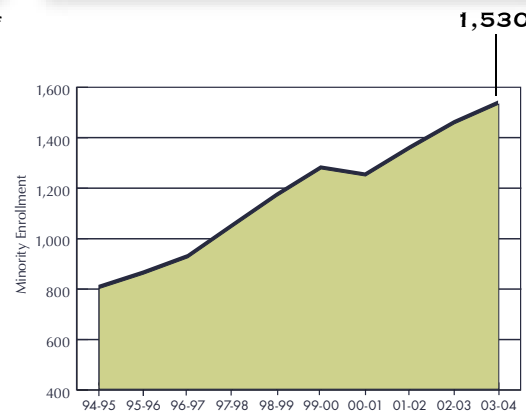
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DOCTORAL DEGREES AWARDED 1995-2004

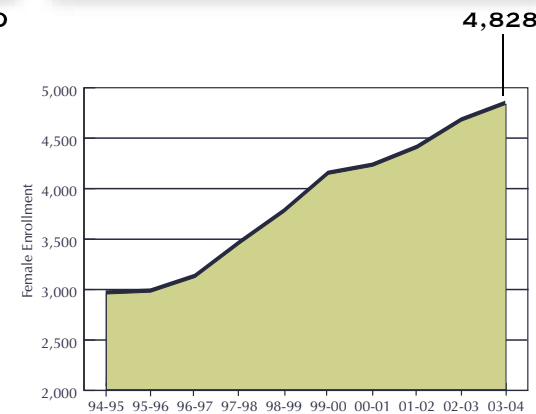


*includes Ph.D., Ed.D., and Au.D.

ENROLLMENT OF MINORITIES 1995-2004



ENROLLMENT OF WOMEN 1995-2004



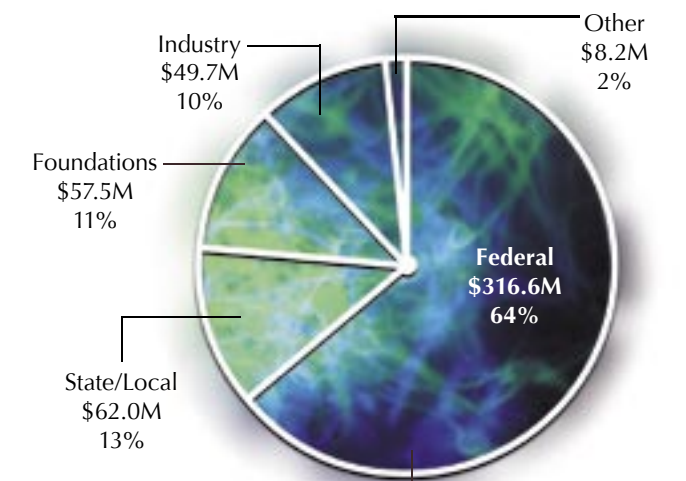
RESEARCH BEYOND BOUNDARIES

DIVISION OF SPONSORED RESEARCH

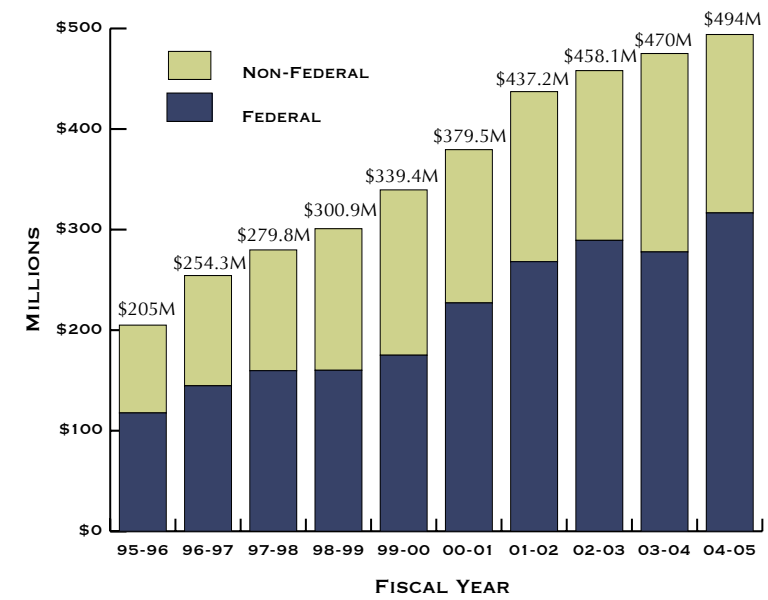
SUMMARY OF SPONSORED RESEARCH ACTIVITY

Proposals Submitted	4,903
Awards Received	5,178
New Awards Received	2,049
Continuations or Supplementals	3,129
Grant and Contract Dollars Awarded	\$478,427,417
Gifts for Research	\$15,497,723
Total Sponsored Research Funding	\$493,925,140
Projects Active During the Fiscal Year	6,107
Faculty Receiving Awards	1,802
Sponsors	863

RESEARCH AWARDS BY SPONSOR



SPONSORED RESEARCH AWARDS — 1996-2005



FEDERAL AWARDS BY AGENCY

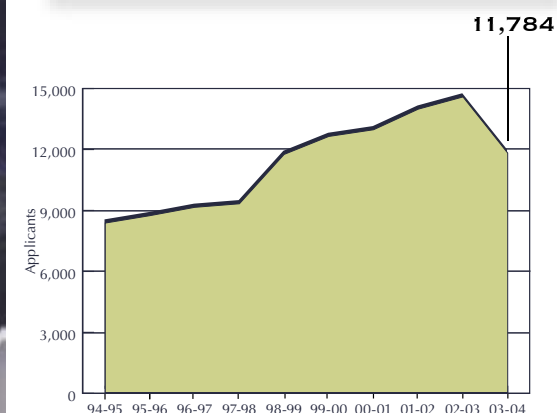
TOTAL \$316.6M

NIH	\$130.4M	NASA	\$9.1M
NSF	\$46.6M	Veteran's Affairs	\$8.2M
USDA	\$31.4M	Commerce	\$5.8M
DOD	\$22.5M	DOT	\$4.2M
HHS	\$14.3M	Interior	\$3.6M
Energy	\$12.2M	EPA	\$3.3M
Education	\$10.7M	Other Federal	\$3.2M
HRSA	\$10.0M	USAID	\$1.1M

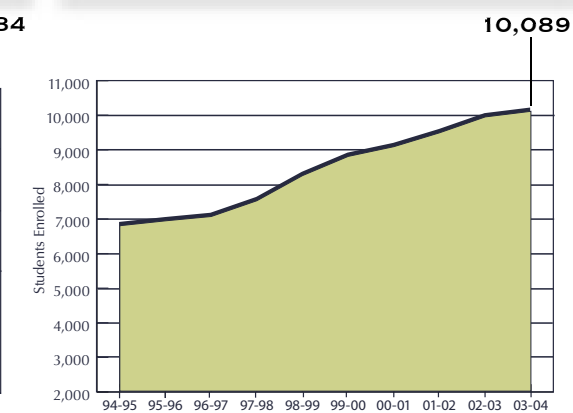


THE GRADUATE SCHOOL

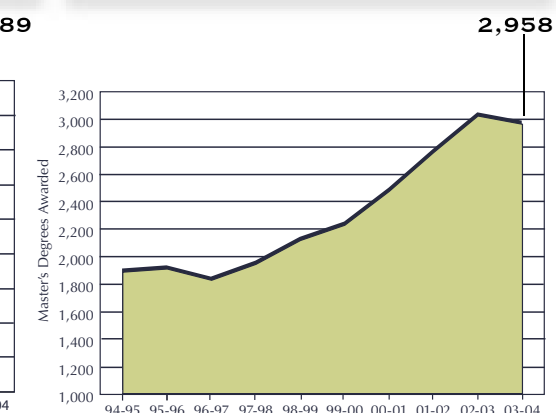
GRADUATE APPLICANTS 1995-2004

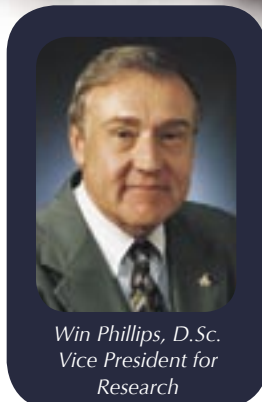
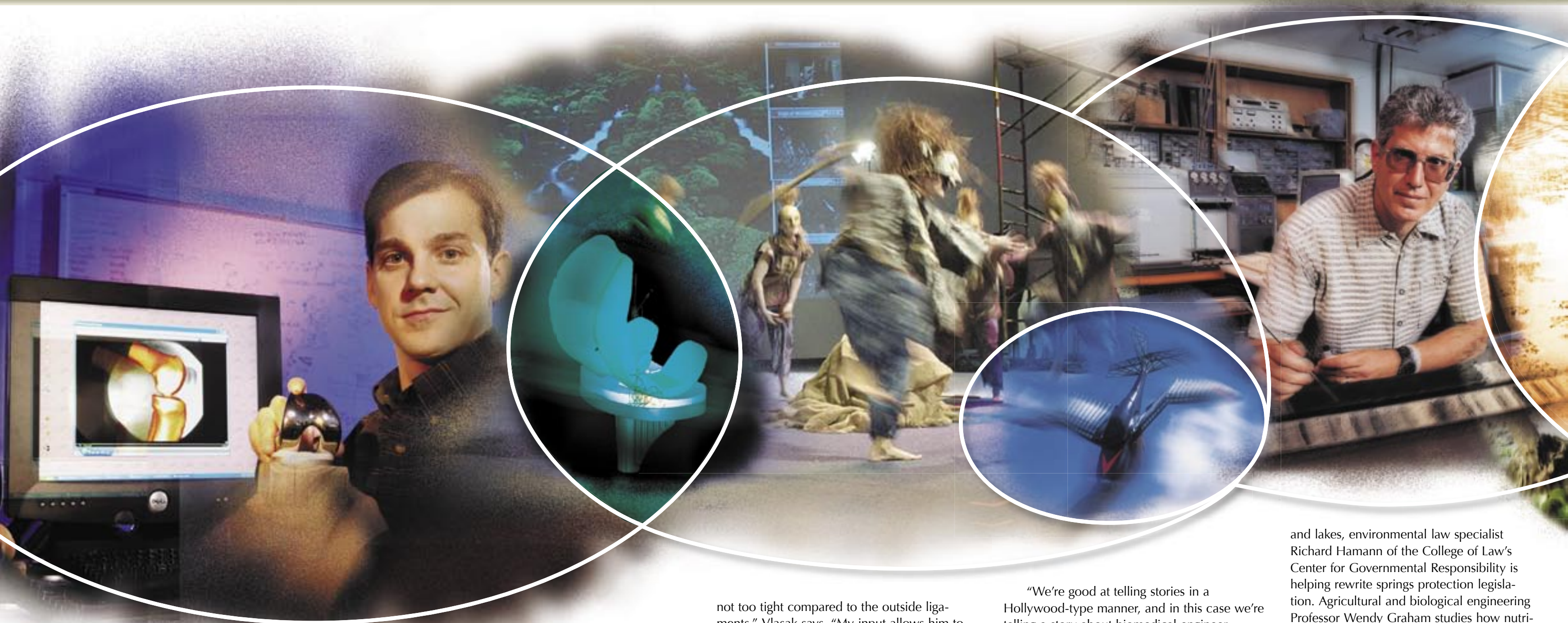


GRADUATE ENROLLMENT 1995-2004



MASTER'S DEGREES AWARDED 1995-2004





Win Phillips, D.Sc.
Vice President for Research

As one of the nation's most comprehensive research institutions, the University of Florida is a leader in research at the boundaries between disciplines. With 20 colleges and schools on a single campus, UF has unprecedented resources to attack problems from many different angles.

On a campus where researchers need only cross the street to collaborate with colleagues in fields as diverse as medicine, engineering and agriculture, the opportunity for unique new research projects is great.

KNEES IN NEED

Mechanical and aerospace engineering Assistant Professor B.J. Fregly has teamed up with orthopedic surgeon Richard Vlasak to apply computer simulation to the development of artificial knees.

Fregly recognized that artificial knee advances were hindered by outdated and costly testing processes, so he developed computer simulations to model and predict the forces knee replacements undergo in the body. Fregly relies on Vlasak to help him understand exactly how surgeons put the knee in so he'll do the same with his "virtual" knee.

"We have to balance the ligaments, or make sure that the inside ligaments are

not too tight compared to the outside ligaments," Vlasak says. "My input allows him to know what muscles and tendons are important, which ligaments we preserve and which ones we cut."

While medical colleagues may appreciate the work engineers like Fregly do, apparently many other people don't. When Fregly asked elementary school children to say some words related to medicine, not one said "engineering."

So Fregly teamed up with UF's Digital Worlds Institute to create a revolutionary new kiosk at the Museum of Science and Industry (MOSI) in Tampa. The kiosk allows visitors to be a biomedical engineer, formulating a diagnosis about a patient's knee problem and simulating different surgical solutions.

Fregly says the Digital Worlds Institute was critical to bringing his scientific ideas down to a level children can understand.

"We're good at telling stories in a Hollywood-type manner, and in this case we're telling a story about biomedical engineering research," says Digital Worlds Associate Director Andy Quay.

Digital Worlds also designed and built a virtual environment where UF aerospace engineers can "fly" tiny airplanes called micro air vehicles without worrying about crashing and destroying them.

WATER WISDOM

Dozens of UF researchers have joined together to form the UF Water Institute, where they are studying the physical, chemical and biological processes of various aquatic systems, the water management policies that affect these systems, and the people who use them.

While geological sciences Associate Professors Jon Martin and Mark Brenner seek to understand the geology of Florida's springs

and lakes, environmental law specialist Richard Hamann of the College of Law's Center for Governmental Responsibility is helping rewrite springs protection legislation. Agricultural and biological engineering Professor Wendy Graham studies how nutrients and water management practices impact groundwater quality and crop yield.

Martin's team is "developing a natural chemical fingerprint for the water" in the Santa Fe River as it travels underground through O'Leno State Park in High Springs.

Brenner analyzes sediment from lakebed cores to better understand the lake's historic trophic state.

Hamann helped write model legislation that ultimately evolved into the "Florida Springs Protection Act" that is currently making its way through the legislative process.

The data Graham and her colleagues have gathered have resulted in "best management practices" that reduce the amount of nitrates farmers use, protecting the water supply and saving the farmers money.

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Richard Hamann, an environmental law expert in the Center for Governmental Responsibility, is helping to write springs protection legislation. |

Chemistry Professor Steven Benner is collaborating with Leonid Moroz at the Whitney Laboratory for Marine Bioscience on neuron sensors. |

Neuroscience Associate Professor Leonid Moroz uses the sea slug as an animal model for studying memory because it has the largest brain cells of any species. |

Occupational therapist Desiree Lanford teaches older drivers like Priscilla Milliman strategies for safe driving. |

Computer engineering Professor Sumi Helal with Matilda, the "resident" of a high-tech house designed to assist people as they age. |



SEA TO BRAIN

Researchers at UF's Whitney Laboratory for Marine Bioscience study the physiological structures of sea creatures like the giant sea slug for insights into human anatomy.

With the aid of a nearly \$11 million federal grant from the National Institutes of Health, neuroscientist Leonid Moroz is studying the sea slug's unusual brain to try to unmask the role genes play in its higher functions.

The sea slug has the largest brain cells in the animal kingdom — measuring up to about one-twenty-fifth of an inch — visible to the human eye, making the slug cells simpler to examine and manipulate in the laboratory.

Moroz is working with chemistry Professor Steven Benner on biochemical sensors called molecular beacons that will be used to identify genes associated with injury, learning and memory. The slug has only about 10,000 neural

cells, compared with 100 billion in people, greatly simplifying the task of mapping the connections between cells and learning how cell networks determine behaviors.

"Three large nerve cells from this animal placed in a Petri dish will do all the jobs a neuroscientist can dream of: They will learn, forget and show us all the genes that make it happen," says Moroz.

AGING GRACEFULLY

Occupational therapists are teaming up with computer engineers through UF's Rehabilitation Engineering Research Center on Technology for Successful Aging to help America's aging population live independently longer.

The centerpiece of the RERC's current research is a "smart house" at the university's Oak Hammock Continuous Care Retirement Community that features state-of-the-art

appliances and prototypical smart-home elements. Built into this cozy living space is a mind-bending array of experimental assistive-living devices, ranging from a microwave that recognizes entrees and automatically determines how long to cook them to sensors that track an elderly person's whereabouts in the home. With voice commands delivered to a mobile phone, a resident can turn on the lights, stereo, television, and open and close the window curtains.

"What this home demonstrates is the evolution from assistive devices to assistive environments," says computer science Associate Professor Sumi Helal.

William Mann, director of the center and chair of the occupational therapy department in the College of Health Professions, says elderly people who obtain and use assistive devices tend to decline more slowly than those who remain unassisted.

The same holds true for older drivers, so Mann and colleagues like occupational therapist Desiree Lanford developed the National Older Driver Research and Training Center to help seniors remain independent by prolonging safe driving abilities. Supported by \$1.6 million in federal funding, the center is the nation's only program dedicated exclusively to older drivers.

As science and scholarship become increasingly interdisciplinary, the University of Florida's graduate programs are keeping pace through innovations in curriculum and research. Today's graduate students learn to navigate expertly within their disciplines, to interact across disciplinary boundaries, and to know how their discipline fits into the broader landscape of research and scholarship that defines great research institutions.



Kenneth Gerhardt, Ph.D.
Interim Dean of the
Graduate School