



The New **10**
Super Power
TASTE

UF Health Science
CENTER
Celebrating 50 Years

The man in
the molar **5**

Polar
pollution **8**

Foal
care **15**

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5



8



15

ON THE COVER: Blue food coloring highlights human taste buds for easier counting at the new UF Center for Smell and Taste.
(Photo by Kristin Bartlett)

Elvis

is in the building

Estelita Winkel, a building services employee, has an Elvis sighting in an HSC hallway.

The King is visiting the HSC to spread the word about the Nov. 4 Faculty & Staff 50th Anniversary Appreciation Luncheon.

All HSC and Shands employees are invited to attend the picnic on the HPNP plaza, where hamburgers and hot dogs will be served as 1950s tunes play.

Elvis says come celebrate 50 years at the appreciation luncheon with Albert and Alberta and the Gator Dazzlers from 11:30 a.m. to 1:30 p.m.

Bring your orange and blue suede shoes and come out for a good time.



PHOTO BY MICKEY CUTHBERTSON

LINEUP FINALIZED FOR FLORIDA GENETICS 2005

If you think folding a full-sized road map into a tiny rectangle borders on astonishing, consider this: If the DNA in your body were put end to end, it would reach to the sun and back more than 600 times. This amazing feat of packaging is possible because of a substance called chromatin.

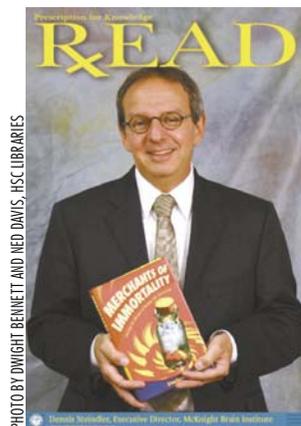
Two national speakers who are experts in chromatin studies will be featured at Florida Genetics 2005, a symposium scheduled from Nov. 30 to Dec. 1 at the Reitz Union.

Karolin Luger, Ph.D., an assistant professor of biochemistry and molecular biology at Colorado State University and an expert in the use of X-ray crystallography in chromatin analysis, has been added to the symposium lineup for a 9 a.m. session Dec. 1.

Gary Felsenfeld, Ph.D., chief of the physical chemistry section and the molecular biology lab at the National Institute of Diabetes & Digestive & Kidney Diseases, will discuss the relationship between chromatin and gene expression during the opening session at 2:30 p.m. Nov. 30.

In keeping with this year's theme of "epigenetics," Eric J. Richards, Ph.D., a professor of molecular genetics and plant biology at Washington University, will give a presentation after Felsenfeld about epigenetic variation and inheritance.

The symposium is sponsored by the UF Genetics Institute, the Center for Mammalian Genetics, the Plant Molecular and Cellular Biology Program and Health Science Center Libraries. Visit the UFGI Web site at www.ufgi.ufl.edu for more information, or call the Genetics Institute at 846-2782.



RxEAD: PRESCRIPTION FOR KNOWLEDGE!

October was National Medical Librarians Month. The HSC celebrated with a new series of Rxead posters featuring representatives from various interdisciplinary institutes and centers. Dennis Steindler, executive director of the McKnight Brain Institute, chose *Merchants of Immortality: Chasing the Dream of Human Life Extension* by Steven S. Hall as his favorite read. Come see the others in the display case in front of the library and at www.library.health.ufl.edu/pub/RxEAD_thumbs1.html.

WINTER PUBLIC HEALTH INSTITUTE 2006 JANUARY 2-7, GAINESVILLE

How can health-care workers prevent the transmission of avian flu from animals to humans? Is the health-care system ready to tackle the challenges of the growing elderly population? These public health concerns and more will be addressed at the 2006 Winter Public Health Institute, sponsored by the College of Public Health and Health Professions and the University of Minnesota School of Public Health. Additional topics include behavioral health in disasters; risk communication and food safety; international health; and theory and methods in public health disability research. Courses can be taken for graduate level credit or continuing education hours.

For more information, including a complete schedule and registration form, visit publichealthplanet.org.

END OF THE ALLHSC LISTSERV

Beginning immediately, the allhsc-l@lists.ufl.edu email listserv can only be used to send official business messages. Three alternative methods for HSC-wide communications regarding conferences, workshops, news and more are available. For details about these methods and instructions for sending official business messages, see <http://www.health.ufl.edu/allhsc>.

The Bridges Advisories will no longer be sent via email. Please bookmark the following Web site and visit weekly to read the advisories: www.bridges.ufl.edu/advisory.

LIKE PULLING TEETH



PHOTO BY ADRIANNA C. RODRIGUEZ

A handful of dental students had to weigh in to help faculty as they battled the sophomore dental class in a tug-of-war contest during the Oct. 1 Mighty Molar event. Nonetheless, the sophomores won the friendly match, easily overpowering dental professors Marc Davis (left) and Amer Afif Abu-Hanna, who teamed-up with Dean Teresa Dolan (center in black) and daughter Tori, 10. The American Student Dental Association hosts the College of Dentistry's annual Mighty Molar event, held every year since the college's first class entered the college in 1972, as a fundraiser for ASDA activities.

STUDENTS PARK FREE AFTER 5:30 P.M.

Students arriving after 5:30 p.m. may park for free at the Health Science Center's west visitor and patient garages only by taking the following steps:

Stop when you enter the garage after 5:30 p.m., present your student parking decal to the cashier and receive a "free exit" permit valid for the same day only. Present the permit to the cashier in lieu of the \$3 parking fee when you exit the garage between 5:30 p.m. and 9:30 p.m. Currently, there is no charge for vehicles exiting after 9:30 p.m.

Please call Transportation and Parking Services for additional information at 392-8048.

50TH ANNIVERSARY TRIVIA WINNER

Joyce Connors, a program assistant in the department of molecular genetics and microbiology, won a week's worth of free priority parking in the HSC 50th Anniversary Trivia Contest. She used her 16 years of personal history at the HSC to correctly answer the question, Which of the six colleges now in the Health Science Center was the first to open (on campus) and in what year? The answer? Pharmacy in 1923. To participate in the trivia challenge visit, <http://50years.health.ufl.edu/quiz/index.shtml>.



PHOTO BY MICKEY CUTHBERTSON

Library changes with the times

By April Frawley Birdwell

There were no laptops, online medical journals or medical reference Web sites when Mark Barrow, M.D., entered medical school in 1956.

The library tucked in the back of the University of Florida's new Medical Sciences Building was the only place students could find the research they needed to prepare for class and clinical rotations. Barrow and his classmates were there every day to thumb through medical journals and search through the stacks.

The library was so crucial to the health center that founding dean George T. Harrell, M.D., hired librarian Fred Bryant before he recruited faculty members and department chairs.

"It was absolutely essential to have a good library," said Barrow, a graduate of UF's first medical school class.

But the library is no longer the place where Barrow searched the stacks. The main library is not even in the same building, but that's the least of the ways the Health Science Center Libraries has changed in the past five decades.

The books and journals are still there, 355,827 of them to be exact. But the way today's librarians get information to students, researchers and faculty members is not as simple as stamping a card in the back of a book. Now users access most journal articles from their computers or pocket PCs.

"We're changing," said Faith A. Meakin, M.L.S., director of the Health Science Center Libraries. "Some people are upset about it. They love the smell of the books. They love the library. We don't want to lose that either. It's part of our identity. But it's not our only identity."

"The librarian's role has evolved."

In 1954, when Bryant was hired, the librarian's role was chief collector. Bryant had two years to build a core collection, often traveling to Europe to track down hard-to-find journals from publishers and medical societies, Meakin said.

"You could really build a core collection," Meakin said, "but it was not an easy job. It was a huge undertaking."

Somehow, Bryant did it. By 1955, he had amassed 22,000 volumes of journals, monographs and 144 subscriptions, which he kept in the main library while the Health Science Center was being built, according to a *Bulletin of the Medical Library Association* article Bryant wrote. By the time students arrived in 1956, there were nearly 50,000 volumes in the HSC library.

"He amassed an incredible collection," Barrow said. "Dean Harrell played a significant role. He wanted to have a (good) library as quickly as possible. And it was an excellent library."

But seeds of change were surfacing by 1967 when Ted Srygley was hired to head the library. The library was already outgrowing its space and then-Provost Sam Martin wanted Srygley to introduce computer automation to the library's system.

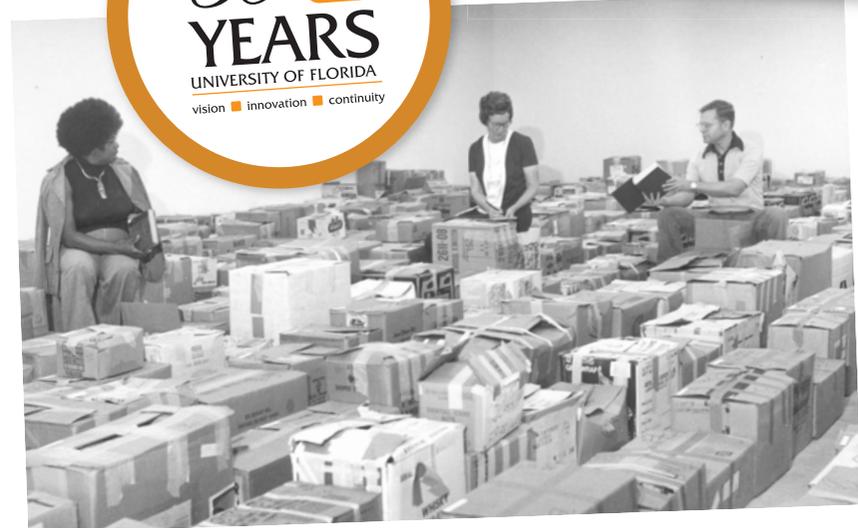
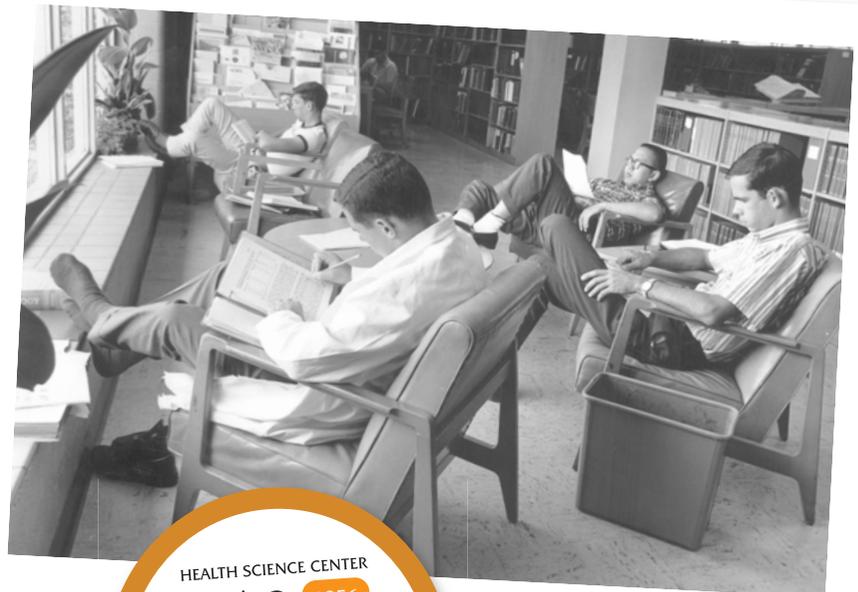
With computers, the card catalog was obsolete and researching journal articles grew easier. But it wasn't until after Srygley left in 1993 that the Internet revolutionized the library.

"(Technology) has changed the delivery of information significantly," Srygley said. "Everything shifted from collection development to information delivery. The days of having everything under one roof are gone."

Now, state universities collaborate to share online resources, providing HSC users access to twice as many online journals in the past few years, said Lenny Rhine, Ph.D., the library's assistant director for collection management.

And instead of collecting as they did decades ago, or searching as they did in the 1980s, HSC librarians now show students and researchers how to find information themselves. The library even partnered with the Genetics Institute and the College of Nursing to teach students and researchers how to find resources.

Despite the technology, Meakin says the number of people using the library has jumped. But they're coming for different reasons than Barrow and his classmates



Students sit by a picture window in the Health Science Center's original library, which was located in the Medical Sciences Building. In 1974 the library moved to the Communicore Building, where it is still housed. Library staff members spent an entire weekend moving boxes of books and journals to the new three-story library.

did 50 years ago. Many students seek study rooms and space to work with their classmates.

As technology evolves, services could change in the library, Meakin said. Some of the stacks could be cleared out for seating room and more electronic classrooms and simulation labs could be added. Even with online access, Meakin thinks the library still needs a physical space.

"(Even) if we are going to be all electronic, the need for the library is still there," she said. "We just envision this library as a place. That may be our most important function." **P**

Being Molar Man

By Adrianna Rodriguez

When man and suit combine, it's Molar Man time.

Although more commonly known as the College of Dentistry's "molar mascot," the cavity-free tooth suit currently worn by Charbel Klaib, 25, brings kids a smile under any name.

"It's kind of like Power Rangers but not nearly as cool," said Klaib, a third-year dental student.

For more than two years, when Molar Man is needed, Klaib has left his scrubs behind to don the Lycra undergarment he calls a "ballerina outfit" and the molar body.

Sometimes mistaken for a girl but never for an incisor, Molar Man can be trusted to make appearances at most dentistry events. It's impossible to see who is inside the costume, but everyone knows Klaib and his Molar Man alter ego are one and the same. Mainly because he and the mascot are never seen together, said Klaib.

"You never see Superman and Clark Kent in the same room," he laughed.

Yes, but can Molar Man change in a phone booth?

Klaib doesn't mind people knowing his true identity. At the same time, though, he doesn't correct rumors of others being the true Molar Man.

"As long as there's a little doubt," Klaib said.

Like Her Majesty's Secret Agent 007, Klaib was tapped to join the college's mascotting service after the dental senior who previously wore the costume graduated.

He jokes that he was chosen because he doesn't mind getting sweaty in the airless suit and walking around showing his boxers through the Lycra undergarment.

From his first time inside the costume, Klaib took mascotting to a higher level. He created the Molar Man persona and his signature trademark greeting of a handshake, high-five and mini-jump.

"I've been told I have quite the matching personality for it," Klaib said.

When in the suit, the tall Klaib can only stick out his arms to his elbows and see straight ahead. The molar might be a little bit too big and the Lycra a little bit too small, but the shoes, Klaib said, are just right.

"Dr. Scholl's has nothing on these shoes," Klaib said about the molar's big blue clown shoes. "They're not the best for football, though."

Although not headed for the gridiron Hall of Fame, that doesn't stop Molar Man from playing a little football at dental student gatherings. Molar



Charbel Klaib, 25, a student in the College of Dentistry, is caught in the same room with the molar mascot!

Man can pass sideways and skip "at a faster pace" when running the ball.

Of all the dentistry events in which he's performed, the college's annual "Give Kids a Smile" is Klaib's favorite mascotting adventure.

"That was a lot of fun for me because it was all kids and you're at their level," Klaib said.

According to Klaib, kids have one of three reactions to Molar Man: They either love him from the start, fear and then come to love him, or just flat out cry in terror. They also tend to either hug, dance with his cuspid and roots, or beat up Molar Man. That's where it gets tricky, as Klaib said he has to be careful not to get punched in the "furcation," or the

area between the roots of the tooth.

Ouch, talk about tooth sensitivity.

Despite the challenges and dangers of wearing the college's mascot outfit, Klaib said performing as Molar Man has been one of his most memorable dental school experiences. He considers his stint as a tooth to be a unique way to participate in college activities and he plans to continue cultivating his Molar Man alter ego... at least until graduation.

After that, another brave agent will assume the Molar Man identity, and the legend in big blue clown shoes will carry on.

Adrianna Rodriguez is a communications student assistant in the College of Dentistry. P

Enrollment opens for innovative CHOICES Health Services program



Who's eligible?

- ✓ Aged 18 to 64
- ✓ U.S. citizen or permanent resident
- ✓ Alachua County resident
- ✓ Employed 32 hours a week or more
- ✓ Limited household income
- ✓ Not eligible for health insurance such as private insurance, Medicaid, Medicare or Veterans Administration benefits
- ✓ Some qualifying low-income seniors aged 65 and older may be eligible for assistance with prescriptions and dental care

For more information about the CHOICES Health Services program, visit www.acCHOICES.com.

Dental junior Dan Stewart provides oral health counseling to dentistry booth visitors during the Oct. 15 CHOICES Health Services kickoff at Gainesville's Martin Luther King Jr. Community Center. Stewart and classmate John Schaefer, with sophomore Pam DeTrollo assisting, provided free oral cancer and oral health screenings to more than 20 people. They also distributed free toothbrushes, toothpaste and antimicrobial mouthwash, and provided oral health counseling to about 150 event-goers. (Photo by Mike Fara, Alachua County Communications Office)

By Lindy McCollum-Brounley

Imagine yourself to be a hardworking person who brings home a paycheck but has no access to health insurance. What happens when you get sick or have a painful toothache? What will you do if you can't afford prescription medicine necessary to control a chronic disease like high blood pressure or diabetes? What choices will you have?

The CHOICES are easy for thousands of Alachua County residents eligible for the innovative Community Health Offering Innovative Care and Educational Services program. With the new CHOICES Health Services program, Alachua County workers can visit a doctor or dentist for a nominal co-pay of \$10.

That was the message nearly 200 people came to hear during the CHOICES Health Services Oct. 15 enrollment kickoff at Northside Park's Martin Luther King Jr. Community Center. Community health organizations, including the ACORN Clinic, the Alachua County Health Department, UF Shands Eastside Community Practice, Archer Family Healthcare, the UF Family Practice Medical Group and the College of Dentistry, provided free health screenings and educated event-goers on how their programs will extend health-care services to the community through CHOICES.

CHOICES is a new program designed to provide health care to working Alachua County residents who do not have access to health insurance through work, Medicaid, Medicare or Veterans Administration benefits. Eligible residents must be ages 18 to 64, employed 32 or more hours per week and have a limited household income. Those who qualify enroll in the program may choose to visit doctors or dentists from a list of program providers, paying only a \$10 co-pay for

each visit. In addition to facilitating access to medical and dental care providers, other major emphases of CHOICES include disease prevention and management as well as health education. Some elderly, low-income residents may also be eligible to receive prescription and dental care services through the program.

"The CHOICES Health Services program is a local solution targeting those in our community who are working hard, but do not have access to affordable health care," said Candice King, director of the CHOICES Health Services program. "We believe that when working people are able to address their own health-care needs, it positively affects their health and the health of the whole community."

Championed by City Commissioner Cynthia Moore Chestnut, CHOICES is one of a handful of progressive local health services programs in the nation seeking to provide health-care coverage for low-income workers. With an annual budget of \$7 million funded by a quarter-cent sales tax, the program has the potential to affect thousands of Alachua County residents who are uninsured and live in poverty, earning incomes 150 percent or less of the Federal Poverty Level—that's \$14,355 for a single person or \$24,135 for a family of three.

Alachua County voters passed the tax last year, and the county began collecting it in January. The CHOICES quarter-penny increase in sales tax is estimated to cost the average consumer's pocketbook less than \$20 each year.

"CHOICES is not a complete solution," said King. "But it's a well-considered and compassionate approach developed by a broad cross-section of community citizens concerned about the lack of access to health care in our community.

"Healthy workers contribute to the economic and social vitality of the community," she said. **P**

Center to help women with urinary incontinence

By April Frawley Birdwell

Urinary incontinence isn't a problem most women want to discuss. But more women struggle with this chronic condition than with depression, diabetes and hypertension.

That's why a team of UF health care providers has made seeking treatment for urinary incontinence even easier for women who need help.

The Incontinence Center at Magnolia Parke was opened in August at Women's Health at Magnolia Parke to consolidate the treatment options available to women who have urinary incontinence.

"As the retiree population increases, we're seeing more patients with these problems," said John Davis, M.D., an associate professor and director of the gynecology division who sees patients in the incontinence clinic along with I. Keith Stone, M.D., chairman of the obstetrics and gynecology department.

Although men can develop urinary incontinence, women are twice as likely to face this problem. And many women avoid seeking treatment for years and often stop taking part in activities they enjoy because they're too worried about having an accident, said

Patty McKey, M.S.N., A.R.N.P., coordinator of the UF Urogynecology Clinic.

Many women also do not realize the condition can be treated, McKey said.

The center offers urodynamic testing to more accurately pinpoint the condition and treatments like physical therapy, minimally invasive surgery, medication, biofeedback training and even behavior modification techniques, McKey said.

"Women are so thankful because they can go back to doing things they love," she said. "(Incontinence) definitely limits their quality of life. It is socially embarrassing for them."

Vaginal childbirth is the biggest risk factor for urinary incontinence, Davis said.

"When a woman delivers a baby, her pelvic support tissue can be stretched out," he said. "The more children a woman has, the more prone she is."

Obesity, smoking and pulmonary disease are also risk factors. But urinary incontinence can also be a symptom of another condition.

Although not all women take urinary incontinence seriously, sometimes living with it because they think it is a normal part of aging, McKey said the problem can usually be treated.



Dr. John Davis is one of two doctors who sees patients at the Incontinence Center at Magnolia Parke.

And now, women can find treatment under one roof, McKey said.

"We're establishing this center because we would like to have one place where we can combine the skills of a nurse and physicians to tackle the problem," she said. **P**

Cancer hospital planned for hotel site

By Tom Fortner

Officials of Shands HealthCare and the UF Health Science Center announced plans to establish a new cancer hospital on the medical center campus in Gainesville Oct. 4.

The cancer hospital will be located in a new patient tower planned for the south side of Archer Road where the vacant University Centre Hotel is now located. The hotel will be demolished.

The new tower will provide 200 additional private rooms and a variety of health-care services, including diagnostic and therapeutic oncology care. Completion of the facility is expected in 2009. Services provided in the new hospital will complement existing oncology services provided at the UF Shands Cancer Center in Gainesville.

The tower, which will include a tunnel and skybridge connecting to the main hospital across the street, will cost between \$250 million and \$300 million to construct, according to Shands CEO Tim Goldfarb.

As tall as eight stories, the tower will also include general medicine and surgery beds and a new emergency department that will be four to five times larger than the current ED, Goldfarb said.

That extra bed capacity should help relieve pressure on the inpatient units at UF and Shands, where on a



An artist's depiction of the new cancer hospital planned for the medical center campus shows a skybridge crossing Archer Road. The patient tower will be built on the site of a vacant hotel.

recent day, he said, the census was at 98 percent.

The new facility will add to the UF and Shands vision of a comprehensive cancer program that integrates basic cancer research, translational research that produces novel therapies and clinical care for the patients who can benefit from those treatments. Completion of the Cancer-Genetics Research Building

on the Gainesville campus next spring will represent a huge step toward that goal.

"Our care truly is 'bench to bedside,'" said UF Shands Cancer Center Director William Stratford May, M.D., Ph.D. "We are in the business of putting cancer out of business, and having this hospital will allow us to do just that." **P**

Polar bears hold key to understanding health risk of environmental pollutants

By Linda Homewood

A UF researcher aiming to better understand just how dangerous industrial pollutants in arctic ecosystems might be to humans has zeroed in on how effectively polar bears are able to rid themselves of environmental toxins consumed in the food they eat.

It turns out the bears can completely eliminate only one of five of the classes of industrial contaminants they are exposed to, a finding that's bad news for the bears and other species who share their environment, according to Margaret James, Ph.D., an environmental toxicologist at UF.

"The polar bear has quite an efficient system for metabolizing these pollutants," said James. "If they can't do it, then it's unlikely that other animals or persons can."

The UF study, published in the October issue of the journal *Drug Metabolism and Disposition*, could help researchers learn more about the effects of pollutants on humans living in the Arctic who share the same staple diet as the bears. Because polar bears are mammals with a diet similar to the native Inuit, they may serve as good surrogates for studying human populations also exposed to the pollutants.

James studied liver tissue samples obtained from the bears and found that the animals were surprisingly efficient at metabolizing one of the five types of industrial chemicals studied – those produced by a burning process, which are similar to the compounds that form when meat is cooked on a grill. The other four pollutants, she determined, could not be fully excreted.

"This suggests that other species will metabolize the pollutants more slowly," said James. "When they are not sufficiently excreted the levels go up."

James, chair of the department of medicinal chemistry at UF's College of Pharmacy, became interested in studying pollutants nearly 30 years ago. Around that time researchers first began to understand that industrial byproducts were carried to the Arctic by trade winds and then settled in the subzero temperatures, making them more likely to accumulate in the food chain.

One obstacle James faced in her research: how a Florida researcher might obtain a polar bear for scientific study. Her break came in 2003, when Canadian colleagues Stelvio Bandiera, Ph.D., professor of biomolecular and pharmaceutical chemistry at the University of British Columbia in Vancouver, and Robert Letcher, Ph.D., at Environment Canada in Ottawa, donated liver tissue



UF researchers have found trace amounts of environmental pollutants in the livers of arctic polar bears.

samples from three adult male bears to UF. The bears came from a legally controlled hunt in 1993 by the Inuit people native to the Canadian Arctic.

In her research, James concentrated on five types of chemical contaminants known by the acronym POP, for persistent organic pollutants. They include compounds produced by a burning process; a compound used as a substitute for the pesticide DDT when it was banned, and which itself was subsequently banned in 2004; TCPM, an industrial compound found in the Arctic but of unknown origin and toxicity; PCP, used as a wood preservative; and PCBs, industrial chemicals used for many years in electrical applications. All these substances, with the exception of TCPM, are regulated or banned, but they persist in the environment.

Polar bears break down these fat-soluble chemicals in two steps, each of which makes the substances more water-soluble and therefore easier to excrete, said James. The first step, however, results in a compound that is more chemically reactive and

therefore more harmful to living cells, with the potential for reproductive or neurological damage. The second phase, often slower than the first, determines how successfully the animals eliminate the toxins, she said.

In 2001, the world population of polar bears was estimated to be between 21,500 and 25,000, of which some 15,000 were in Canada. James said experts have observed a worldwide decline in their population, which some blame on environmental pollution.

People throughout the world continue to be exposed to chemical pollutants long after they are created and released into the atmosphere, James said. Her immediate research goal is to help scientists gain a better understanding of exactly how these compounds are eliminated from the body. Her long-range goal is to provide governments and regulatory agencies with scientific findings regarding the safety or potential risks of the environmental chemical pollutants that will guide future decisions about the use and the disposal of these compounds. **P**

CT scan can spare some head and neck cancer patients surgery

By Denise Trunk

Some patients with head and neck cancer can be safely spared the risk and expense of surgery by undergoing a CT scan to predict whether the disease is in check after radiation therapy, according to study findings UF doctors released at the annual meeting of the American Society for Therapeutic Radiology and Oncology.

Researchers with the UF Shands Cancer Center have identified criteria doctors can use to evaluate CT scans four weeks after patients undergo initial treatment. If these criteria are met, there is a 94 percent likelihood a patient's lymph nodes are cancer free, said Stanley L. Liauw, M.D., a resident in radiation oncology. Using a CT scan was found to be much more accurate than relying on a physical exam to assess response to treatment.

Radiation therapy is commonly used to treat the more than 40,000 U.S. patients a year who develop advanced head and neck cancer. After radiation therapy, doctors often operate to remove affected lymph nodes. But UF physicians say in some cases surgery is unnecessary, and can increase recovery time, lead to infection and possibly compromise a patient's quality of life.

The current study builds on previous research involving 95 head and neck cancer patients. In two-thirds of the patients who underwent surgery after radiotherapy, the removed lymph nodes turned out to be cancer free, noted UF radiologist Anthony Mancuso, M.D. Mancuso collaborated with UF radiation oncologists Robert Amdur, M.D., Christopher Morris, M.S., and William Mendenhall, M.D.

By comparing nodes visualized on a CT scan with the same nodes after they were removed, the researchers developed criteria doctors could use to examine nodes using a non-invasive CT scan to identify with 94 percent accuracy whether the disease was knocked out. Nodes deemed to be clear of cancer were 1.5 centimeters or smaller and had borders that were sharply defined on the CT scan, rather than fuzzy.

Liauw said, "I think it would be great if doctors could look at this data and feel comfortable with just doing a CT scan after radiation in order to know if a neck dissection is necessary. If these data are understood and accepted, we could limit the risk of side effects for some patients." **P**

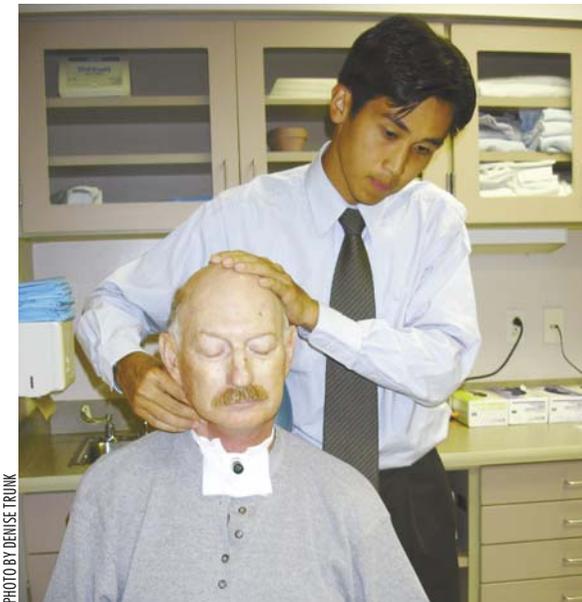


PHOTO BY DENISE TRUNK

Dr. Stan Liauw, a resident in radiation oncology, examines the progress of patient Fred Watson, who is recovering from head and neck cancer. Many patients like Watson can be spared an additional surgery by the use of CT scans, according to data gathered by radiation oncologists in the UF Shands Cancer Center.

Biomarker test may give early warning of brain woes

A way to detect fragments of broken brain cells that leak into the bloodstream may help doctors more quickly and precisely treat people with severe head injuries or brain diseases, say researchers at UF's McKnight Brain Institute.

UF scientists have discovered they can use an approach similar to one commonly used in HIV or pregnancy testing to find bits of axons — nerve fibers that help brain cells communicate — in the blood and spinal fluid of laboratory rats modeling human spinal cord or traumatic brain injuries.

The discovery could lead to tests for the clinic or battlefield to diagnose ailments with just a few drops of blood, bypassing cumbersome and expensive CT or MRI brain scanning equipment. The researchers report their findings in the online edition of *Biochemical and Biophysical Research Communications*.

The cellular debris, derived from a protein called NF-H, was not found in the blood or other fluids of healthy animals and humans. That leads researchers to believe it is a biomarker, a substance in blood that signals the presence of disease or injury.

"We could easily see that this particular protein is detectable very soon after a disease starts or an injury occurs," said Gerry Shaw, Ph.D., a professor of neuroscience in the College of Medicine. "A lot more of it is then released in the two or three days following a brain or spinal cord injury, which is interesting because it signals a kind of brain cell death that you could potentially do something about therapeutically."

The test would be helpful in emergency rooms or in combat situations if it could be developed into a simple handheld device that could confirm brain or spinal injury.

— John Pastor

Researchers kill resistant bugs one bandage at a time

UF researchers have led the development of a new type of wound dressing that could keep dangerous antibiotic-resistant bacteria from spreading in hospitals, a problem that leads to thousands of deaths in the United States each year.

This microbicidal coating, which can be chemically bonded to gauze bandages, socks and even hospital bedding and gowns, kills the two most common and harmful types of antibiotic-resistant bacteria that cause infections in hospitals, the researchers said.

According to the National Institutes of Health, each year nearly 2 million Americans contract infections while hospitalized.

Antibiotic-resistant bacteria, such as methicillin-resistant staphylococcus aureus and vancomycin-resistant enterococci, cause about 70 percent of those infections.

"Those are the two classes of bacteria that are now epidemic in the U.K.," said Gregory Schultz, Ph.D., director of UF's Institute for Wound Research and one of the inventors who joined with a Gainesville-based company to develop the coating. "It's a huge problem there."

A patent is pending on the researchers' method of chemically bonding the substance to fabrics and other materials. This method allows the substance to be efficiently mass produced and permanently adhered to wound dressings or ready-to-wear clothing to make antifungal and microbicidal socks and underwear.

"What we developed in the lab has to be able to be adapted into industrial manufacturing, and the breakthrough came when we figured out how to do that," Schultz said.

Clothing that kills athlete's foot and other fungi could help U.S. soldiers in the field, and the substance also could be added to hospital gowns and bedding to stop the spread of resistant bugs, said Schultz, who also serves as the company's vice president of clinical research and development.

UF researchers and scientists from the company presented their findings at the Wound Healing Society's annual meeting earlier this year, and the coating's ability to wipe out harmful bacteria and fungi was later confirmed in independent laboratory tests.

— April Frawley Birdwell

A NEW UF CLINIC MAKES GOOD SENSE:

World-renowned researcher a leader in UF's effort to treat taste, smell disorders

By Jill Pease and John Pastor

PHOTO BY KRISTEN BARTLETT

Dr. Linda Bartoshuk (right) discovered that a quarter of the population, dubbed supertasters, has an unusually high number of taste buds. Here, a microscopic image, seen in the background, provides a close-up view of graduate student Derek Snyder's tongue. Blue food coloring swabbed on the tongue makes it easier to see the tiny structures that house taste buds.

In Linda Bartoshuk's world there *is* accounting for taste. With a simple test, Bartoshuk can measure the number of taste buds a person has and classify them as supertasters, medium tasters or nontasters.

When supertasters place a small filter paper saturated with a chemical called 6-n-propylthiouracil in their mouths, they taste an intense bitterness. Nontasters taste nothing and medium tasters are somewhere in between.

But beyond explaining why for some people coffee is too bitter to tolerate (supertaster) or why some people can't get enough of four-alarm chili (nontaster), Bartoshuk's work has implications for the treatment of taste disorders.

Now a newly launched clinical service of UF McKnight Brain Institute's Center for Smell and Taste joins only a handful of such clinics in the United States. Housed in the College of Dentistry, the clinic is the only one in the Southeast to treat chemosensory disorders, which affect approximately 2 million Americans.

"There are enormous numbers of people who walk around

with smell and taste disorders," said the center's director, Barry Ache, Ph.D., who studies the biological chain of events that allows the brain to process odors. "These problems may be considered minor by others, but these disorders are debilitating for the people who have them."

'NEON TASTE WORLD'

Bartoshuk, who recently joined the UF faculty as a visiting professor in the department of clinical and health psychology in the College of Public Health and Health Professions, began exploring genetic variations in taste perception in the 1970s. She describes supertasters as living in a "neon taste world," experiencing three times the sensation of bitterness, sweetness or spiciness in foods compared with nontasters.

Twenty-five percent of the population are supertasters, 25 percent are nontasters and 50 percent fall into the medium taster category.

"Your taster status not only influences your food choices, but it also affects your health," said Bartoshuk, a member of the prestigious National Academy of Sciences and the first female academy member at UF.

Supertasters are less drawn to sweets and fatty foods, which explains why they have superior cardiovascular profiles and tend to be thinner than nontasters. But they are less likely to eat bitter green vegetables, putting them at increased risk for colon cancer.

"Supertasters are also more susceptible to oral pain," Bartoshuk said. "Because each taste bud is surrounded by a basket of pain nerves, more taste buds equals more pain nerves, causing supertasters to experience three times the burn that nontasters experience."

Bartoshuk was the first to discover that burning mouth syndrome, a condition predominantly experienced by postmenopausal women, is caused by damage to the taste buds at the front of the tongue and is not a psychosomatic condition, as many believed. She will join College of Dentistry faculty members Donald Cohen, D.M.D.,

Frank Catalanotto, D.M.D., and Carol Stewart, D.D.S., in developing effective treatments for the disorder.

Working with Patrick Antonelli, M.D., chairman of the department of otolaryngology in the College of Medicine, Bartoshuk and her graduate student Derek Snyder are also studying a particular nerve that runs from the tongue and through the middle ear on its way to the brain. They have found that when this nerve is damaged, either by injury or chronic ear infections, taste sensation is impaired.

“Dr. Bartoshuk’s research in the area of taste disorders and oral pain is extremely well-known and well-regarded among her colleagues,” said UF President Bernie Machen. “Her work with ‘supertasters’ is especially intriguing and speaks to the innovative approach she takes in her work. UF is fortunate to have someone the caliber of Dr. Bartoshuk in our midst. The university will gain immensely from her presence on the faculty.”



Frank Catalanotto, D.M.D.

A PLACE TO GO FOR HELP

Patients with taste and smell disorders in the Southeast also stand to benefit from the work of Bartoshuk and others associated with the center, including Catalanotto, the center’s clinical director and director of the new Smell and Taste Clinic, who was one of many people instrumental in attracting Bartoshuk to UF and establishing the clinical initiative.

Many of the patients, especially those with smell disorders, will have ear, nose and throat problems, such as nasal sinus disease, nasal polyps or congestion caused by allergies, said Catalanotto, adding that these patients will also be evaluated by Savita Collins, M.D., a UF ear, nose and throat surgeon.

“We will also hear from patients who have had some head trauma,” said Catalanotto, a professor in the College of Dentistry’s department of pediatric dentistry. “Rarer will be patients with a true taste complaint of unknown origin.

“Taste and smell problems are poorly understood by the health-care community,” he added. “Our role is to better understand these problems, counsel patients on how to deal with these issues and look for effective treatments. In addition, we believe that looking at taste and smell function in other systemic diseases can be helpful in understanding such diseases.”

COMPLEX SENSES

The research component of the UF Center for Smell and Taste was created in 1998 to integrate and promote discovery, application and education in the chemical senses.

“Smell and taste deficits are often envisioned as subtle compared to vision deficits or hearing deficits — if you’re

blind or deaf,” said Ache, a member of the advisory council of the National Institute on Deafness and Other Communication Disorders. “But indeed, the quality of life is constrained significantly for people who can’t smell or taste.”

Among its research initiatives, the center is working with the Department of Psychology and the College of Liberal Arts and Sciences to establish a national facility to assess smell and taste function in rodents, which is important in efforts to cure human diseases, especially considering that most mouse genes have a direct human counterpart.

Ultimately, the only way to understand the smell or taste capacities of animals is to study their behavior — whether a rat can be conditioned to press a lever after tasting a specific chemical stimulus, such as salt, for example.

“In order to understand the brain mechanisms underlying normal and abnormal smell and taste function, it is important to be able to manipulate the nervous system — genetically, pharmacologically or anatomically — and then assess the perceptual consequences in the animal model,” said Alan Spector, Ph.D., a professor of psychology and assistant director of the UF Center for Smell and Taste. “Because perception cannot be measured directly, it must be inferred by the animal’s performance on various smell and taste tasks. Using this approach we can learn about the smell and taste world of animals and link it to brain function.”

Eventually, UF’s Chemosensory Test Facility is intended to give researchers throughout the world an opportunity to test animals that are serving as models of disease for their ability to smell and taste. Such experiments can contribute to developing treatments and management strategies for a multitude of disorders, obesity among them.

“Obesity is a problem in the United States,” Spector said. “A lot of different factors likely contribute to the disorder, among them smell and taste. Everything a person eats must first pass the scrutiny of the nose and the taste buds, and thus smell and taste may be complicit in many nutritional and eating disorders.”

An impaired sense of smell is one of the first signs of Alzheimer’s disease. In addition, diabetes, hypertension, malnutrition, Parkinson’s disease, multiple sclerosis, Korsakoff’s psychosis and even psychological disorders such as depression are all accompanied or signaled by chemosensory problems like smell disorders.

MECHANIZED NOSES

Imagine sitting in a kitchen. An open bottle of wine is on the table, steaks are broiling, onions are frying and a fresh cut lawn is just outside the open window.

Using millions of receptor cells, our noses are able to detect subtle differences in smell in complex mixtures against equally complex backgrounds.

Imagine now trying to duplicate that process with technology.

The UF Center for Smell and Taste works with the Whitney Laboratory, the Interdisciplinary Center for

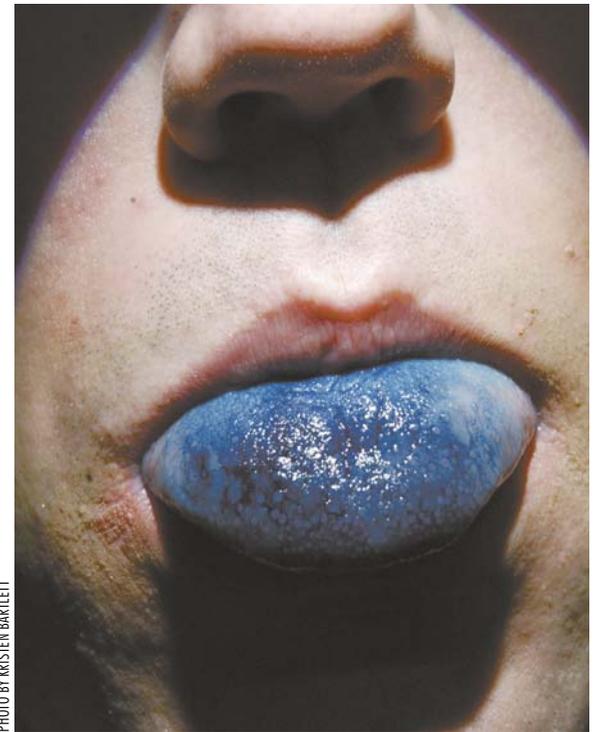


PHOTO BY KRISTEN BARTLETT

Supermarket blue food coloring provides an easy way to determine taster status. Pink, circular fungiform papillae, each home to several taste buds, stand out against the blue background. The tongue of a supertaster boasts more than 25 papillae within a quarter-inch circle.

Biotechnology and the colleges of Medicine, Engineering and Liberal Arts and Sciences to foster development of mechanical biosensors, also known as e-noses, to detect chemical substances.

The objective is the use of molecular recognition molecules such as olfactory receptor proteins immobilized on nanoscale surfaces to provide the sensing element of an electronic “nose on a chip.”

The initiative addresses a growing demand for chemical biosensors for clinical, industrial and defense applications. Chemical biosensors detect chemical signatures of compounds of interest, such as illicit drugs or explosives. In medical applications, biosensors may be created to detect so-called smell of disease, a phenomenon spoken of since Aristotle’s time. For example, there is evidence certain cancers give off chemical signatures.

But the task to develop e-noses is formidable because an odor may be a single chemical or a mixture of hundreds to thousands of chemicals. Making that process even more complex, some chemicals may block the sensory detection of other chemicals.

More research will tell us how it all works. Just as there are supertasters, there are people who have heightened senses of smell. Why that is, or whether the extraordinary smell and taste abilities are linked, are questions in need of answers.

Tasteful answers, of course.

For more information about the UF Smell and Taste Clinic, call (352) 294-0199. 

Scavenger cells could be key to treating HIV-related dementia

By April Frawley Birdwell

Bacteria-eating cells that generally fight infection may cause dementia in HIV patients, UF and University of California at San Francisco researchers have found.

Macrophages, long-living white blood cells often considered the scavengers of the immune system, actually may damage a part of the brain where many memories are stored in their attempt to attack the virus there, according to findings reported in the *Journal of Virology* this fall.

Nearly 15 percent of HIV patients develop dementia as their disease progresses. Understanding the routes macrophage cells take in the brain could help researchers find ways to block the migration and prevent HIV-associated dementia, said Marco Salemi, a UF assistant professor of pathology and immunology in the College of Medicine and an author of the study.

Researchers found that HIV-infected macrophages in the brain continuously travel to the temporal lobe, a part of the brain Alzheimer's disease often damages. Because the virus mutates nearly 100 times faster in the temporal lobe than other parts of the brain, attacking macrophages migrate there in a constant stream, causing harmful inflammation.

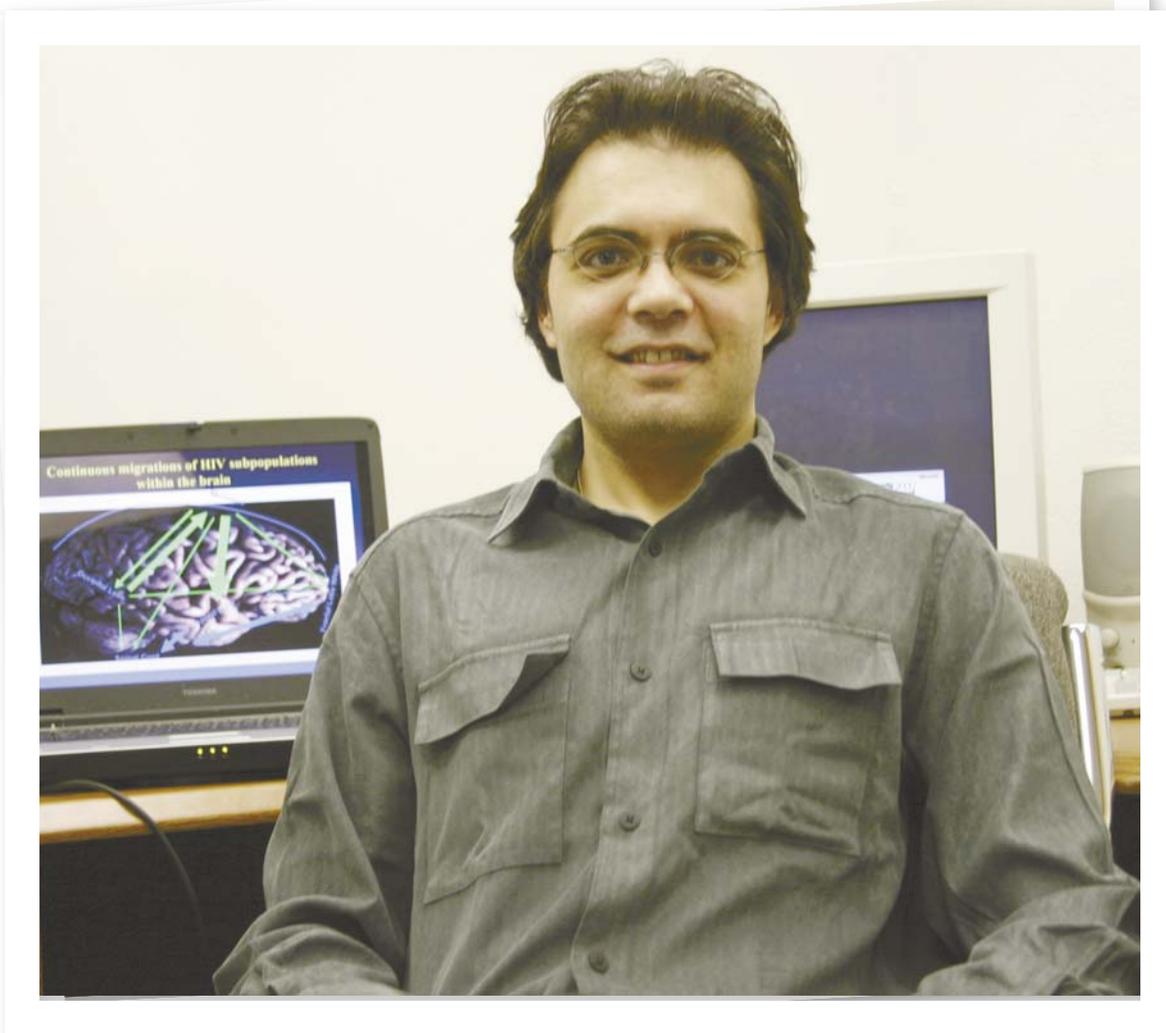
"In a way, it's not the virus that directly causes the dementia," Salemi said. "It's the fact that there is this continuous migration of infected macrophages to the temporal lobe. The virus mutates much faster there, the macrophages keep accumulating and keep creating this inflammation that leads to dementia."

Macrophages also may explain why current drugs cannot kill the virus that causes AIDS.

Researchers have known for years how HIV replicates in T cells, also part of the immune system. But most are just beginning to understand how the virus affects macrophages, said Dr. Michael S. McGrath, a UCSF professor of pathology and laboratory medicine who co-authored the study.

"It's likely the oldest (form of the) virus lives in a macrophage in the brain and most virus strains evolve from that," McGrath said. "Imagine having cells, already infected, that live as long as you do."

Current antiretroviral drugs block HIV from replicating in new T cells, but don't kill the virus in infected macrophages. And the drugs cannot stop the virus from evolving into new forms, McGrath said. Because the virus mutates faster than other cells in the body, it also can develop resistance to



Marco Salemi, a UF assistant professor of laboratory medicine, has teamed with researchers from the University of California at San Francisco and other institutions to find out what causes dementia in the brains of HIV-infected patients.

these drugs, Salemi said.

Developing drugs that target macrophages as well as T cells is important. These drugs could provide better treatments for dementia and potentially lead to a way to "eradicate HIV-1 infection," the study states.

Even the HIV already in an infected person's brain is not one single virus, but rather populations of slightly different viruses that infect different parts of the brain, the findings show.

To obtain their findings, the researchers studied different regions of the brain of a person who died with HIV-associated dementia using specimens from the AIDS and Cancer Specimen Resource at UCSF. They also used a new computer-based research tool to study the results. Dubbed

phylodynamic analysis, this new method links traditional ways of studying the virus to give researchers a more comprehensive understanding, which Salemi says is crucial to analyzing the ever-changing disease.

"If we really want to understand what happens to a person infected with this disease, we need to develop new tools," he said. "We can put together all these different resources and describe how the virus changes over time and try to understand why this particular damage happens."

But these results are just a first step, Salemi said. The team is now analyzing brains from 10 people, some who died with HIV-associated dementia and others who did not. **P**

Next stop, Asia: UF leads globalization effort in forensic education

By Linda Homewood

The University of Florida is leading scientific forces from Scotland and Australia on an Asian tour – one that calls for a new alliance of Eastern and Western educators to advance forensic science capabilities worldwide through education.

Ian Tebbett, Ph.D., director of the UF Global Forensic Science Program, sees a need for countries to work together to help meet a great forensic demand, from body identification resulting from natural disasters and war crimes to educating much-needed scientists.

“Global Forensic Education is a perfect example of the UF ‘Gator Nation’ strategic mission to develop international outreach and education with respect to cultural differences,” Tebbett said.

The UF online forensic science program, which offers master’s programs in forensic DNA and serology, drug chemistry, and toxicology, also offers a graduate certificate option. Next spring, there are plans to launch a new certificate program in death investigation that will involve collaboration across campus and internationally, Tebbett said.

In August, Donna Wielbo, Ph.D., an associate professor at UF’s College of Pharmacy, launched the Asian tour. Working in collaboration with The University of Edinburgh and the University of Canberra, the forensic educators began with an international workshop in Thailand. Shortly after the Thai conference, Tebbett, also a College of Pharmacy professor and UF associate dean of distance learning, was off to Hong Kong for the International Association of Forensic Sciences conference, before ending his travels in Beijing.

The first stop on the tour, the “Forensic Analysis of DNA” workshop, was organized in response to efforts of the Thai government to improve their body identification capabilities after the tsunami disaster. The University of Silpakorn, located about 20 miles west of Bangkok, hosted the workshop, which addressed theory and practical applications of crime scene processing, traditional forensic serology, basic genetics and DNA analysis used for identification, Wielbo said. Lectures were presented by Silpakorn pharmacy faculty, UF and Edinburgh faculty and an officer from the Institute of Forensic Medicine and the Royal Thai Police, who presented tsunami case studies.

The forensic field, although gaining more acceptance after last year’s tsunami, is traditionally considered taboo to the Thai people, who culturally view the spirit world differently than westerners, Wielbo said. Wielbo added that the Thai university has requested UF’s support in developing four workshops next year, an indication that the workshop was well-received.

“It shows that the UF Global Forensic Education program is making an impact on forensic practices worldwide,” Wielbo said.

The nearly 40 workshop attendees consisted of students and practitioners in the medical fields and members of Thai law enforcement. Surawut Watana, Ph.D., associate dean at Silpakorn University, said he wants to advance forensic science education in his country. He plans to continue the Silpakorn-UF partnership by bringing Tebbett’s curriculum in forensic toxicology to Thai students.

“We have translated the UF course materials into our native language so that we can teach the master’s program online to students throughout Thailand,” Watana said.

In mid-August, Tebbett met up with his forensic colleagues in China. Held once every three years, the international conference in Hong Kong gave the global



Presenters AnnMarie Clark, of UF, (fourth from left); Alex Graham (blond woman in tan suit), of The University of Edinburgh; and UF’s Donna Wielbo, of UF, (eighth from left), stand in the second row among University of Silpakorn faculty and workshop attendees. The DNA workshop announcement is posted in Thai behind the group.

forensic partners – UF, Edinburgh and Canberra – a chance to talk one-on-one to forensic scientists from China and other Asian countries. During her conference seminar, Jennelle Kyd, Ph.D., a professor from the University of Canberra, explained the universities’ coordinated efforts and the advantages of teaching forensic science through distance education.

After the Hong Kong conference, Tebbett traveled to the UF International Center in Beijing, where UF professor Sherman Bai, Ph.D., the center director and a native of China, had arranged meetings with three universities. Tebbett toured the University of Traditional Chinese Medicine, Capital University School of Medical Sciences and Beijing University.

Ironically, professor Wei Wang, M.D., Ph.D., of Capital University, had been called back from the IAFS conference in Hong Kong to meet with the visiting UF professor of forensic science. After the meeting, Wang, a highly regarded professor in the Chinese forensic science community, was enthusiastic about the UF programs.

“Our students are very smart and they learn English from the time they first start school,” Wang said. “We are confident that our students will be able to meet your university’s requirements for admission.”

Capital University hosted a dinner for its pharmacy faculty to meet with Tebbett and other UF representatives for an opportunity to talk about mutual education interests and future possibilities for collaboration in teaching, exchange students and distance learning.

Tebbett credits Bai and his staff at the UF International Center in Beijing for making important contacts with the schools and with China’s Ministry of Education that have paved the road for future developments in the globalization of forensic education.

“The UF-Beijing center was key to our successful meetings in China,” Tebbett said. “They assisted us with basic things like language interpretation and cultural understanding that are imperative when beginning new relationships in another country.”

The meetings were so successful that Tebbett hopes to return to Beijing before the end of the year to sign early agreements with Capital University to offer UF master’s degrees in China. **P**



Leaving New Orleans:

LSU medical student spending senior year at UF

PHOTO BY KRISTIN BARTLETT

Christian Fauria, a medical student from Louisiana State University School of Medicine in New Orleans, will spend most of her senior year at UF after Hurricane Katrina swamped the Gulf Coast city.

By April Frawley Birdwell

Christian Fauria's Thanksgiving Day wedding won't take place on her parents' lawn as she had planned. The groomsmen's suits were lost in floodwaters and the order for the bridesmaids' dresses has been canceled, too.

Most brides-to-be would be crushed. Fauria just feels lucky.

Her family has a house and her relatives are all alive. That's more than many New Orleans families have in the wake of Hurricane Katrina, which caused several of the under-sea-level city's levees to break when it struck Aug. 29, flooding the city and killing nearly 1,000 people.

Fauria, a fourth-year medical student from the Louisiana State University School of Medicine in New Orleans, now will spend most of her last year of medical school at UF. The New Orleans native will spend five months at UF until she returns to LSU to match in a residency program in March.

"I'm very lucky compared to most of the people in New Orleans," she said. "A lot of people in medical school with me lost their houses. You have guilt for being so lucky."

Fauria hasn't been back since the day before Katrina hit, when she, her fiancé and her parents finally decided to evacuate.

They watched the chaos and destruction unfold in the city on television, like the rest of the country. Fauria could only think of how crazy it all seemed, that houses would be knocked down and some people would never be back, and yet, how inevitable it was, too. New Orleanians had talked for years about what would happen if "the big one" hit, she said.

Fauria's relatives, many of whom lost their homes, are now scattered across the country, but she and her parents have been able to track them down. Friends have not been as easy to find, although she did spot one fellow medical student on "Dr. Phil."

She doesn't know what happened to her on-campus apartment either. Her father, a coastal engineer who is working in the city, tried to get to her apartment to grab her books and clothes, but school officials weren't letting anyone in yet, she said.

She had to buy all new clothes, but she shrugs it off. It's nothing compared to what

her friends and other evacuees are going through, she said. And frankly, Fauria is too busy to worry about her own troubles.

"I have to do my applications. I have to take tests. I have to get into a residency program. I have to finish medical school," she said. "I'm just trying to keep going."

Although she was able to complete a family medicine rotation in Louisiana after evacuating, Fauria decided to come to UF after talking to a close family friend and UF faculty member, Mary Ann Burg, Ph.D, an associate professor of community health and family medicine and the director of the UF Women's Health Research Center.

Still technically an LSU student, Fauria will take five clinical rotations while she is here to match the LSU curriculum.

Two third-year LSU medical students are also coming to UF this month for eight-week medicine rotations, said Patrick Duff, M.D., associate dean for student and alumni affairs.

The school should reopen in January, Fauria said, but she is not sure if that will happen, particularly since two LSU-run hospitals were declared unsalvageable in October.

She would like to go back to New Orleans, but she doesn't know when that will happen. She had planned to try to get into a residency program in New Orleans, but UF is her first choice now, she said. Her fiancé found a job with a local biotechnology company and the couple has been able to establish a home base here.

And the wedding is still on for Thanksgiving, even if they can't have it in New Orleans. The couple plans to marry on a Destin beach.

"She is someone who feels things will work out," said Burg, who has known Fauria's family since her parents were graduate students in New York. "She's got a Vera Wang dress and she's going to wear it somewhere."

Fauria does wonder what will happen to her native city, though. And she worries that leaders won't do enough to bring back the city's poor, who she says "create what people love about New Orleans."

"I don't think it will ever be the same," she said. "I think it will always be referred to as 'pre- and post-Katrina.' But I hope it gets close to normal." **P**

Bringing up baby

Vet Steeve Giguère has a passion for foal care



Dr. Steeve Giguere with a foal in UF's Hofmann Intensive Care Unit.
(Photo by Kristin Bartlett, UF News & Public Affairs.)

By Cindy Spence

When he was a boy, the formula seemed simple to UF researcher Steeve Giguère: become a veterinarian, own a horse, keep riding. Today, his research into equine neonatology brings him into contact with plenty of horses, although he doesn't own them or ride them. But that's OK with Giguère, who says he has found a new mission in helping frail foals survive. And he likes knowing his work makes a difference.

"If you do clinics, you deal with horses and their problems every day," Giguère said. "That way you know what kinds of research really will help, as opposed to something that is interesting but not really helpful clinically."

Since the mid-1980s, the UF College of Veterinary Medicine has built up its neonatology program, publishing the first equine neonatal text in 1990, Giguère said. The university long has been a top referral center for clinical care of neonates and is playing a key role in equine neonatology research.

"The discipline of equine neonatology started here," Giguère said. "Every project helps in understanding better ways to treat equine neonatal diseases."

A big part of Giguère's research is focused on an anomaly that makes newborn horses highly susceptible to *Rhodococcus equi*, which causes pneumonia, while adult horses largely are immune to it.

"With *Rhodococcus*, we are trying to discover why only the babies get it, not adults. What is different in the immune system of the babies?" Giguère said.

Rhodococcus is the leading cause of illness and death in foals in the United States and the leading cause of pneumonia in foals from 3 weeks to 5 months of age. It is financially devastating for horse breeders, who sometimes see 40 percent of their foals contract the disease. Foals that do recover are much less likely to race as adults.

Giguère says a long-term goal is to develop a vaccine to protect foals from *Rhodococcus*. But first he needs to find the reason for foals' peculiar susceptibility to the infection.

In his work in UF clinics, Giguère found himself faced with a need to measure blood pressure and cardiac output in critically ill foals, but with few well-standardized, non-invasive ways to perform those tests. So he embarked on studies to find more precise and less invasive ways to take the measurements.

In one study, he looked at the accuracy of blood pressure monitors and foals and he evaluated the effect of the site of cuff placement on measurement accuracy.

He found that most blood pressure monitors commonly used worked well but found that the best placement for the cuffs was on a foal's tail. The non-invasive monitors are portable and easily used on the farm or in a veterinary office.

To improve methods to measure cardiac output in critically ill foals, Giguère decided to evaluate many non-invasive methods. He found that ultrasound examination of the heart was very accurate in measuring cardiac output and easily used without causing distress to the sick foals.

Giguère also evaluated kits commonly used on horse farms to measure concentrations of antibodies in newborn foals. He found the kits varied widely in accuracy and made his results available to veterinarians and farm managers. Giguère also has been studying multiple antibiotics for use in foals in an attempt to improve treatment of bacterial infections. Systemic bacterial infection is the leading cause of mortality in foals.

Giguère's work has been funded by the Morris Animal Foundation and Florida's Pari-Mutuel Trust Fund as well as the Florida Thoroughbred Breeders' and Owners' Association. In fact, support from the association allowed the college to establish a breeding herd of 17 mares that provide foals each year for research. Once the research is completed, the foals are adopted, Giguère said.

"We can change the way we practice, discover better therapies," Giguère said. "I see my mission as improving equine health."

Cindy Spence is a freelance writer for the College of Veterinary Medicine. **P**

UF study looks for undiagnosed dementia in long-term care environments

By Patricia Bates McGhee

While following the cases of hundreds of patients with dementia for the last 15 years, George Wilson, M.D., has identified many unanswered questions about the disease.

Now he can answer one of them.

Thanks to an \$86,500 grant from Pfizer, Wilson will be the first to study the incidence of undiagnosed dementia in long-term care.

Treatment of dementia as a disease has evolved slowly and with few breakthroughs, said Wilson, associate chair of community health/family medicine at UF HSC Jacksonville.

“Even as long as 20 years ago, there were really no therapies for dementias. Some could be prevented, but there was no treatment for the disease,” he said. “We, being physicians in primary care, used various anecdotal treatments but none showed true efficacy. Then, about 10 years ago, several drugs were developed that seemed to have a positive effect on dementia and physicians started using them to treat moderate-to-severe dementia.”

Over the next several years the data showed two things, Wilson said. First, the drugs seemed to slow down dementia but did not arrest it. Second, they were most effective in early dementia and had almost no effect in moderate-to-severe dementia.

“So the problem now becomes who should get the drug,” Wilson said. “Most of us intuitively or from observation know who has moderate-to-severe dementia, but how do we know who has early dementia?”

That question prompted Wilson to find out how many people admitted to nursing homes for reasons other than dementia actually had early dementia.

“The obvious benefit of knowing this is that those people might benefit most from the new drugs, but if you don’t know if someone has dementia until they’re moderate to severe, then it’s too late to treat them,” Wilson explained.

He also was led to believe that because of a difference in patients’ daily routines, most people don’t recognize dementia progression in nursing home residents as quickly as in those living at home.

“The dementia can be fairly far advanced before somebody one day says, ‘You know, I think Granny is demented,’” he said.

The UF study, which will evaluate 80 to 100 residents and track them over time, involves two questions: What is the incidence of unrecognized early dementia in individuals who are admitted to nursing homes regardless of why they’re admitted and what is the progression rate of dementia in nursing homes that is unrecognized?

The first part of the study looks at how many already living in a nursing home are unrecognized.

“I’m working with River Garden Hebrew Home in Jacksonville and identifying all current residents who do not have a diagnosis of either dementia or minimum cognitive impairment and screening them to see how many actually screen positive,” Wilson explained. “I’m not going to screen those already on treatment for dementia because I don’t know what that would mean relative to the question.

“The second part of the study involves screening all new admissions — again, those without a diagnosis for dementia — over the next three years who enter River Garden to find out how many have early dementia that’s unrecognized,” he said. “Then over those same three years I’ll re-screen to



Dr. George Wilson, associate chair of community health/family medicine at UF HSC Jacksonville, leads research to study how often dementia goes undiagnosed in nursing home patients.

see what the progression rate is and how that correlates with the staff’s appreciation of progression.”

Wilson’s premise is that there will be more people who enter the nursing home who have dementia that nobody’s recognized, that there will be more individuals already living in the nursing home who have unappreciated early dementia and that the progression rate will be more significant than the clinical staff has recognized.

“If these theories prove out,” Wilson said, “then the research becomes extremely important because it would suggest screening all nursing home residents and admissions for early dementia because those individuals would benefit most from starting drug therapy.”

Wilson is principal investigator of the three-year study. Co-investigators are Fern Webb, Ph.D., a UF epidemiologist and assistant professor, and Sue Leger-Krall, Ph.D., River Garden research director. The study is being conducted at River Garden Hebrew Home and is under the umbrella of UF’s Center for Geriatric Medicine at River Garden. **P**

COLLEGE OF MEDICINE

ANTHONY A. MANCUSO,

M.D., a professor and chairman of the department of radiology, was awarded the 2005 Gold Medal from the American Society of Head and Neck Radiology on Sept. 23 at the society's 39th annual meeting in San Francisco. The group's most prestigious award is presented each year to a member who has provided dedicated service to the society and to the science and education of head and neck radiology.



Mancuso

COLLEGE OF NURSING

JESSICA NICOLE CASSELBERRY, JORDAN ELIZABETH GRAVES, KIMBERLY ANNE HESS, STEVIE ANN MAHER, JILL ST. MARIE JURKIEWICZ, SHAWNA-KAY PATRICE PETERKIN, JENNY MARIE WALKER and KATALIN M. WEBB, all B.S.N. junior students, were recently awarded Alumni Book Awards by the College of Nursing Alumni Council to enhance their educational experience and assist them in purchasing textbooks during the fall 2005 semester. Each student received \$200 to offset textbook costs and was chosen for demonstrating commitment to nursing and community involvement.

AMANDA FLOETKE ELLIOTT and JENNIFER STELLING

were awarded scholarships from the Association of Perioperative Registered Nurses Foundation for the 2005-06 academic year. They were among 100 students nationwide chosen from more than 340 applicants.



Floetke Elliott

Doctoral student Amanda Floetke Elliott, part of the college's accelerated B.S.N. to Ph.D. program, was one of the 44 graduate student awardees, and Jennifer Stelling, a senior B.S.N. student, was one of 56 undergraduate student awardees.

Elliott has been an active member of AORN, sitting on a national task force and attending the AORN Congress meeting last year. Stelling showed a strong interest and commitment to perioperative nursing and hopes to pursue a career in operating room nursing.

BEVERLY ROBERTS, Ph.D.,

F.A.A.N., has been named the Annabel Davis Jenks Endowed Professor for Teaching and Research in Clinical Nursing Excellence. Roberts, a nationally known researcher on older adults and exercise, served as a nursing faculty member for 23 years at Case Western Reserve University, most recently as the Arline H. and Curtis F. Garvin Professor of Nursing.



Roberts

The Annabel Davis Jenks Endowed Professorship for Teaching and Research in Clinical Nursing Excellence is in recognition of Mrs. Annabel Jenks, a committed and caring nurse who had strong connections to the College in the 1970s and '80s. This professorship was made possible by a gift to the College of Nursing from the Thomas M. and Irene B. Kirbo Charitable Trust. The Kirbo Trust donated \$600,000 to establish the professorship, which was eligible for state-matching funds. Mr. Murray Jenks, a trustee of the Kirbo Trust, was the husband of the late Annabel Jenks.

Roberts has built a long program of NIH-funded research exploring factors that contribute to function and independence in daily activities, specifically exercise from a physical and psychosocial standpoint. Her most current research study examines how a low-intensity

muscle strength program could aid function and recovery of elderly adults who have been hospitalized for a medical condition. She has written more than 50 books, book chapters and articles in refereed publications.

While at Case Western, she also helped garner more than \$1 million in funding for programs and scholarships in geriatric nursing.

Roberts is a research and clinical practice fellow of the Gerontological Society of America and was given the Outstanding Researcher award from the Midwest Nursing Research Society in 2003. She is an abstract reviewer for the Gerontological Society of America, Sigma Theta Tau International and the Midwest Nursing Research Society.

Roberts is now a member of the UF Institute on Aging's Executive Committee, and notes that it is collaborations such as these that attracted her to UF, she said.

"There are so many at UF with research interests in aging that align with mine, and entities like the Institute on Aging focus on bringing us together and encouraging collegiality and networking for the greater good," Roberts said. "I am excited to further build these relationships."

COLLEGE OF PHARMACY

RAYMOND G. BOOTH,

Ph.D., an associate professor, and **HENDRIK LUESCH**, an assistant professor, are two new faculty members recently welcomed to the medicinal chemistry department.



Booth

Booth comes to UF from the University of North Carolina at Chapel Hill where he was an associate professor of medicinal chemistry and toxicology. He received a Ph.D. in pharmaceutical chemistry at the University of California at San Francisco, and completed a postdoctoral fellowship in



Dentistry dedicates Philanthropy Center honoring college donors

Five dentistry deans joined the College of Dentistry during the Sept. 10 Dental Fall Weekend alumni homecoming and Philanthropy Center dedication activities in the West Lobby of the Dental Sciences Building. The Philanthropy Center represents cumulative gifts from alumni and friends to the college in excess of \$20 million since the college's inception in 1966. The permanent display, which will be updated annually, was made possible through the support of the college's Zeta, Omicron and Epsilon classes, the Academy of Alumni and Friends, and Drs. Paul Mevoli and Paul Heidrich.

Front row, from left to right, sit deans Jose E. Medina, (1969-73) and Teresa A. Dolan, (interim 2003-04, dean 2004 to present). Back row from left to right, Donald L. Allen, (interim 1973-74, dean 1974-82), Frank A. Catalanotto, (1994-2003) and Donald M. Legler, (1983-94).

DISTINCTIONS

neuroscience at Harvard Medical School. Booth's research focuses on specific protein molecules in the brain that can be targeted by new drugs to treat the progression of a disease and its associated impairments in neurodegenerative diseases such as Alzheimer's and Parkinson's and neuropsychiatric disorders, with the goal of developing new drug treatment for brain injury or diseases.

Luesch recently completed a postdoctoral fellowship at the Scripps Research Institute in La Jolla, Calif. He received a diploma in chemistry from the University of Siegen in Germany, and a Ph.D. from the University of Hawaii at Manoa. Luesch's research focus is in small molecules that may have biomedical utility for treatment of diseases such as cancer and neurological disorders. His studies include marine natural products, such as blue-green algae, which may prove useful in the discovery of new drugs to fight cancer. He also uses genomics to identify and characterize genes associated with disease processes.



Luesch



The three-member team of **TERIKA HAYNES, KRISTAL RAJKUMAR** and **DONNA THOMPSON**, students in the master's in health administration program in the department of health services research, management and policy, reached the finals of the annual student case competition sponsored by the National Association of Health Services Executives.

PUBLIC HEALTH AND HEALTH PROFESSIONS

VONETTA DOTSON, a graduate student in the department of clinical and health psychology, has received a Neuroscience Scholars Fellowship from the Society for Neuroscience. The three-year award offers a stipend, assistance with travel costs to attend the society's annual meeting, enrichment programs and mentoring opportunities.



Dotson

MICHAEL ROBINSON, Ph.D., a professor in the department of clinical and health psychology, was recognized for the second consecutive year as the college's Teacher/Scholar of the Year. The director of the Center for Pain Research and Behavioral Health, Robinson was recognized for his clinical and research supervision, as well as his classroom teaching.

Know someone who has earned a distinction? Please let us know.
E-mail dtrunk@ufl.edu

GRANTS

Selling Survival

Social marketing brings oral cancer awareness and prevention message home

By Lindy McCollum-Brounley

Most people with a head for business are familiar with the four Ps of marketing – Product, Price, Place and Promotion. Now, University of Florida public dental health researchers are adding a fifth P – Prevention – to the equation in their social marketing efforts to stem the rising tide of deaths from oral and throat cancers in Florida.

Spurred by a \$1.25 million, five-year grant from the National Institute of Dental and Craniofacial Research, these scientists plan to use advertising to raise awareness of the role of prevention in the early detection of oral cancer in people most at risk of dying from the disease.

Study investigator Scott L. Tomar, D.M.D., Dr.P.H., an associate professor of public health services and research in the College of Dentistry, is taking a novel, science-based social marketing approach to sell survival to African-American men over the age of 40 – the segment of Florida's population at greatest risk for oral and pharyngeal cancer incidence and mortality. The project coordinators are developing an advertising campaign in the greater Jacksonville area, in which 28 percent of the area's approximately 800,000 residents are African-American. The campaign aims to increase

awareness of the signs and symptoms of oral cancer, the major risk factors of tobacco and alcohol use and the benefits of early detection, which offers a cure rate of 90 percent.

Focus groups and telephone surveys of African-American residents in the Jacksonville and outlying area have been conducted to establish baseline data about current behaviors and attitudes, level of awareness, information and media sources and message preferences in the targeted population. Telephone surveys of African-American respondents in Miami-Dade have also been conducted to establish baseline data.

This fall, a public relations/media agency will be hired to develop the advertising campaign, which is expected to roll out in early 2006. The campaign will involve African-American actors and models to help the message resonate with its targeted audience. Radio public service announcements, billboards, printed brochures and exam vouchers are expected to be developed and distributed during the campaign by mass media and through the health networks of the IFAS health and nutrition extension program and the Duval County Health Department.

Evaluation of the campaign's effectiveness in achieving its goals of raising awareness and increasing oral cancer exams in the targeted audience

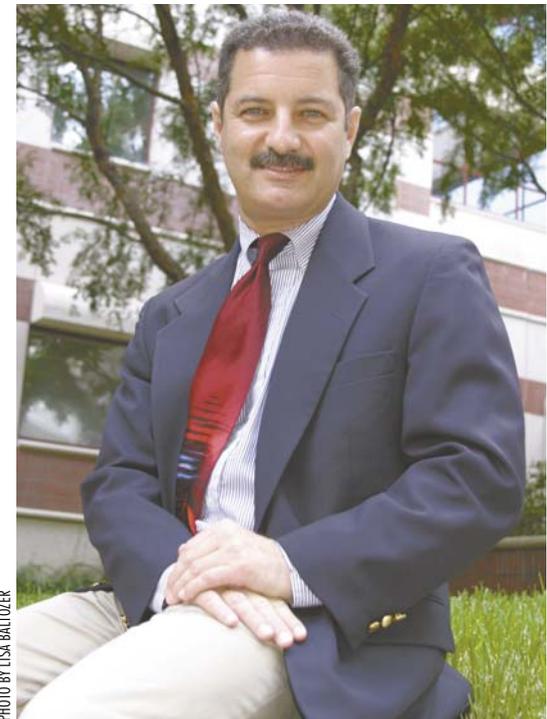


PHOTO BY LISA BALTOZER

Scott L. Tomar studies the role advertising plays in raising oral health awareness.

will be conducted using follow-up telephone surveys. The hypothesis is that a greater change in health beliefs and behaviors will be seen in the targeted community of Jacksonville/Duval County than in the general community. **P**

UF researchers awarded \$13.5 million to study stroke rehabilitation

By Denise Trunk

UF scientists have been awarded a five-year, \$13.5 million federal grant to lead a national group of researchers who will study rehabilitation techniques designed to improve walking in the first year after stroke.

“These are critical questions that are very important as we address the needs of aging patients,” said Pam Duncan, Ph.D., the study’s principal investigator and associate director of the UF Institute on Aging.

The study, known as the Locomotor Experience Applied Post-Stroke trial, or LEAPS, is funded by the National Institute of Neurological Disorders and Strokes and the National Center for Medical Rehabilitative Research. UF and University of Southern California researchers will study 400 stroke patients ages 18 and older in partnership with clinicians at The Brooks Center for Rehabilitation Studies in Jacksonville; Florida Hospital in Orlando; Long Beach Memorial Hospital in Long Beach, Calif.; Centinela Freeman Memorial Hospital in Inglewood, Calif.; and Sharp Rehabilitation Hospital in San Diego.

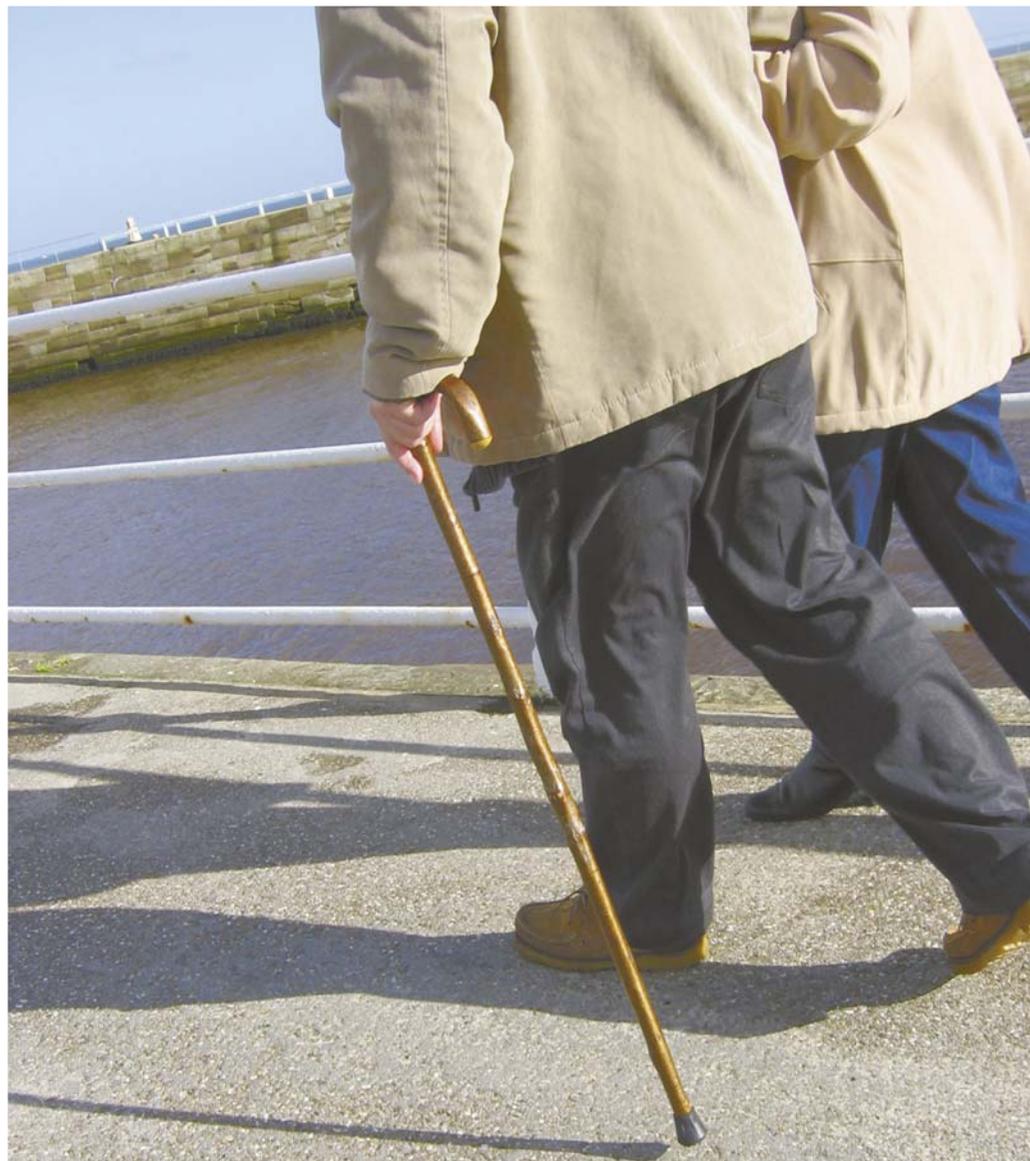
Difficulty walking is the most common disability associated with stroke, said Duncan, who is also a professor of aging and geriatric research in the UF College of Medicine and a research career scientist for the Department of Veterans Affairs. The focus of the trial is a clinic-based program in which patients practice walking on a treadmill.

The multisite, randomized trial will assess whether there is a difference in the proportion of subjects who successfully recover walking ability using this therapy versus a group given a therapist-supervised, home-based exercise program.

Researchers will divide the patients into study groups based on the severity of their strokes and their level of walking impairment. They also will gauge whether initiating the therapy two months after stroke versus six months after stroke makes a difference in its effectiveness, and will seek to identify the optimal duration of therapy. Patients will be reassessed one year after treatment.

“Timing the intervention is important,” Duncan said. “For example, after a stroke, a patient will experience some spontaneous recovery. Should we provide therapy during this period of recovery or later, when recovery has stabilized?”

The study will evaluate the success of the therapeutic methods tested by measuring how much walking ability study subjects regain, and whether



UF researchers are leading a five-year, \$13.5 million federal research grant to study rehabilitation techniques to improve walking abilities and quality of life for stroke patients.

that improvement is great enough to help them act independently.

Co-principal investigators Katherine Sullivan, Ph.D., P.T., and Andrea Behrman, Ph.D., P.T., helped develop and design the study.

Sullivan, an assistant professor of clinical physical therapy in the department of biokinesiology and physical therapy at USC, has led multisite clinical trials comparing different therapeutic interventions such as strength training, endurance training, locomotor training and combined modalities to improve function after

stroke. Behrman, an assistant professor in the department of physical therapy at UF’s College of Public Health and Health Professions, is the leader of a combined UF and VA research program to improve walking recovery after neurological injuries involving stroke and spinal cord injury.

Scott Janis, NINDS spokesman, said although other scientists have studied the new therapy, no one has completed a definitive study to show it works.

“By investigating potential therapeutic interventions for stroke victims, we are looking to improve outcomes and quality of life,” Janis said. **P**

LOOKIN' AT YOU



PHOTO BY MICKEY CUTHBERTSON

Martha Cheatham (left), a program assistant, and Ginny Leap, an office assistant, are unsung heroes in the division of nephrology, hypertension and transplantation.



PHOTO BY MICKEY CUTHBERTSON

Michelle Griffin (left), a senior secretary in the College of Medicine, gets out of the office for a quick lunch break with Dr. Christine Nielson, a clinical assistant professor in the College of Medicine.

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PHOTO BY JEFF KNEE

Professor Leslie Hendeles (left), gets a pie in the face from pharmacy student Fiadora Avramidis at the annual College of Pharmacy Alumni Reunion. The Kappa Epsilon student organization raised \$100 through \$1 donations in which the bidder chooses from six faculty finalists. Professor Doug Ried tied with Hendeles in the bids, and also got a pie in the face. A record 750 alumni and guests attended the college's homecoming barbecue reunion.