



page 10

## *Rooms with a View*

**Cancer, genetics scientists to converge in new HQ**

UF Health Science  
**CENTER**  
*Celebrating 50 Years*

Remembering  
Dr. Harrell

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Pathogen  
finder

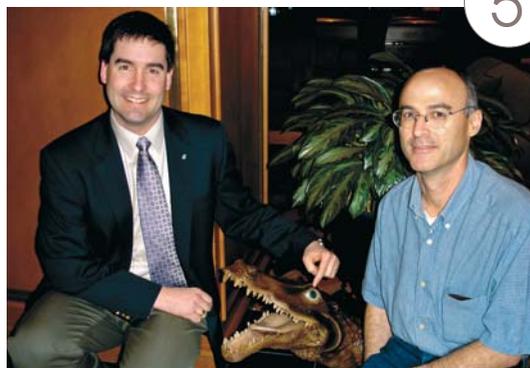
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Pilates  
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**ON THE COVER:** Take a gator’s-eye view of the University of Florida Cancer and Genetics Research Complex, the newest and largest research building on campus. As impressive as it looks from the outside, it’s what’s inside that has researchers talking - a layout that makes scientific collaboration easy. Cover photo by Sarah Kiewel. Page 10.

# Medical Matches **MADE IN HEAVEN**

By April Frawley Birdwell

It all came down to one thin, white envelope.

Aubrey Jolly Graham woke up at 6 a.m. thinking about it. The letter inside the envelope she would open later that day in front of her UF medical school class would set the course of the next few years of her life, of her entire career and of her husband’s law career.

“I woke up and I rolled over to my husband and said, ‘I think I’m going to puke,’” Jolly Graham said. “This decision affects everything.”

On Match Day, which fell on March 16 this year, medical school seniors across the country learned where they would complete their residencies, training that can last for three to seven years depending on the specialty students choose. But the decision is about more than where they will go. For some students it affects what their specialty will be and whether they will be able to stay with their families or spouses.

At the UF College of Medicine’s own emotionally charged Match Day ceremony, 115 medical students

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PHOTO BY SARAH KIEWEL

Aubrey Jolly Graham celebrates after learning she is headed to Duke University for her internal medicine residency at the College of Medicine’s Match Day ceremony last month.

## PHARMACY RESEARCH STUDENTS HOST INTERDISCIPLINARY MEETING IN MAY

Pharmacy graduate students are hosting the South East Regional Interdisciplinary Symposium, May 19 – 21, in the HPNP Building at the College of Pharmacy. The meeting, to be held for the first time at UF, will promote research collaboration among students in health science areas.

Organizers – founders of the UF student chapter of the American Association of Pharmaceutical Scientists – describe the meeting as a regional event for students and postdocs from the Southeastern United States. Students from colleges of Pharmacy, Medicine, Chemistry, Statistics, Engineering and others are invited to submit papers to the interdisciplinary meeting.

Papers are being accepted in the areas of pharmacokinetics/pharmacodynamics, analytical chemistry, genomics, medicinal chemistry, biomedical engineering, pharmacology, gene therapy, herbal medicine and drug delivery. The deadline for poster presentations is April 17.

During the symposium there will be opportunities to network with representatives from the pharmaceutical industry, the Federal Drug Administration and academia.

AAPS is the professional society for scientists in all the pharmaceutical sciences and has more than 12,000 members worldwide. Information and registration is available on [www.doce-conferences.ufl.edu/seris](http://www.doce-conferences.ufl.edu/seris). For details, contact [seris2006@gmail.com](mailto:seris2006@gmail.com).

## FREE CANCER SCREENING

In 2006, 40,000 Americans will develop oral, head and neck cancer. As many as 80 percent of people with oral or throat cancer detected and treated in the early stages can be cured.

Health professionals want to spread the message: Early detection saves lives.

The College of Dentistry is offering free head and neck cancer screenings as part of the 9th Annual International Oral and Head and Neck Cancer Awareness Week, April 17 – 23, which is sponsored by the Yul Brynner Head and Neck Cancer Foundation. Screenings will be offered from 8:30 a.m. to noon April 21 in the Oral Medicine Clinic, Room D1-18 of the College of Dentistry. For more information, visit [www.yulbrynnerfoundation.org](http://www.yulbrynnerfoundation.org).



PHOTO BY SARAH KIEWEL

**Four vice presidents** of the UF Health Science Center used the occasion of the College of Medicine's "Leaders and Legends" banquet March 10 to pose for posterity with UF President Bernie Machen, center. The veeps include David Challoner, Kenneth Berns, William Deal and Douglas Barrett. The banquet honored COM deans, department chairs and other important figures in the history of the college.



PHOTO BY NELSON KEEFER

**Orange and blue** were the official colors at the ribbon-cutting ceremony for the new UF Child Protection Team facility on Beach Boulevard in Jacksonville. Ribbon-cutters included Dr. Robert C. Nuss, left, UF associate vice president for health affairs and senior associate dean of UF College of Medicine–Jacksonville; Darien Cisero, middle, son of longtime CPT intake coordinator Linda Cisero; and Dr. Joe Chiaro, deputy secretary, Children's Medical Services.

## SPRING 2006 COMMENCEMENT CEREMONIES

The College of Dentistry's commencement for doctor of dental medicine degree students will begin at 3:30 p.m. May 26 at the Curtis M. Phillips Center for the Performing Arts.

The Jacksonville campus colleges of Dentistry, Medicine and Pharmacy commencements will take place at 3 p.m. June 14 in the LRC Auditorium. College of Nursing-Jax ceremony will be held jointly with the CON in Gainesville on May 5.

College of Medicine's M.D. degrees will be awarded at 9 a.m. May 20.

The colleges of Medicine, Dentistry and Veterinary Medicine are holding their third annual joint college graduate program commencement ceremonies for M.S. and Ph.D. students in the Interdisciplinary Program in Biomedical Sciences and the Veterinary Medical Sciences graduate program. The ceremonies will begin at 2 p.m. May 5 in the HPNP Auditorium.

College of Nursing commencement ceremonies will begin at 1 p.m. May 5 at the Curtis M. Phillips Center for the Performing Arts.

The College of Pharmacy ceremony will be held at 2 p.m. May 7 in the Stephen C. O'Connell Center. This is the first graduating class that will include students from three distance education campuses in Florida. There are 300 Ph.D., M.S., Pharm. D. and W.P.P.D. graduates who will receive degrees.

The College of Public Health and Health Professions will hold commencement at 6:30 p.m. May 4 in the Stephen C. O'Connell Center.

College of Veterinary Medicine will award D.V.M. degrees at 2 p.m. May 27 at the Curtis M. Phillips Center for the Performing Arts.

# Remembering a legend

By April Frawley Birdwell

**J**ean Bennett still remembers the list of instructions Dean George T. Harrell gave her when she was a new student in the College of Medicine 50 years ago.

He didn't think the 19-year-old should marry, but if she did, he warned her not to marry a doctor. He told her where to live, too. The dean didn't think Bennett, who grew up in West Virginia in a coal-mining family, had enough life experiences under her belt, so he instructed his new recruit to move in with a more cosmopolitan lady in town.

The dean may have been strict with Bennett, but she was there, one of three female medical students admitted as part of the college's first class in 1956, at a time when women in medicine were still rare.

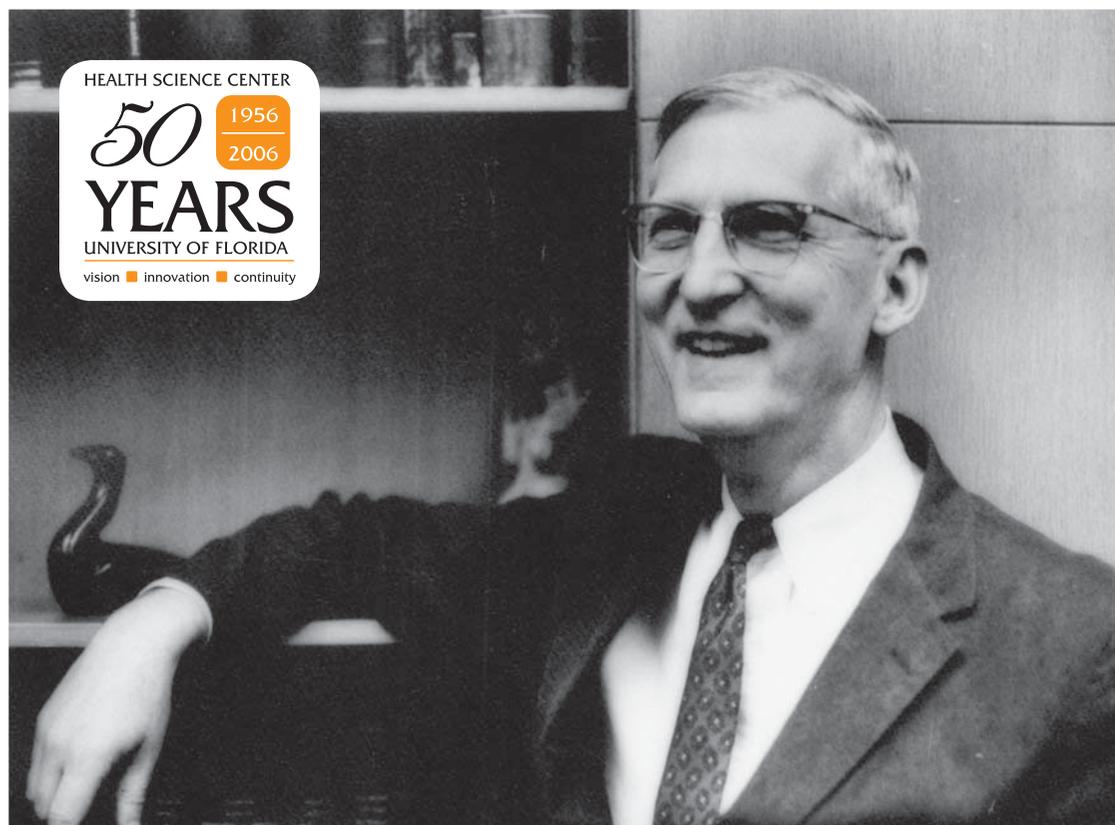
"He championed the idea of student diversity before it became an educational buzzword," said Bennett, M.D., now a retired pediatrician, during a lecture on the college's founding dean as part of the COM History of Medicine lecture series last month.

But then again, Harrell was always a little bit before his time. Former students, friends and original faculty members recently remembered Harrell, a key planner behind the college and the Health Science Center, during a weekend of events celebrating the College of Medicine's 50th anniversary in March.

Heralded as a visionary, the late George T. Harrell, M.D., was the only dean ever to found two medical schools, first at UF and then at Penn State University in Hershey, Pa.

A follower of Sir William Osler, another visionary many consider to be the founder of modern medicine, Harrell had specific ideas about medical education. Recruited from the Bowman Gray School of Medicine in North Carolina, where he earned recognition for his research on Rocky Mountain spotted fever, Harrell quickly got to work on building an ideal medical school after being named dean of the UF COM in 1954.

Not all of his ideas worked out though, remembered Mark Barrow, M.D., also a graduate of the college's first medical class. Harrell lobbied so medical students would each have their own cubicle, or "thinking office." There they could study, read journals or even use their microscopes. They were a hit with students, particularly the first students, who spent a little more time in the cubicles than Harrell had originally intended,



George T. Harrell was the first dean of the College of Medicine. Former faculty members and students remembered him during a special lecture recently.

Barrow said.

"We spent every day and every evening there for 365 days," he said. "We had no upperclassmen. We didn't know what was expected of us."

Although he had no architectural background, Harrell also took interest in building details, like ensuring the hospital and medical sciences building were full of windows so students could see outside. He also championed an ambulant wing in the hospital where patients who didn't need to be admitted could stay, particularly if they had to travel to get to the hospital.

"He was always thinking of how to do things different and better," Barrow said.

The cubicles didn't last and Harrell's idea for a medical humanities program didn't take off, but that's because most of his ideas were too far ahead of their time. His idea for a medical humanities program did take root at the medical school at Hershey. Now, the concept of medical humanities is growing in medical colleges, including UF.

Jape Taylor didn't think much about Harrell's vision during the first few years he was at UF. He noticed how pretty the hospital was, with real windows. The hospital wasn't "one of these places where you look out of what looks like gun turrets on a castle," Taylor said. He also realized how big

of a coup it was for the college that Harrell had been able to recruit certain faculty members.

"But soon I figured out that what he wanted to do was establish an environment where everybody enjoyed what they were doing and could be successful at it," he said. "More than anything I credit him with stimulating people to follow interesting avenues.

"I often wonder what this institution would be like if he had continued on as dean for a longer period of time," Taylor said.

For years, Harrell was the health center's most active pitchman, lugging glass slides and a wooden block model across the state to promote it. But in 1964, he left to found the medical school at Hershey. After retiring, he moved back to North Carolina, where he spent his time researching Osler.

Bennett began corresponding with the former dean after he retired, spending hours on the phone to discuss journal articles. Toward the end of his life he even sent her a letter explaining that he wanted his ashes to be placed in the library.

After he died, Harrell donated his ashes to the library, said Nina Stoyan-Rosenzweig, the health center's archivist. Stoyan-Rosenzweig is raising money to create an archives reading room where his ashes can be displayed. **P**

## Alumni lead vision symposium

By April Frawley Birdwell

Andras Komaromy left a little early for Gainesville. Scheduled to speak at a UF vision symposium, the University of Pennsylvania assistant professor wanted time to roam through the town where he spent seven years as a student and a resident.

For Komaromy, D.V.M., Ph.D., and several other guest speakers at the UF Center for Vision Research's ninth annual vision research symposium in March, the event was more than a chance to discuss their research with other leaders in the field; it was a chance to come back to Gainesville and lecture to the same group of vision experts who once lectured to them.

"This place has given me a lot," Komaromy said, minutes after speaking to the crowd of vision researchers. "I really liked it here."

All seven of the guest speakers at the symposium had some link to UF, said William W. Dawson, Ph.D., a longtime UF professor of ophthalmology. Some, such as Komaromy, were graduates, others spent years here doing postdoctoral work and one researcher was a student of one of Dawson's former UF students. Also speaking at the event were UF faculty members from the College of Medicine's departments of ophthalmology, molecular genetics and microbiology, and neuroscience, as well as faculty from the College of Veterinary Medicine's ophthalmology department

"Time has verified that we have done our jobs," Dawson said. "We have produced quality scientist-educators who have become internationally respected in their specialties and who are now cherished colleagues, old (and young) friends."

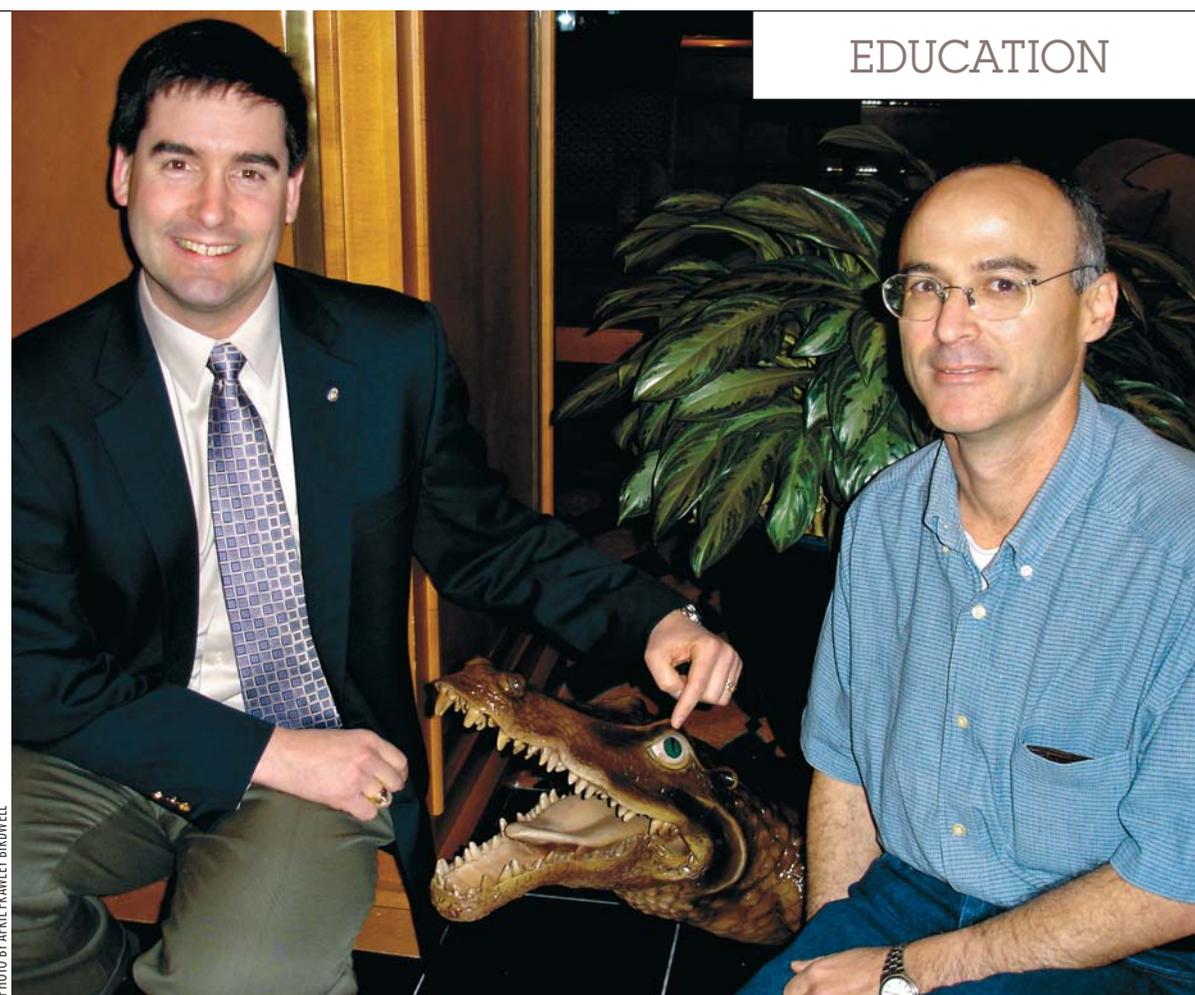


PHOTO BY APRIL FRAWLEY BIRDWELL

Andras Komaromy (left) and Ron Ofri, both University of Florida alumni, were among several speakers with UF ties at the Center for Vision Research's annual symposium in March.

Komaromy, who earned his doctorate from UF in 2002, said he initially came to UF because it boasts one of the best veterinary ophthalmology programs in the world.

Ron Ofri, D.V.M., Ph.D., a senior lecturer at The Hebrew University of Jerusalem Koret School of Veterinary Medicine, said one of the best choices he made in his career was coming to UF, where he studied under Dawson and

Kirk Gelatt, D.V.M. Gelatt, he said, is one of the founding fathers of veterinary ophthalmology.

One of Ofri's own students, Dorit Raz, a researcher from the National Institutes of Health, also spoke at the symposium.

"This is the closure of a circle for me," Ofri said. "I have many speaking engagements, but this was a meaningful invitation for me." **P**

## PHHP to launch distance certificate program

Working professionals who want to expand their public health knowledge will soon be able to earn a certificate in public health without ever having to visit the UF campus.

The College of Public Health and Health Professions will offer the 15-credit distance certificate beginning this fall. The program is designed for people who already have a bachelor's degree and would like additional training in public health, but do not have the time to complete the Master of

Public Health degree.

Certificate course work includes classes in each of the five core areas of public health: biostatistics, environmental health, epidemiology, health management and policy, and social and behavioral sciences.

Graduate and professional students on the UF campus may continue to earn a certificate in public health through the college's on-campus program.

For more information on the certificate in public health, visit [www.mph.ufl.edu](http://www.mph.ufl.edu), e-mail [ph@phhp.ufl.edu](mailto:ph@phhp.ufl.edu) or call 1-866-62-UFMPH.

— Jill Pease

# In the lab, pharmacy student battles a deadly brain cancer

Gene delivery is the weapon of choice

By Linda Homewood

**P**rogress has been made in the treatment of many types of cancers. Unfortunately, despite years and years of research to overcome it, glioblastoma remains one of the most deadly brain cancers. Finding a treatment for the disease is a challenge that pharmacy doctoral candidate Nathalie Toussaint is ready to tackle.

Toussaint credits her family and community for her direction as she completes her Ph.D. in pharmaceuticals. Her grandmother was a teacher; her grandfather a pharmacist. It was an outstanding high school chemistry teacher in her hometown of Brooklyn, New York, Toussaint said, that piqued her interest in science and its applications.

“My parents instilled in me the value of education,” Toussaint said. “I know personally that educators have the potential to make lasting effects on their students and the world around them.”

Toussaint conducts her research under Sean Sullivan, Ph.D., an associate professor in the

College of Pharmacy. Sullivan has for the past six years focused his research efforts on the development of nonviral gene delivery systems — a way to target cancer cells that differs from traditional drug-delivery methods.

About 45 percent of all brain cancers are gliomas — primary brain tumors — and about half of those are glioblastomas, Toussaint said. The tumor cells are so aggressive that a patient is, on average, expected to survive less than a year after diagnosis.

The problem with standard drug delivery treatment, Sullivan said, is that cancer cells in the brain are resistant to drug therapy, making it difficult to get the treatment to the tumor through the blood-brain barrier. As a result, doctors often increase a drug’s dosage, which increases a patient’s risk factors.

Toussaint works with Sullivan to overcome this problem with a technique called nonviral gene delivery. Gene delivery is administered in the

same manner as a drug that is sent to a targeted tumor site. With non-viral delivery, researchers formulate a synthetic gene using chemicals and polymers that bond with DNA. The voracious tumor feeds on the gene, converting it to a protein. This protein releases a cellular toxin that poisons the cell — effectively turning the tumor’s food source into a poison.

“The idea is to make the synthetic gene work in a suicidal fashion, killing all the cancer cells it comes in contact with, targeting only the cells you want destroyed,” said Toussaint.

Sullivan said he is impressed with Toussaint’s

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“My parents instilled in me the value of education. I know personally that educators have the potential to make lasting effects on their students and the world around them.” — Nathalie Toussaint

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Nathalie Toussaint (left) instructs Michelle Zayes, a third-year pharmacy student, in drug compounding techniques in the pharmaceutical skills lab.

intercollegiate involvement and leadership contributions to the student body.

“Nathalie is an incredibly energetic, bright student who is active in interdisciplinary research areas and as a leader in the AAPS student association that is organizing the South East Regional Interdisciplinary Symposium here at UF this May,” Sullivan said.

In addition to her work in gene delivery research, Toussaint works with Huabei Jiang, Ph.D., a professor in biomedical engineering, to assist in research to develop better imaging technology needed for diagnosis of brain tumors.

“As a scientist, I hope that my research will have lasting benefits on humanity,” Toussaint said. “As an African-American woman scientist, I hope to be an inspiration and role model for the next generation by creating inroads in under-represented fields, and by forming lasting bridges that others may cross.” **P**

# Society honors caring student, professor at banquet

By April Frawley Birdwell

**D**on Rehm had a list of people he was supposed to thank; Dr. Watson, Nina, Angie and Dr. Christensen were a few of them.

But standing before a room packed with UF College of Medicine students and faculty at the Chapman Society banquet last month, Rehm couldn't get the words out. Tears came instead.

Rehm's daughter Jennifer was one of 20 senior medical students inducted into the Chapman Society, the UF chapter of the national Gold Humanism Honor Society, at its annual banquet last month. Jennifer was also named as the student recipient of the Leonard Tow Humanism in Medicine Award, an honor given to a medical student and a faculty member who each represents the ideals of compassion and sensitivity in medicine.

But instead of being at the banquet with her friends and father, Rehm's daughter lay in a hospital bed recovering from brain surgery. Leaving Jennifer there alone to go the banquet was hard, Rehm says, but his daughter asked him to accept her award.

"I needed to go," Rehm said a few days after the event, sitting in his daughter's hospital room. "It was important to her, and it was important to me."

Jennifer had been in and out of the hospital since having brain surgery in February to treat what's known as a chiari malformation, a congenital condition that caused her brain to protrude into the spinal canal.

Complications forced additional surgeries though, frustrating Jennifer and worrying family and friends.

Receiving the Leonard Tow award was a bright spot, says the 29-year-old, who has since left the hospital and is recovering. Students and faculty members select the Leonard Tow recipients, choosing the person they think exemplifies humanism in medicine. Dr. Richard Christensen, M.D., a UF professor of psychiatry in Jacksonville, was named the faculty honoree.

"I can't think of an award I'd rather win," Jennifer said. "And to win it with Dr. Christensen, I just admire him so much. He's everything I could ever hope to be with all the work he has done. To be put in a category with him has left me speechless."

"It left me speechless Friday night," her father joked.

Rehm said she learned a lot about what it means to be a compassionate doctor from Christensen during her psychiatry rotation with him in Jacksonville. There, Christensen spends much of his time working with homeless patients, bringing care to them, wherever that is.

"He sees patients under the bridge," she said. "They all know him. The relationships he has with

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"I can't think of an award I'd rather win. And to win it with Dr. Christensen, I just admire him so much." — Jennifer Rehm

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PHOTO BY APRIL FRAWLEY BIRDWELL

Wayne McCormack, associate dean for graduate education and a faculty advisor for the Chapman Society, congratulates faculty inductee Heather Harrell. UF's Chapman Society was one of the national Gold Humanism Honor Society's first chapters and serves as a model for other chapters across the country. Nina Stoyan-Rosenzweig and Aubrey Jolly Graham are seen in the background.

his patients are life-changing. He's inspirational."

Christensen, who was inspired to become a doctor so he could help the medically underserved, said he was honored that UF faculty members and students chose him for the award.

"The Chapman Society induction is personally significant because it recognizes those aspects and attributes of being a physician that are often undervalued in contemporary health care: compassion, other-directed service and patient-centered decision-making and concern," he said.

The Chapman Society was founded in 2002 in honor of the late Dr. Jules Chapman, a Floridian

doctor who valued and demonstrated compassion in medicine. His widow, Annie Chapman, is the guest of honor at the banquet each year.

At this year's ceremony last month, 20 medical students, six residents and faculty members Christensen and Heather Harrell, M.D., were honored for their compassion, caring and integrity.

Jennifer, who worked for three years in a nonprofit child protection agency before heading to medical school, definitely belonged in the group too, her father said.

"I think Jennifer has always been a very compassionate young lady and it reflects in everything she does." **P**

# Sodas and energy drinks can supply a surprising caffeine jolt

By Denise Trunk

Some carbonated sodas and energy drinks are loaded with caffeine and can give an unhealthy pick-me-up to unsuspecting consumers, University of Florida researchers warn.

Because caffeine can pose health risks for people with certain medical conditions, beverages containing the additive should clearly list the amount they contain, a UF toxicologist recommends in a report assessing caffeine levels of cold beverages published in March in the *Journal of Analytical Toxicology*.

Bruce Goldberger, Ph.D., director of UF's William R. Maples Center for Forensic Medicine, said the surprisingly high caffeine content in some beverages could present problems for pregnant women and children, and for adults with hypertension, heart disease or mental health ailments such as anxiety.

"We weren't surprised that there was caffeine in the sodas and some of the other beverages," said Goldberger, who is also director of toxicology and a professor of pathology and psychiatry at UF's College of Medicine. The surprise, he said, was the high concentration of caffeine in some of the energy drinks, which exceeded the government's recommendations for cold beverages.

The Food and Drug Administration recommends a maximum caffeine concentration of 65 milligrams per 12-ounce serving of cola beverages, though it does not regulate caffeine content of these drinks. And although the agency

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"There are many consequences that are relatively unknown to the general public because they consider the consumption of sodas and other beverages to be relatively safe." — Bruce Goldberger, Ph.D.

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requires the presence of caffeine be disclosed, it does not mandate that caffeine quantity be specified on labeling for energy drinks and cold coffee beverages.

The UF team tested 10 energy drinks, 19 sodas and seven other beverages and found some energy drinks have up to 141 milligrams in a single serving — more than twice the content of some espresso coffee drinks.

The sodas tested, including Coca-Cola and Pepsi products, ranged from 0 to 48 milligrams a serving, below the maximum recommended amount. A&W Root Beer, Sprite, 7-Up and Seagram's Ginger Ale were among the caffeine-free drinks. However, the caffeine content of most energy drinks exceeded the maximum recommended limit.

These drinks are often marketed as enhancing performance and stimulating metabolism and are sometimes described as being "highly vitalizing." Yet in certain people, consumption of caffeine causes serious health effects, such as anxiety, palpitations, irritability, difficulty sleeping and stomach complaints, Goldberger said. Because the amount of caffeine is not labeled on the drinks'



**BRUCE GOLDBERGER**

packaging, pregnant women, children, infants or people with certain psychiatric diseases or anxiety conditions may unknowingly ingest too much, he added.

The American Dietetic Association suggests women avoid caffeine while pregnant or breastfeeding, citing findings from studies linking caffeine consumption to miscarriage and low-birth-weight babies.

"There are many consequences that are relatively unknown to the general public because they consider the consumption of sodas and other beverages to be relatively safe," Goldberger said. "People with psychiatric diseases could have manifestations of anxiety when they consume too much caffeine, people with hypertension could increase their heart rate if they consume caffeine."

Roland Griffiths, a professor of behavioral biology in the Solomon H. Snyder department of neuroscience at Johns Hopkins University School of Medicine, said caffeine is the most widely used mood-altering drug in the world. Although caffeine is not considered highly toxic, physicians often recommend cutting back or eliminating caffeine consumption for patients who are pregnant or who have anxiety, panic attacks, insomnia or some kinds of stomach and heart conditions.

"Daily use of even relatively low doses of caffeine (about 100 milligrams a day) results in physical dependence, with abstinence characterized by withdrawal symptoms such as headache, fatigue, depressed mood and difficulty concentrating," Griffiths said. "People should then make informed decisions about their caffeine use. Obviously, knowing how much caffeine a given product contains is critical to making an informed decision about use."

Goldberger said many people are aware of their food's nutritional content but most know little about the ingredients of their beverage, just whether it is sugar-free or regular. A few energy drinks have labels warning that the product is not recommended for children and pregnant women, but they do not specify the caffeine content. **P**

# Researchers seek answers to combat TB epidemic

By April Frawley Birdwell

**M**ost Americans think of tuberculosis as a disease of the past, but with HIV and drug-resistant strains fueling epidemics in India and Africa, TB kills someone every six seconds across the world.

Now UF and Indian scientists suspect they are on the path to solving a piece of the puzzle.

The researchers are studying a protein they believe may boost immune-system defenses, protecting against TB and giving infected patients an easier recovery.

Alcohol consumption likely reduces the amount of this protective protein, weakening the body's defenses against TB, said Veena Antony, M.D., a professor of pulmonary medicine and division chief of pulmonary and critical care medicine for the College of Medicine.

The researchers hope to pinpoint the role of alcoholism in the global epidemic by studying a population of HIV- and tuberculosis-infected patients in India. They are collecting data for the National Institutes of Health-funded project and hope to have answers within two to three years, Antony said.

The epidemic may be more prevalent in resource-poor countries like India right now, but with immigrants unknowingly carrying bacteria that cause TB into the United States, this crisis could spread to American soil if left untended, Antony warns.

"We cannot build walls high enough to keep these organisms out," she said. "In the U.S., we cannot afford to grow complacent about TB. This is a disease that appears in many forms, many guises. We will never be able to eradicate it from the U.S. unless we eradicate it from the world."

The increasing number of multidrug-resistant strains of TB makes the disease even more troublesome, Antony says. The only currently approved treatment for TB requires patients to go to a clinic every day for up to nine months. People often do not complete the full course of therapy, breeding new bacteria that are immune to the drugs.

There is currently no way to treat large populations infected with drug-resistant strains of the disease, Antony said. The drug-resistant organism is one of several the federal government lists as a potential bioterrorism threat.

But the combination of HIV and TB currently poses the biggest problem globally. Patients with HIV are more apt to develop tuberculosis after they have contracted bacteria that cause TB, said Amy Davidow, Ph.D., an associate professor of preventive medicine and community health at the University of Medicine and Dentistry of New Jersey.

"The rule of thumb is if you have been infected (with TB) and are otherwise healthy, there is a 5 to 10 percent chance you will (ever) develop active disease," Davidow said. "The immune system keeps the infection in check so it never develops. HIV depresses the immune system, so certain infections (such as TB) can become active."

Tuberculosis can affect any organ in the body but causes more problems in the lungs, resulting in painful coughing and respiratory problems. Coupled with HIV, the two diseases form a deadly one-two punch that could be just as dangerous to the public as it is to the HIV- and TB-infected patient. Because TB develops more quickly in a person with HIV, the organism is more prevalent in the body and may spread more easily to other people, other research has shown.

"In resource-poor societies there is a meeting of HIV and tuberculosis, so that one disease is fueling the other disease," Antony said. "That is true in Africa. That is true in India where the HIV epidemic is just beginning to explode. Because of

this concern, we believe we have to find novel ways of killing the organism. We have shown that [the protective protein] heme oxygenase 1 is effective in boosting the cell's ability to protect itself."

In India, outbreaks of HIV and TB have erupted along highways where truck drivers often solicit prostitutes, Antony said. Doctors at the Post Graduate Institute of Medical Education and Research in India treat many of these patients, which is one of the reasons why UF researchers chose to collaborate with them for this research project, Antony said.

UF researchers also hope to initiate an international training program with PGIMER, allowing Indian researchers to come to Florida to learn sophisticated techniques and giving UF trainees firsthand experience in dealing with the epidemic there.



PHOTO BY SARAH KEVREL

Dr. Veena Antony and other UF researchers have teamed with Indian scientists to study a protein that could boost the immune system and help the body fend off tuberculosis.

"One single patient with tuberculosis can infect hundreds of people," Antony said. "One-third of the world's population is infected with the organism that causes tuberculosis. We're going out into the field to meet the disease head-on and try to find answers." **P**

# Labs Without WALLS

New cancer, genetics research complex tears down barriers

By John Pastor

Leave it to an anatomist to describe a building as if it were flesh and blood.

As it sits near the intersection of Mowry Road and Gale Lemerand Drive, the 280,000-square-foot Cancer and Genetics Research Complex easily lives up to its billing as the largest research structure on the University of Florida campus.

The concrete and brick skin of the five-story research wing of the UF Shands Cancer Center is plainly visible from Archer Road. Facing north toward Lake Alice, a six-story wing topped by a greenhouse contains the Genetics Institute.

It looks like it uses every bit of the 77 million pounds of concrete that went into its construction — enough concrete to build a sidewalk from Gainesville to Daytona Beach.

But despite its substantial appearance, “syncytium” is the word that comes to mind for Stephen Sugrue, Ph.D., associate director of basic science for the Cancer Center and chairman of the medical school’s department of anatomy and cell biology.

“Certain cells have no boundaries or membranes between them,” he said, explaining the term. “Inside this building are labs without barriers.”

Unlike conventional research space, which often consists of long corridors punctuated by doorways into rooms, the Cancer and Genetics Research Complex contains modules — rows of lab benches and common work areas, but relatively few walls. With no “next door” to speak of, there are no scientists down the hall — they’re already there.

“The people who designed this building did so to maximize cross-fertilization of different groups,” Sugrue said. “The idea is to put people next to each other who aren’t identical in their approaches, but who have the same goals.”

He is not moving into the new building, but Sugrue was an early practitioner of the no-walls philosophy. In 1997 he was given the go-ahead to initiate an open lab environment in his research space in the Basic Science Building by then-College of Medicine Dean and Vice President for Health Affairs Kenneth Berns, M.D., Ph.D., who today directs the UF Genetics Institute.

“We’re bringing together all kinds of scientists who work on plants and animals and people,” Berns said. “The notion is if the investigators working in these areas are cheek by jowl, so to speak, they’ll talk to each other. Between the two sides of the building, we’re going to have about 60 to 70 faculty. It will be an incredible aggregation of intellectual firepower.”

In a sense, with the research building about to be “nucleated” with scientists in May, an experiment in how to hasten new discoveries is about to begin. The hypothesis is that a large, diverse group of investigators working within sight of one another will produce data that will change the world.

If cures and innovations emerge in the time it took for the research building to



PHOTO BY SARAH KIEWEL

With the finishing touches being added to of UF’s new \$84.5 million research building, scientists should begin moving into their new home sometime in May.

progress from an idea to an actual physical address, it will be short work.

## A Common Language

It was 1997 and Berns’ idea for a genetics institute was gradually gathering momentum.

From mice to maize, UF scientists were immersed in genes, working in highly specialized subsets of agriculture, medicine, botany and other disciplines. What was lacking was a mechanism to align genetics scientists at the Institute of Food and Agricultural Sciences, the College of Liberal Arts and Sciences, the Health Science Center colleges and beyond.

Fortunately, these investigators speak the same language.

“In the beginning, we pushed forward against a certain amount of skepticism about this notion of a university-wide institute,” Berns said. “But what we research all has DNA. It all operates on the universal genetic code. It all has recombination. It made sense. It is diverse subject matter, but there is a tremendous crossover in the fundamentals. Eventually people from different parts of the university saw what we were doing as a positive thing.”

At the same time, the university was sharpening its efforts to become nationally competitive in cancer research, Berns said. A research building was deemed essential. And because cancer is a process that involves the interaction between genes and their environment, it was becoming increasingly apparent that cancer and genetics researchers were natural allies.

The idea synthesized to combine cancer and genetics research within a single building. To further strengthen the arrangement, plans were made to take testing and analyses operations of the Interdisciplinary Center for Biotechnology Research, or ICBR, and consolidate many of them within the research complex.

In that event, the research complex’s biotech infrastructure would be a force in its own right. Scientists would have access to state-of-the-art instrumentation, training and expertise. The thought was, with the industrial-scale genome-sequencing, genetic analyses and other core services of the ICBR at arm’s length, synergies would explode.

Hunton Brady Architects in Orlando was selected to design the building and Ellenzweig Associates Architects in Boston was selected as lab planners. Turner/PPI Joint Venture was named construction manager. Design work started in June 2002 and construction started in December 2003, with costs set at \$84.5 million.

The challenge that remained was to create a building that would allow scientists to look at cancer and genetics with razor-sharp focus.

## Plotting Cancer's Demise

The American Cancer Society projects that more than a half-million Americans will die of cancer this year. An additional 1.4 million people will be diagnosed with the disease.

Yet, despite these formidable numbers, measurable progress is being made in the decades-long fight to eliminate cancer as a major health threat.

No one knows cancer is in retreat better than W. Stratford May Jr., M.D., Ph.D., director of the UF Shands Cancer Center, who wants UF in the thick of the pursuit for a cure.

"Mortality continues to decrease for cancers like breast cancer and others," May said. "As advances are made, we are motivated to work even harder to find a cure. But we need to dig deeper to find the root causes of the disease. It takes a rational understanding of cancer to develop new and novel treatments and drugs. For that to happen, we need to take advantage of a critical mass of trained people who are involved in an exchange of ideas."

May is counting on the UF Shands Cancer Center research wing to fuel the momentum that has caused, for the first time since the 1930s, the death rate from all cancers to decrease in proportion to the growth and aging of the population.

"We hope to bring together a subset of researchers who will expand collaborations and funding opportunities," May said. "There is tremendous excitement about a programmatically focused building for cancer and genetics."

May is particularly interested in translational research — the kind that quickly results in better patient care. The Judith S. and Jerry W. Davis Cancer Center, which is literally across the street from the cancer research wing, is a continual reminder that discoveries must be easily adaptable for clinical uses.

Work is already proceeding in that direction, Sugrue said. Researchers on the second floor of the cancer wing, for example, are concentrating on experimental therapeutics. For example, Arun Srivastava, Ph.D., chief of the division of cellular and molecular therapy, works on ways to use the adeno-associated virus to correct cell mutations. Dietmar Siemann, Ph.D., a professor in the department of radiation oncology at the UF Shands Cancer Center, uses a combination of cellular approaches to find ways to attack blood vessels that provide nutrition to cancerous tumors.

Both wings of the building are connected by a perpendicular five-level common area, which makes it look like a monumental offset "H" from above. Appropriately enough, the cancer epigenetics researchers are across from plant epigeneticists.

"Scientists have been studying epigenetics in plants for years," Sugrue said.



PHOTO BY SARAH KEWEL

UF Genetics Institute Associate Director Connie Mulligan and Director Kenneth Berns hear details about the laboratories in the research building.



PHOTO BY SARAH KEWEL

A glass walkway links the genetics and cancer areas of the complex, literally "bridging" the gap among various scientific disciplines.

"Only recently has epigenetics been implicated in cancer biology. We hope going across the bridge between the two wings will literally mean we're bridging the gap."

## Rooms for Growth

The genetics faculty in the botany department of the College of Liberal Arts and Sciences will gain much-needed access to strictly experimental greenhouse and growth chamber space, according to George Bowes, Ph.D., a professor and chairman of botany.

Of course the department has its own greenhouses, but much of that space is used for teaching purposes. Nor are those areas quite like the transgenic plant rooms in the new building, where scientists will work with DNA-altered plants.

About four UF botanists are expected to move into the genetics wing, including Sixue Chen, Ph.D., who studies protein mechanisms in plants.

"One of the things he is firing up to do is look at proteomics," Bowes said. "The techniques he has expertise in that he uses with plants also apply to animals and humans. Now we have a synergy possible not just with plant people but also with people at the Cancer Center and Genetics Institute. In fact, plants he currently works with may have anti-carcinogenic properties. His proximity to scientists studying human medical conditions may be helpful."

Elsewhere, from his area on the third floor of the genetics wing, John Davis, Ph.D., an associate professor of forest biotechnology at IFAS, will be able to look north toward Lake Alice and be within walking distance to Fifield and Newins-Ziegler halls, where a good deal of IFAS research takes place.

"New ideas, grants proposals and new projects all come from being elbow-to-elbow on a daily basis," said Davis, who leads the UF effort to identify genes that control disease resistance in loblolly pine, one of the most-planted commercial timber species in the South. "Some things you can't replace. Daily contact is one of them."

Meanwhile, a group of faculty will devote their energy to bioinformatics, the science of computer data management that allows researchers to make sense of vast amounts of information.

"The bioinformatics section of the genetics wing is on the first floor, which might be considered the foundation of the building," Davis said. "Considering bioinformatics — being able to handle large volumes of information — is the foundation for modern genetics research, it's a fitting place for that activity."

With more than 60 investigators about to occupy the building, there's no doubt the data will come. **P**

## Rainbow Center educates women and girls on dangers of HIV/AIDS

By Patricia Bates McGhee

March 10 marked the inauguration of worldwide National Women and Girls HIV/AIDS Awareness Day, and the UF Rainbow Center for Women, Adolescents, Children and Families hosted Jacksonville's official observance.

A U.S. Department of Health and Human Services initiative, the observance is designed to raise awareness of the increasing dangers of HIV/AIDS transmission to women and girls.

"Our goal is to sound the alarm that the HIV/AIDS epidemic is far from over and there is still much local work to be done in battling this disease, right here in northeast Florida," said Mobeen Rathore, M.D., a professor and assistant chair of pediatrics, division chief of pediatric infectious disease and immunology and director of the UF Rainbow Center. The Center and its Consumer Advisory Board and Partners sponsored the event.

"The idea is to educate and empower women and girls by giving them the facts and the emotional support to make good decisions and stay safe," he added. Educators — including physicians, health-care team specialists and an HIV-positive motivational speaker — shared the facts and figures. Others shared the message of empowerment through testimony, song and even dance. The "Empowerment Tango for One" was a hit and had everyone on their feet.

UF Rainbow Center, the only comprehensive pediatric AIDS program in Northeast Florida, provides primary, secondary and tertiary care as well as confidential HIV testing for HIV-exposed and -infected women, adolescents, children and families living in North Florida and South Georgia. **P**

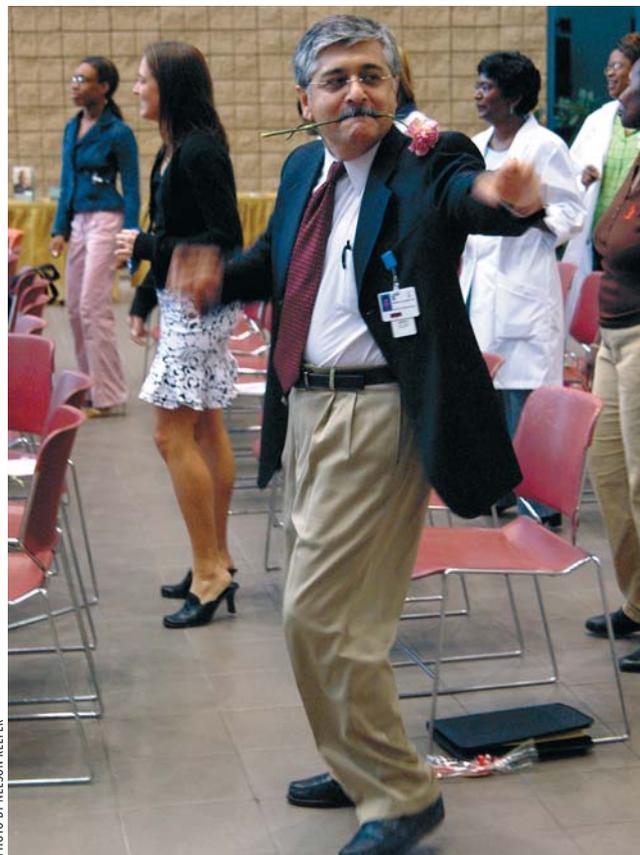


PHOTO BY NELSON KEEFER

Jacksonville's observance of National Women and Girls HIV/AIDS Awareness Day encouraged attendees to kick up their heels for education and empowerment. Here Dr. Mobeen Rathore (with flower in mouth), UF Rainbow Center director and professor and assistant chair of pediatrics, joins in the "Empowerment Tango for One."

## UF to offer free, online support groups for Alzheimer's caregivers

By Jill Pease

A new service from UF's AlzOnline.net aims to bring caregivers together for support, no matter where they live.

AlzOnline.net, in partnership with the Central and North Florida chapter of the Alzheimer's Association, has recently launched free, facilitated support groups via chat room for caregivers of people with Alzheimer's disease or dementia.

"We are attempting to bring people back to support groups in ways that are more convenient for them," said Jeff Loomis, coordinator of AlzOnline.net and associate director of the Center for Telehealth, part of the College of Public Health and Health Professions. "There has been a downward trend in support group attendance — 10 percent of caregivers attend a face-to-face group, while about 40 percent are now accessing support online. There are probably several reasons for this, but some recent reasons given locally have revolved around gas prices and scheduling conflicts."

Approximately 4 million Americans have Alzheimer's disease. More than seven of 10 Americans with Alzheimer's live at home, and almost 75 percent of their home care is provided by family and friends,

according to the Alzheimer's Association.

"The idea of an online support group originally started when we heard that traditional support groups were missing working professionals with families who are trying to find balance," Loomis said. "Also, there seems to be a growing group of caregivers dealing with early onset dementia who fall between the cracks because of their age."

AlzOnline.net is also introducing telephone support groups for Spanish speakers in the Miami and Orlando area, with the hope of eventually making the groups available for caregivers statewide.

AlzOnline.net also offers live, interactive classes on subjects such as stress management, understanding and dealing with memory loss, and managing difficult caregiving tasks. A message board and regular telephone conferences with experts in Alzheimer's care are also available. The free services are open to anyone through telephone and Internet.

For more information, visit [www.AlzOnline.net](http://www.AlzOnline.net) or call toll-free 1-866-260-2466. **P**

# Neurology's new chairman leads a booming department

By Patricia Bates McGhee

To say that Alan Berger's first few months at UF were challenging is an understatement. When the medical doctor first joined the neurology department in the UF College of Medicine – Jacksonville in 1995, there were two neurologists on staff.

"One of them quit within a few months after I started, leaving just me and one other neurologist," he says with a smile.

But, 10 years later, it's difficult to imagine the department ever having been that small. Berger has been named the department's first chairman and



Neurology department grand rounds are held monthly at UF-Jacksonville. Pictured above are February attendees, left to right, Loretta Schnepel, Dr. Walter Ray, Dr. Ramon Bautista, Jan Daniel, Dr. Tannahill Glen, department chair Dr. Alan Berger, Dr. Michael Pulley, Dr. Scott Silliman, Dr. Juan Ochoa and Dr. Nader Antonios.

the number of faculty members has more than quintupled.

Today the department has 11 neurologists on faculty, and three more will join the staff in the next academic year. But if you start discussing what it means to be the new department chairman — and the first neurology chair at UF-Jacksonville — Berger quickly steers the conversation away from himself. In fact, he gently makes it very clear that the story is about the department's dedicated professionals who are responsible for the department's phenomenal growth and depth and not about him.

"Our success is built on our academic and research strengths, our interdisciplinary approach and collaboration, and the respect everyone on this list has for each other," Berger says. "Working with the people in this department makes this job a joy, and any time you're working with people like that, it's easy to have a department that shines."

And shine it does.

The collaborative effort and team approach of the department's own neurosurgeons, neuropathologists, neuroophthalmologists, neuroradiologists and neuropsychologist make the difference, he says.

"We have some of the nation's most respected clinicians and clinical scientists on our UF staff who comprise The Neuroscience Institute at UF&Shands Jacksonville – definitely one of the most comprehensive neurology departments in northeast Florida and southeast Georgia," adds Berger, the institute's director.

The Neuroscience Institute offers specialized clinical and research programs for stroke, neuromuscular disease, epilepsy, spinal disorders, Parkinson's disease and movement disorders, multiple sclerosis and sleep disorders. All physicians in the institute are UF faculty in the departments of neurology, neurosurgery, pathology, ophthalmology or radiology at UF College of Medicine-Jacksonville.

The team effort goes well beyond the Jacksonville campus, too.

"We also collaborate with UF's McKnight Brain Institute, which is continually contributing new ideas to the treatment of brain and nervous system disorders," says Berger.

Teaching is a high priority for the faculty members, and they consistently receive exalted evaluations from medical students and residents, according to Berger. Over the last few years, four neurology faculty have been honored with UF's "Excellence in Medical Student Education Award" as well as other teaching tributes.

UF College of Medicine-Jacksonville senior associate Dean Robert Nuss, M.D., attributes the neurology department's interdisciplinary success to these expert clinicians, researchers and teachers.

"Dr. Berger came to UF-Jacksonville in 1995 and since that time the Department of Neurology has grown in numbers, clinical productivity and progressively increasing research activity," he says. "Thanks to his leadership, we've been able to attract academic faculty with expertise in all divisions of neurology, making our neurology department a leader in the Southeast, if not the country."

Board-certified in neurology and clinical neurophysiology, Berger's research interests are neuromuscular diseases. A graduate of Bowman Gray School of Medicine in Winston-Salem, N.C., he completed an internship in internal medicine at Montefiore Hospital and Medical Center in New York, a residency in neurology at Albert Einstein College of Medicine in Bronx, N.Y., and a fellowship in electromyography and neuromuscular disease at Massachusetts General Hospital in Boston.

Berger lives in Jacksonville with his wife and two daughters, who are in college. **P**

# Ancient DNA helps UF researchers unearth potential hemophilia therapy

By April Frawley Birdwell

**A** cut can be life threatening for people with hemophilia, whose bodies don't produce enough of a protein that prevents prolonged bleeding. Now UF researchers may be one step closer to finding a safe way to spur production of this missing protein in patients with the most common form of the hereditary bleeding disorder.

Using a dormant strand of DNA that has quietly existed in fish for millions of years, the researchers replaced the faulty gene responsible for the disease in neonatal mice, according to findings published online in the March issue of *Molecular Therapy*.

"The degree to which these patients have problems from hemophilia stems from how much of this protein, factor VIII, is missing," said Bradley Fletcher, M.D., Ph.D., a UF assistant professor of pharmacology and one of the lead authors of the study. "If they have very low levels of it, they have lifelong problems of bleeding, but what's even more problematic for them is they bleed into their joints, knees, hips and ankles, which limits their mobility."

More than 18,000 Americans, nearly all men, have hemophilia A, the most common form of the disease, according to the Centers for Disease Control and Prevention. Currently, the only safe treatment for the disorder is a purified form of the protein, but it can cost patients thousands of dollars and its effects don't last long. Scientists have been trying to find a safe way to perform gene therapy in hemophilia patients for years, but problems with the viruses typically used to transport needed genes to their target destinations have stymied their success, Fletcher said.

Researchers usually hide corrective genes inside viruses, which then infect cells. Without the virus to act as a key, the gene would be unable to enter the cell. But viral gene therapy has been associated with medical complications, and a few human patients have died as a result.

// The degree to which these patients have problems from hemophilia stems from how much of this protein, factor VIII, is missing. If they have very low levels of it, they have lifelong problems of bleeding, but what's even more problematic for them is they bleed into their joints, knees, hips and ankles, which limits their mobility. // — Bradley Fletcher

Instead, UF researchers used a novel nonviral approach, employing a strand of DNA present in modern-day fish called a transposon to transport the gene directly into the DNA of the mice. Nonviral therapy is thought to be safer, Fletcher said.

Transposons have the natural ability to bounce to different positions in DNA, allowing them to chauffeur genes into the cell. The transposon UF researchers used had remained hidden in the DNA of fish for 15 million years until University of Minnesota scientists discovered it in 1997.

Fletcher and researchers Li Liu, M.D., Ph.D., an adjunct postdoctoral associate in the department of pharmacology and therapeutics, and Cathryn Mah, Ph.D., a

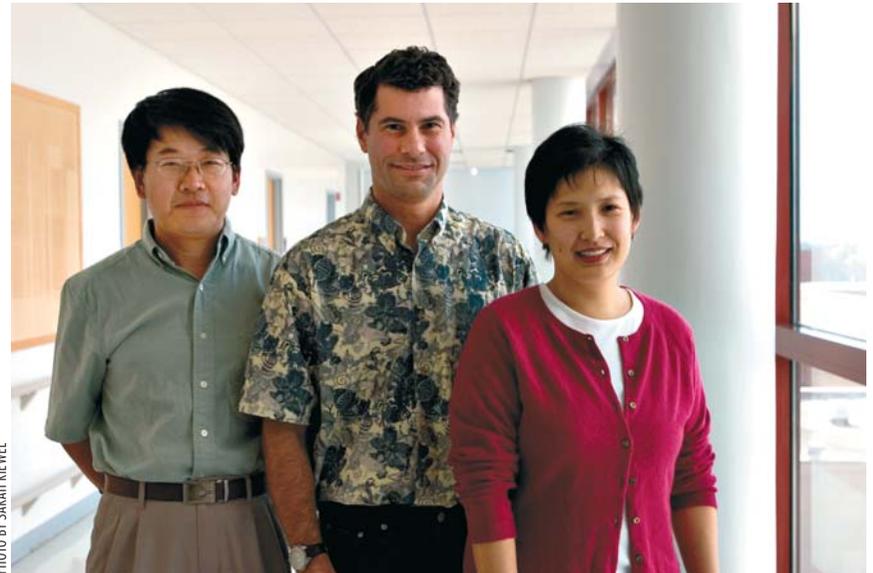


PHOTO BY SARAH KEMEL

UF researchers Dr. Li Liu, Dr. Bradley Fletcher and Cathryn Mah used a dormant strand of fish DNA to replace a faulty gene responsible for hemophilia in neonatal mice.

UF assistant professor of pediatric cellular and molecular therapy, used the transposon to inject the gene into endothelial cells, which line blood vessels and other parts of the body.

This was unique, Fletcher said, because the liver is generally considered the

body's powerhouse for producing the protein needed to keep hemophilia at bay. The study showed that these endothelial cells also could produce enough protein to correct the problem, he said. It also was the first time researchers attempted such an approach on an animal so young.

Now UF researchers are studying different ways to use the transposon and trying to find a way to overcome the immune attack when performing gene therapy on adult animals.

"I don't think the research is done," Mah said. "But this is definitely a step forward for hemophilia gene therapy." **P**

## Some heart patients vulnerable to mental stress

By Melanie Fridl Ross

The fear of public speaking might cause some people to do more than just break out in a cold sweat and battle stomach-churning butterflies — it could prove to have consequences for their heart health.

UF cardiologists have identified a group of heart disease patients who appear especially vulnerable to the physical effects of mental stress. A third of the heart patients they studied developed temporary changes in heart rhythm or restricted blood flow when they were asked to role-play a difficult interpersonal situation, even though their hearts responded normally to exercise.

Chronic anxiety, depression or anger are widely recognized as raising the risk of heart attack, hospitalization or sudden death in patients whose hearts suffer dangerous decreases in blood flow during exercise testing. Even something as simple as public speaking, doing mental arithmetic or recounting an argument with a loved one can trigger a problem.

But until now, patients who exercised without experiencing chest pain or restricted blood flow had never been similarly scrutinized when it came to mental stress. Yet what goes on in their heads could have consequences for their hearts as well, UF researchers wrote in the March 7 issue of the *Journal of the American College of Cardiology*.

“Recently our group and some other investigators have started to expand the population of patients that we’re looking at to try to explore what happens when mental stress is applied,” said David S. Sheps, M.D., a professor and associate chairman of cardiovascular medicine at UF’s College of Medicine and the Malcom Randall Veterans Affairs Medical Center. “We believe the phenomenon of mental stress-induced reductions in blood flow to the heart is much more



common than has been previously recognized.”

UF researchers studied 21 men and women with documented heart disease who had no signs of reduced blood flow during exercise.

Why does mental stress restrict blood flow in some patients even when exercise fails to have the same effect? The effects of mental stress could predominantly affect the heart’s smaller vessels, causing them to spasm and temporarily limiting blood flow, Sheps speculated. In contrast, exercise tends to affect the heart’s larger vessels.

“All of us are leading more and more stressful lives, and it’s hard to avoid it,” he said. “We as physicians need to find better ways to treat this phenomenon to avoid having patients develop this type of response to an increased stressor.” 

## Tracking trials: A new office helps researchers comply with style

By April Frawley Birdwell

Keeping clinical trials in line with myriad state and federal regulations can be as tricky as mastering a maze blindfolded for some researchers. Yvonne Brinson is trying to make this task a little less daunting.

As director of the College of Medicine Research Administration and Compliance’s new clinical trials compliance division, Brinson wants to create a seamless system to ensure clinical trials comply with laws and regulations. It’s a move she says will better protect the college and its researchers by preventing problems from slipping through the cracks.



PHOTO BY SARAH KIEWEL

YVONNE BRINSON

“Research has grown tremendously at the university over the past 20 years,” Brinson said. “With that comes a greater responsibility for us to make sure we are compliant with federal and state laws and regulations.”

The federal government established new regulations in 2000 to encourage seniors to participate in clinical trials. Although a positive step, these changes presented potential billing concerns with Medicare. COM leaders formed the compliance office to keep up with the changes and prevent problems at UF, said Peter Pevonka, senior associate dean for research affairs.

“Good compliance programs can serve as excellent educational programs and in the end not only reduce institutional exposure to unpleasant events but also improve faculty and staff effectiveness in their research endeavors,” Pevonka said.

College of Medicine Dean C. Craig Tisher said, “The Dean’s Office desired to get out in front of the changing compliance environment as evidenced by investigations at other institutions. The first order of business is to review and renew policy and procedures relevant to clinical research.”

Brinson took on her new role as director of compliance in December. She has worked in research at UF for 20 years, first as a research coordinator for Marian Limacher, M.D., a professor of medicine, and as project director for the Women’s Health Initiative. Brinson is looking forward to using her experience to help improve research compliance in the college. Brinson plans to hold meetings as a first step toward creating a system that will include policies and procedures covering a clinical trial from proposal to completion.

“This is going to take a great deal of coordination and organization of all the right people to make this happen,” Brinson said. “But this is a great opportunity for the College of Medicine.” 

# Racing to develop vaccines:

Veterinary researcher plays key role in discovery of emerging pathogens

By Cindy Spence

**A**t first, Florida greyhound owners thought they had a particularly tough case of kennel cough on their hands. Then greyhounds started dying from the mysterious respiratory ailment.

For answers, the dog owners turned to UF immunology and infectious disease specialist Cynda Crawford, D.V.M., Ph.D. Greyhounds have been dear to Crawford since her days as a student in the UF veterinary college. “I adopted my first greyhound here,” said Crawford, who now owns three.

When Crawford began investigating, she found an epidemic of nationwide proportions. By June 2004, racetracks and kennels across the country were reporting hundreds of sick greyhounds, causing quarantines and putting a halt to racing in some locations.

No one liked what came next. Crawford’s conclusion: equine influenza virus had jumped the species barrier from horses to dogs.

“In the veterinary profession, we had not identified influenza as a cause of respiratory disease in dogs before,” said Crawford, a researcher in the College of Veterinary Medicine whose work will be a vital component of UF’s new Emerging Pathogens Institute. “In fact, it has not been described in domestic species other than horses, pigs and poultry. But our DNA analysis of the virus genome showed that this virus actually jumped from horses to dogs.

“When the influenza virus crosses a species barrier, it’s a big deal because you don’t know which species will be next down the line,” Crawford said. “Are people subject to acquiring influenza from dogs now?”

Despite the surprising discovery, the diagnosis gave veterinarians a target. With the culprit identified, Crawford is now pursuing research on a vaccine for prevention of infection and use of antiviral drugs for treatment of sick dogs.

Crawford works with a team that includes UF veterinary researchers Paul Gibbs, William Castleman and Richard Hill as well as researchers at the Cornell University College of Veterinary Medicine and the national Centers for Disease Control and Prevention with whom she published her flu research findings in the Sept. 26, 2005 online issue of *Science*.

She is also working on developing a diagnostic assay to identify infected dogs in hopes of catching the disease earlier.

The College of Veterinary Medicine has particular expertise in racehorses and racing greyhounds through its Center for Veterinary Sports Medicine and is the only veterinary college with its own greyhound racing track.

Crawford said respiratory disease outbreaks are the top cause of illness in racing greyhounds, but the severity and duration of these outbreaks led her to suspect a novel infectious agent.

“In the past, these outbreaks would shut down greyhound racing every five years or so,” Crawford said. “But they started occurring annually and lasted for several weeks.”

Influenza is highly contagious, especially for dogs kenneled in close quarters. It causes fever, coughing, nasal discharges and pneumonia, and can be fatal.

During 10 years of private veterinary practice, Crawford ran a greyhound adoption group for retired racers in Tallahassee. Veterinary medical research beckoned, however, so she gave up private practice and returned to her alma mater. Her first posting was in a laboratory for feline immunodeficiency virus research and her work in that area continues today.

Lately, Crawford and UF researcher Julie Levy have been working to identify a diagnostic test that accurately detects feline immunodeficiency virus, or FIV, in cats. Cats infected with FIV are usually diagnosed by the presence of antibodies to the virus in their bloodstream, and the tests available for detection of these antibodies are accurate. However, the introduction in 2002 of a vaccine for protection of cats against FIV infection has created a problem for diagnosis.

When a cat whose history is unknown shows up at a veterinary clinic or animal shelter and tests positive for FIV antibodies during a routine health screening, there is no other test available to verify whether the antibodies are due to infection or vaccination.

“We now have a diagnostic dilemma,” Crawford said. “The antibodies the cat makes when it is vaccinated are indistinguishable from the antibodies the cat makes when it is infected with FIV.”



PHOTO BY NEWS AND PUBLIC AFFAIRS

Dr. Cynda Crawford, who identified influenza in dogs, poses with her greyhounds.

It is important to identify the infection because it is contagious and lifelong. FIV-infected cats need to be segregated from other cats to avoid spreading the virus, a procedure particularly important in shelter cat populations. Shelter cats also face euthanasia – instead of adoption – if they test positive for FIV, making an accurate diagnostic test a life or death issue.

After three years, Crawford said, a test to differentiate between vaccinated and infected cats is no closer, but the work will continue.

Crawford also directs the blood donor program at the UF Veterinary Medical Center, which provides blood products for transfusion of its dog and cat patients. Her research is supported by grants from the Winn Feline Foundation, Morris Trust Fund, Alachua County Department of Health and the Division of Pari-mutuel Wagering.

“I very much enjoy what I do. Every veterinary researcher’s big dream is to contribute something that improves animal health and welfare,” Crawford said. “That’s also my big dream.” **P**

## COLLEGE OF MEDICINE

### JEAN-NOEL GOUZE,

Ph.D., a research assistant professor in the department of orthopaedics and rehabilitation, has been awarded \$218,250 from the National Institutes of Health. He will lead a three-year study into the biological effects of glucosamine on arthritis, with the goal of developing a novel strategy for the treatment of osteoarthritis.



Gouze

### ROBERT J. FEEZOR, M.D.,

has received the Resident Award for Exemplary Teaching from the American College of Surgeons. Feezor, chief resident of general surgery, plans to specialize in vascular surgery.



Feezor

### JULIESSA PAVON,

a third-year medical student in the division of geriatrics, has been named the recipient of this year's Edward Henderson Student Award by the American Geriatric Society. The annual award is given to one student interested in pursuing a career in geriatrics, who has demonstrated excellence in the field. It includes a \$500 travel stipend to the society's annual meeting in May.



Pavon

## JACKSONVILLE

### DAVID J. VUKICH,

M.D., a professor and chair of the emergency medicine department at UF-Jacksonville, has just completed his tenure as president of the Duval County Medical Society. The society's 118th president, he presided at the group's 153rd annual meeting in January and has been named to a three-year term as a DCMS delegate to the Florida Medical Association.



Vukich

### ELIZABETH HARKEY, R.N.,

was named the 2005 Nurse of the Year by The World AIDS Day Committee of Jacksonville at its annual World AIDS Days luncheon. A UF-Jacksonville employee for five years, Harkey is a special projects coordinator



Harkey

responsible for quality assurance and quality control at the Rainbow Center, UF's family-centered comprehensive health-care provider for HIV/AIDS-infected or exposed infants, children, adolescents, women and their families. This is the second year in a row that a Rainbow Center nurse has won the award.

### SHAHLA MASOOD, M.D.,

a professor and associate chair of pathology at UF-Jacksonville, was recently inducted into the Gold Humanism Honor Society. The society is an initiative of the Arnold P. Gold Foundation – a public foundation fostering humanism in medicine. It honors senior medical students, residents, physician teachers and other exemplars for “demonstrated excellence in clinical care, leadership, compassion and dedication to service.”



Masood

Opportunity Program funds are provided to graduate students on a competitive basis to support the purchase of materials for research.

### LAUREN VAZQUEZ

**SOWELL**, a graduate student in the department of clinical and health psychology, received a National Research Service Award training grant from the National Institutes of Health. The grant will support her research on women who have received implantable cardioverter defibrillators. Sowell works under the mentorship of associate professor Samuel Sears, Ph.D., in collaboration with Jamie Conti, M.D., an associate professor of medicine.



Sindhu



Sowell



Dotson



Sachs

**VONETTA DOTSON** and **BONNIE SACHS**, students in the department of clinical and health psychology, have been selected to attend the American Psychological Association's Advanced Training Institute on functional magnetic resonance imaging. The six-day course will be held in May at the Massachusetts General Hospital in Charlestown, Mass.

## PUBLIC HEALTH AND HEALTH PROFESSIONS

### ANDREA BEHRMAN,

Ph.D., an associate professor in the department of physical therapy, received the Award for Research from the American Physical Therapy Association's Neurology Section at the combined sections meeting in San Diego. She was recognized for an outstanding record of research on the recovery of function after spinal cord injury.



Behrman

**BHAGWANT SINDHU**, a doctoral student in the rehabilitation science program with a concentration in movement science, received a Mentorship Opportunity Program grant from UF's Graduate Student Council. Mentorship

### CORRECTION:

Bruce Goldberger, Ph.D., director of the William R. Maples Center for Forensic Medicine, director of toxicology and professor in the department of pathology, immunology and laboratory medicine, has been named president-elect of the American Academy of Forensic Science at the group's 58th annual meeting, Feb. 20-25 in Seattle. His term will begin in 2007.

Know someone who has earned a distinction?  
Please let us know.  
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## CATCH as catch can, kids get a head start on good oral health

By Adrianna Rodriguez

**B**ecause you can't varnish over cavities, two UF pediatric residents and an undergraduate student want to promote the idea that it's never too early to get a head start on healthy teeth.

The dental team of third-year pediatric residents Michele Lossius, 29, Kristen Eisenman, 28, and pre-dental student Kristin Skelton, 23, is working to make sure 1- and 2-year-old patients get a head start on a lifetime of good oral health.

After receiving a \$3,000 Community Access To Child Health, or CATCH, grant from the American Academy of Pediatrics, the pediatric residents spearheaded a program to apply fluoride varnish to some of their youngest patients coming in for routine check-ups at the Children's Medical Services Eastside and Haile Plantation clinics.

The clear varnish takes less than a minute to brush over children's teeth and, along with good brushing habits, helps protect teeth against cavities.

"Dental caries are a problem across the board for all patients," Lossius said.

The residents began the program after attending a lecture given by Frank Catalanotto, D.M.D., a professor in the department of community dentistry

and behavioral sciences, who stressed the need for dental care to also become part of routine visits to the pediatrician.

"These residents recognize the need," Catalanotto said. "It's all about education."

At the clinics, oral health education begins for both parents and children in the waiting room. There Skelton talks to parents about good oral health for their children as she hands out goody bags with free child-sized toothbrushes, colorful brushing calendars and quick oral health information for parents.

"The main thing is that most parents always take their kids to the doctors, but they don't think about taking them to dentists," Skelton said. "We try to get them thinking about the benefits of going to the dentist, too."

Although both Eisenman and Lossius are finishing their last year as residents, they are looking for incoming residents to pursue a new grant and continue the program.

The doctors' ultimate goal is to take the concept of applying varnish at pediatricians' offices instead of just at dentists' office to the state Legislature in hopes of getting Medicaid coverage of the procedure. If



PHOTO BY ADRIANNA RODRIGUEZ

Michele Lossius (left) and Kristen Eisenman prepare to apply fluoride varnish to a toddler patient at the Children's Medical Services clinic near campus.

they succeed, Florida would become one of fewer than a dozen states that cover the procedure.

"We realized kids couldn't get preventive care in busy clinics," Eisenman said. "We would just like to make a difference in their dental health." **P**

## Public health researchers to study sex ed in Florida's schools

By Jill Pease

**R**esearchers in the College of Public Health and Health Professions will perform the first statewide assessment of sexuality education in Florida's public schools.

The research group received a \$100,000 grant from The Picower Foundation to investigate the curricula in classrooms across Florida.

"The state of Florida currently ranks in the top 3 in the nation in terms of incident HIV infections and overall AIDS cases; we also have high rates of other sexually transmitted infections and unintended pregnancies, particularly among young adults," said principal investigator Brian Dodge, Ph.D., an assistant professor in public health programs. "Little is known about what is being taught in our state's classrooms to prepare youth to deal with these significant public health challenges."

Florida is one of 23 states that require schools to teach sexuality education and HIV prevention, but there are no other requirements or standards for the course content. Previous national studies have



A group of College of Public Health and Health Professions researchers received a \$100,000 grant to assess sexuality education in Florida's public school system.

consistently shown that most parents want some form of sexuality education to take place in the schools, but there is no consensus on what should be taught, Dodge said.

The research team, which also includes Dodge's department colleague, Ellen Lopez, Ph.D., an assistant professor, and Michael Reece, Ph.D., of Indiana University, will develop a survey for middle and high school teachers, with input from a six-member scientific advisory committee (composed of researchers from UF, Columbia University and the University of North Florida) and a 20-member community advisory committee.

Members of the community committee will include teachers, public health workers, nurses, doctors and school administrators who will help determine what questions should be asked and which teachers should take the survey. This approach follows a new trend in public health research known as community-based participatory research, Dodge said.

With help from research assistants Frank Bandiera, Kristin Gant, Omar Martinez and Kristina Zachry, the group plans to mail more than a thousand surveys in English and Spanish to teachers across the state later this spring. **P**

# A passion for Pilates

PHHP faculty member provides a powerhouse workout

By Jill Pease

It's noon on a recent Wednesday and Sherrilene Classen, Ph.D., M.P.H., O.T.R., is leading a group of HSC employees and doctoral students through a series of challenging poses, including The Hundred, Rolling Like a Ball and The Seal.

Throughout the weekly one-hour Pilates class, Classen, an assistant professor of occupational therapy in the College of Public Health and Health Professions and a certified Pilates instructor, reminds her class to focus not on the quantity of exercise, but on the quality of execution.

"In the gym we want to go, go, go — do more reps or lift 20 more pounds," Classen said. "But Pilates is about process building and finding the perfect challenge for your body."

Classen has been teaching Pilates to a group of about 18 regulars for three years. The class is free and open to all faculty, staff and doctoral students of the Health Science Center. Students need only bring along a mat and a small inflatable ball, which costs about \$10.

"Sherrilene is a professional Pilates instructor, but does not charge us a cent for the classes. What a bargain!" said Nita Ferree, a reference librarian at the Health Science Center Libraries. "I've been doing some form of exercise most of my adult life, usually aerobics and calisthenics. I happened on to yoga a few years back and liked that, too. But I never felt comfortable with Pilates, because there were so many things of which to be mindful, all at the same time. And when you're in a big class at the gym, you can't ever be sure you are doing it right."

A certified exercise teacher since 1988, Classen has had a dual career for many years — academician and researcher by day, and fitness class instructor by night. In her UF position, Classen is developing a public health intervention plan to promote safe older driving. In the evenings, she teaches step aerobics, cardio circuit training and "abs and glutes" classes at Gainesville Health and Fitness Center.

Classen, a native of South Africa, was drawn to Pilates in recent years as an exercise that would accommodate her body's changing needs, and facilitate her core strength, stability, balance and grace in movement.

"As I age I am noticing that I am not able to do as much high-impact activity, such as running, as was previously comfortable," said Classen, 43. "While Pilates won't burn calories, it will increase

stamina, endurance, flexibility, coordination and fluidity in muscle movements. The outcome does not only manifest in these physical gains, but also in developing a positive self image and an awareness of practicing healthier eating and lifestyle habits. From this premise, weight loss is really the bonus, while positive lifestyle change is the optimum goal."

Developed by Joseph Pilates during World War I, the Pilates method focuses on strengthening the body's "powerhouse" — the abdominal muscles and other stabilizing muscles of the

in patients who were recovering after a stroke.

Pilates works for any fitness level and is accommodating for all shapes, sizes and ages, said Classen, who demonstrates a beginning, intermediate and advanced version of each of the postures during class.

"Pilates is really safe, very effective, fun, mindful and it allows you to explore your latent strength — the strength you didn't know you had," she said.

"Sherrilene not only makes sure you are doing the exercises correctly, but she infuses the workout



PHOTO BY SARAH KIEWEL

Sherrilene Classen, an assistant professor of occupational therapy in the College of Public Health and Health Professions and a certified Pilates instructor, leads a weekly one-hour class in the HSC.

chest, back and pelvis. Once popular among athletes and professional dancers, Pilates has moved into mainstream fitness over the past several years and has recently expanded to health care, with some physical therapists now using Pilates in rehabilitation. As an occupational therapist, Classen has used Pilates principles to increase proximal stability, strength and balance

with positivity and encouragement," Ferree said. "At the risk of gushing, I swear, it's like going to church. You feel renewed and righteous afterward. She's a terrific and talented teacher."

For more information on the Pilates class, held from noon to 1 p.m. Wednesdays in the HPNP Complex, please contact Classen at [sclassen@phhp.ufl.edu](mailto:sclassen@phhp.ufl.edu). 

## MATCH DAY



PHOTO BY SARAH KIEWEL

Rick Westenbarger hugs his partner Julie Demetree after he learned they received their “couples match” and would both have residencies at UF.

## MATCH DAY CONTINUED FROM PAGE 2

finally came face to face with the envelopes that held their fate. Although some students matched into programs earlier in the year, for most the event capped off weeks of gut-wrenching waiting.

“There’s no place like home, Miami, baby!” David Chan cried after opening his envelope and learning he’d been accepted into an orthopaedic surgery residency. “I’m shaking,” another student revealed after Associate Dean of Student Affairs Patrick Duff, M.D., handed her letter to her.

Standing in front of the packed conference hall inside the UF Hilton Hotel and Conference Center, Jolly Graham pulled her letter out of the envelope. “Duke University!” she cried, punching her hands into the air.

“It’s like national signing day,” Duff quipped after Jolly Graham’s husband secured a Duke University hat onto his wife’s head.

While the mystery of where students will head after graduation was revealed on Match Day, for many students the biggest sigh of relief actually came a few days earlier, when they learned for sure that they had matched somewhere.

That was the biggest hurdle for Rich Westenbarger and Julie Demetree, who submitted a “couples match,” meaning they would either match into the same institution or not at all.

“That, for us, was almost a bigger deal,” Westenbarger said. “We knew we were going to be together.”

The couple will be completing their residencies at UF, although Westenbarger will be in Jacksonville training in emergency medicine and Demetree will be in Gainesville, training in psychiatry.

“It’s going to be unique, but we’ve been talking about this for a long time,” Westenbarger said. “We’re ecstatic.”

After students opened their envelopes, each tacked a pin into a U.S. map to show where they were headed. By the end of the day, a large circle of pins covered north and central Florida. Of UF’s 115 medical school seniors, 42 will complete their residencies at UF, either in Gainesville or Jacksonville. Other students pushed pins into more far-flung locales, such as Vermont and Colorado.

The National Resident Matching System uses a computer algorithm to match a student’s residency selections with the needs of different programs. About 60 percent of students nationwide matched into their first choice programs this year.

Deirdre Foster shrieked when she discovered she was headed to her first choice program, Johns Hopkins University for psychiatry.

“I’m speechless,” she said, in between hugging family members and friends. “It’s such a good program.”

After the anticipation was over and secrets hidden inside the envelopes had been devoured, students wandered through the room hugging each other and making tearful phone calls to friends and family.

“It’s a day we’ve all known about for a long time,” Jolly Graham said. “It’s surreal that it’s actually here.” 

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