



**UF**  
UNIVERSITY of  
FLORIDA

**Questions** 5  
about the **flu**

The **art** of 11  
**social work**

A **caring** 23  
spirit

## On the Cover

Seven of the top 20 fastest-growing jobs are in health care. But this year, even new graduates from the HSC's six colleges are facing challenges posed by the economy as they search for their first jobs. This month, the POST looks at how the economy is affecting grads and what they're doing about it. Photo by Sarah Kiewel.

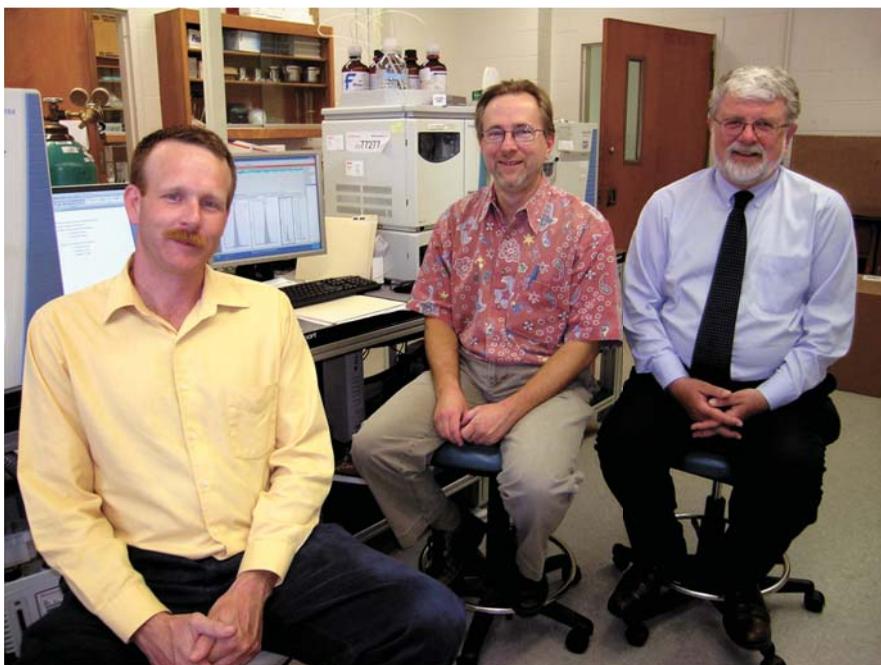


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# Solving a deadly mystery

UP FRONT



**P**ostmortem testing conducted by UF College of Veterinary Medicine pathologists and toxicologists on a group of prized polo horses that collapsed and died April 19 in Wellington, Fla., drew international attention, with riveted members of the public and press wanting answers about the mysterious cause of death. Initial necropsies performed at UF and at another state lab yielded no answers. However, subsequent tests conducted by UF toxicologist David Barber (left) verified the presence of life-threatening concentrations of selenium in the horses' blood and liver samples. The concentrations were found to be 10 to 15 times higher than normal in the blood and 15 to 20 times higher than normal in the liver. After four days of testing, the break in the case came April 22 when a spokesperson for a private pharmacy said the horses had received an incorrect dose of one of the ingredients used in a vitamin compound with which the horses had been injected. This allowed Barber to isolate the selenium. John Harvey, the college's executive associate dean and a board-certified pathologist, said UF's testing not only pinpointed the overdose but also ruled out other drugs that could have killed the horses, helping investigators rule out malicious intent. Other College of Veterinary faculty involved in testing the ponies included: Lisa Farina, Jeff Abbott, Michael Dark, David Hall (center) and Richard Sams (right). **P**

## ONLINE THIS MONTH

Expect a miracle — that's what Chris Crosby, who suffered a spinal cord injury that left him paralyzed and ventilator-dependent, and his mother say. On March 9, Lawrence Lottenberg, M.D. and John Armstrong, M.D. implanted a diaphragmatic pacing system in Chris, the first such surgery performed in Florida. This device is small, battery-powered and designed to help spinal cord-injured patients breathe without assistance. This month, you can view photos of Chris and his life-changing surgery and hear his story at [www.news.health.ufl.edu](http://www.news.health.ufl.edu). Just click on "Featured Slideshow."



PHOTO BY SARAH KEWEL



## DR. NINTH-GRADER

He's not a UF student or a doctor ... yet. But ninth-grader Tony Hansberry has already presented his research to physicians and scientists at a UF College of Medicine-Jacksonville event during Medical Education Week in April. Hansberry attends the Darnell-Cookman School of the Medical Arts near Shands Jacksonville, a medical magnet school that has partnered with UF physicians to help with the school's medical curriculum and also serve as guest speakers and participate in special events. In his research, Hansberry developed a technique that reduces surgical time for minimally invasive hysterectomies, an interest founded during his summer break spent at UF's Center for Simulation Education and Safety Research at Shands Jacksonville. His project came in second place at the regional science fair in the senior grade 9-12 division, allowing him to compete in the state finals. Hansberry then garnered the attention of UF faculty, who asked him to present alongside physicians during Medical Education Week.

## BALD FOR A CAUSE

Nothing beats a bald head in the Florida heat. Especially when it's helping raise money for the American Cancer Society. D.M.D. students Telka Jackson and Cassandra Dorsey (from left, with Dean Teresa Dolan in the middle) led "Bald for a Cause" at the College of Dentistry and raised almost \$20,000 for the American Cancer Society's Relay for Life — the most raised out of 62 UF teams. As part of the program, Dorsey, Jackson, fellow D.M.D. students Cory Canavan, Dave Cardman and Shawn Willis, and faculty members Marc Ottenga, D.D.S., and Boyd Robinson, D.M.D., shaved their heads.



## STILL ROCKING THE RANKINGS

For the third year in a row, the UF College of Medicine held steady at No. 48 in the *U.S. News & World Report* rankings of medical schools. These competitive rankings are based on everything from Medical College Admission Test scores to the number of research dollars obtained by college researchers each year. *U.S. News & World Report* ranks medical schools each year and also periodically ranks other graduate programs in the health sciences. There were no new rankings in other health disciplines this year.



# Project: Immunization

Group hopes to vaccinate county kids for the flu

By April Frawley Birdwell

This fall, UF Health Science Center faculty and students will team with Alachua County schools and the Alachua County Health Department to try to accomplish something that has never been done in the United States: The group aims to immunize 70 percent of local schoolchildren for the flu.

“If you can get an immunization rate in schools of 70 percent, then the mathematical models suggest at that level there will be so many immunized people in the key spreader group — kids — that the flu will stop transmitting within the community,” said J. Glenn Morris, M.D., M.P.H., director of the UF Emerging Pathogens Institute and the program evaluation chair for the project. “You can prevent the epidemic if you immunize that many kids.”

All children in Alachua County in grades kindergarten through eighth will be eligible to receive a free FluMist immunization. If the group is able to get 70 percent of these children to participate — their parents must sign a consent form — it could prevent 31 deaths from the flu, 27,000 illnesses and nearly \$2 million in direct health-care costs, Morris says.

“The CDC recommends all schoolchildren be immunized, it’s just that most parents don’t take their kids to be immunized for the flu,” Morris said.

Aside from helping the community, the project will also allow researchers to discover whether vaccinating this large a group of kids will have as significant an effect as mathematical models suggest, Morris says.

UF researchers decided to start the project after the success of a similar program in 2007, when 25 percent of Alachua County children were immunized for the flu. The year after the vaccines were administered, researchers noticed a drop in absenteeism in schools,

even though that year’s virus did not match the vaccine from the previous year.

To pull this project off, the group has formed a coalition that includes everyone from school nurses and community leaders to faculty and students from the colleges of Nursing, Pharmacy, Public Health and Health Professions and Medicine. One College of Pharmacy class is even going to incorporate the program into its curriculum, says Cuc Tran, a master’s student in the College of Public Health and Health Professions who has been involved with the organization of the project.

Under the supervision of faculty, nursing and pharmacy students will help school nurses administer the vaccines. Students will also help educate parents about the vaccine and help with consent forms.

Initially, the group was struggling to secure enough donations to vaccinate all the children — the inhaled vaccine is pricier than traditional shots — but help came in the form of an unexpected call from the Florida Department of Health. Because of the federal stimulus package, the department was able to spend more on immunizations this year and donated 17,500 doses to the project. The group also received a donation from Avmed, among others.

“We’re a very unique community where this can happen,” Tran said. “We have so much support. In another community I don’t know if this would be successful.” **P**



MARCO SALEMI, PH.D.

## Exploring swine flu’s origins

By Czerne M. Reid

As scientists rush to discover the origin of the current swine flu outbreak, a group of the world’s experts on evolutionary biology, including a UF team, set aside some academic traditions to work together toward a solution.

Rather than publish individual findings on the current flu outbreak, the computational biologists have opened their work in progress to each other and the public through a Web site: <http://tree.bio.ed.ac.uk/groups/influenza>.

Researchers in Britain came up with the idea, but are joined by contributors from institutions around the world, including the University of Oxford, the University of Edinburgh, UF, the University of Arizona, the University of California-Los Angeles, the University of Hong Kong and Belgium’s Rega Institute.

“It’s a really new concept, because basically there is a worldwide emergency, so this is a very fast way to have data circulating very quickly in the scientific community,” said Marco Salemi, Ph.D., a UF assistant professor of pathology immunology and laboratory medicine, who has contributed results to the Web site.

Site creators caution that the findings are preliminary and corrections likely needed but say there is great value and a sense of community in displaying the information. Their analyses are based on viral DNA sequences generated and published by the National Center for Biotechnology Information, and the nonprofit Global Initiative on Sharing Avian Influenza data.

Analyses done so far point to the virus’ immediate origins in swine flu variants with links to avian and human strains through a process called reassortment, in which gene segments from different viruses shuffle and reassemble into new viruses.

# Understanding PANDEMICS

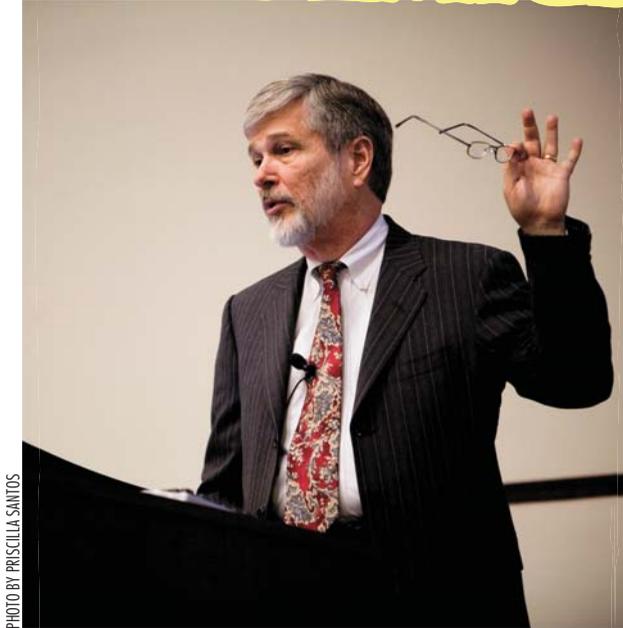


PHOTO BY PRISCILLA SANTOS

By April Frawley Birdwell

**W**hen the H1N1 virus, also called the swine flu, spread rapidly from Mexico to other countries, it initially triggered fears that the planet could be facing another deadly pandemic like the Spanish influenza in 1918.

Luckily, the illness the disease caused was mild. But the incident did provide public health agencies with what J. Glenn Morris, M.D., M.P.H., calls "a nice test case" to measure how well certain services work in times of crisis. This month, Morris, director of the UF Emerging Pathogens Institute, answers our questions about pandemics and what leaders have learned from the swine flu.

## What causes and defines a pandemic?

Pandemic diseases are defined by their ability to spread rapidly across continents, causing serious illness as they progress. Characteristically, they have an animal or environmental reservoir, where the microorganism can undergo genetic changes before emerging, or re-emerging, in human populations. However, probably the most critical factor is the ability of the disease to be efficiently transmitted person-to-person. Transmission of the current swine flu virus is no better than, and actually may be not quite as good as the regular seasonal flu. But watching as maps on the TV news showed cases popping up all over the globe, you begin to understand how rapidly any flu strain can spread to different parts of the world.

## Why was the Spanish influenza so deadly?

We are still not able to completely answer that question. However, over the past several years, with the elucidation of the Spanish flu genome, there have been some very elegant studies that have allowed investigators to hone in on possible virulence factors, including the ability of certain viral genes to increase the ability of the strain to multiply in human respiratory epithelial cells. At a clinical level, what was particularly devastating about this strain was its ability to cause disease, and death, in young, healthy adults. And its impact, at a public health level, was profound. When you look at mortality curves for the U.S. during the 1900s, the one thing that stands out is this huge spike in 1918 reflecting the mortality associated with the Spanish flu. The number of deaths on a global basis was even more staggering, with estimated mortality in the range of 50 million persons.

## Because of advances in science and medicine, are we better prepared to handle a pandemic like the Spanish flu?

Yes and no. We can very rapidly identify new flu strains and figure out what's going on. The international communication and public health networks are excellent, as demonstrated by the Mexican outbreak. Within a matter of days, (scientists) had the complete genome sequenced. The world knew what was happening and was poised to do what was necessary to prevent transmission. However, there is still the possibility a killer pandemic could occur. This outbreak underscored the fact that flu strains move rapidly, and that unexpected gene recombinations can appear out of nowhere. There is some concern that while we have excellent hospital facilities, do we have sufficient facilities to handle a major epidemic? Also, this past year, the seasonal flu strains were resistant to Tamiflu, our major antiviral drug. The nightmare scenario is the sudden emergence of a new, killer strain with avian or swine flu genes that can cause severe disease in humans, that has resistance to Tamiflu and that spreads rapidly. It could happen. We hope with our good communication, our good science and all the positives we have now we can keep it from happening, or at least limit its impact.

## Is it important that emerging threats receive the level of caution the swine flu initially received?

I think the level of caution that was exhibited with this outbreak was appropriate. The initial evidence that the CDC and other agencies had was this was a nasty strain of flu that was causing mortality in healthy adults. You need to move fast if you are going to have a chance to slow something like this down. In many ways, this was a nice test case. It let us see how well the system worked. We need to fine-tune some things, such as our approach to TamiFlu distribution, but, in general, the system worked extremely well.

## How does the work of the EPI help to prevent outbreaks of new diseases?

Our role is to try to understand why and how new diseases emerge. Part of it is predicated on the idea that there are certain common pathways through which new strains emerge, and if you understand the basics of why an epidemic occurs or a pathogen emerges, you can apply that knowledge to reduce future risks. Our work ranges from basic evolutionary genetics to modeling transmission pathways. The modeling allows us to assess how certain interventions would change the course of an epidemic. It lets you try different scenarios and see what works. We don't man the ambulances, but we provide critical research capacity and expertise for the health department and other frontline responders as they work to slow a pandemic. **P**

# In the shadow of Hippocrates

By Christine Velasquez

**P**atricia Abbitt, M.D., a professor in the department of radiology and chief of the abdominal imaging division for the College of Medicine, was honored with the 2009 Hippocratic Award, which was given by the college's graduating class.

It was the 40th anniversary of the award and the second time Abbitt was nominated and selected by fourth-year medical students as the physician who best exemplifies the ideals of Hippocrates.

"Every day I had the chance to work with Abbitt I learned a great deal about radiology, but more than that, I saw the characteristics of a teacher — a physician and member of this community who I want to emulate," said TJ Ward, a medical student who spoke at the award ceremony April 24.

Established by the graduating class of 1969, the Hippocratic Award recognizes and honors physicians who represent the highest ideals of professionalism, humanism and teaching talent. Abbitt has instructed thousands of UF medical students during her 20 years with the college and first received the award in 2004.

Abbitt said few words during the ceremony. But later, under the shade of the London Plane tree, a sapling of the tree under which Hippocrates taught, she shared her thoughts on new challenges facing the graduates.

"We are in very difficult economic times right now. These students will, out of necessity, be very involved in working on problems regarding health-



PHOTO BY APRIL FRAWLEY BROWELL

Dr. Patricia Abbitt (right) and medical student Omayra Marrero pose under the shade of the tree that was given to UF by Greece's minister of agriculture in 1969 to commemorate the establishment of the Hippocratic award. The sapling is cut from a tree in the Isle of Cos, Hippocrates' hometown.

care access and health-care reform.

"Our students are very committed to addressing these issues by involvement and hard work," she added.

Ask Abbitt's students about her likeness to Hippocrates' ideals and you will hear stories about how the physician dispels the myth that radiologists are disconnected from their patients; how she spends her time outside of UF's walls by working with Gainesville Harvest to feed the homeless, advocating for the Saint Francis House homeless shelter and local churches, all while inspiring students to do the same.

"It says a lot about the culture of our class having voted Dr. Abbitt as our honoree," said Omayra Marrero, academic chair for the class of 2009. **P**



By Jessica Metzger

**O**n May 1, the UF College of Nursing graduated its first class of students to earn a Doctor of Nursing Practice degree, a new degree in the nursing field.

The D.N.P. is essentially doctoral education for advanced practice nurses, said Karen Miles, Ed.D., R.N., an associate dean of the UF College of Nursing. The degree was a national initiative, led by the American Association of Colleges of Nursing, which called for transforming the education of professional nurses who practice at the most advanced level.

The program, which began in 2006 and was one of Florida's first, focuses on innovative and evidence-based practice, Miles said. Evidence-based practice involves making treatment decisions based on the latest clinical research, said Stefanie Coffey, a nurse practitioner and new graduate.

"Most of us didn't have an evidence-based background to be an expert in our fields," Coffey said. "This program helped us broaden our arena. We can contribute more to our patients."

## Top nurses

### College of Nursing graduates first Doctor of Nursing Practice students

The group started in Fall 2006, completing the program in Spring 2009. One of the degree's requirements was a research project, usually in the student's specialty or area of interest.

Megan Weigel Barrett said she gained more from the program than she expected.

"I feel like I am prepared to accept a large number of challenges like financial problems, quality management and electronic management. I feel much more capable and prepared for all level of problems rather than just patient care," Weigel Barrett said.

Fifty-nine students will enter the program in the fall. These include 44 students in the B.S.N. to D.N.P. program, which allows students with bachelor's degrees to directly enter the D.N.P. program.

Miles said these new standards for nursing are not deterring people from pursuing careers in the field.

"If you look at other health-care fields like medicine, dentistry and veterinary medicine, and beyond to physical therapy, occupational therapy and pharmacy, all of these professions have doctorates as entry level to practice," Miles said. "Nursing is a vital part of our growing and changing health-care system, and these highly educated advanced practice nurses, at the doctoral level, will be prepared to improve practice, educate new clinicians and elevate our profession." **P**

# Rescue remedy for herbal research

By Monica Vigo

Through the meticulous, yearslong process of research in her UF herbal medicine lab, Veronika Butterweck, Ph.D., an assistant professor in pharmaceuticals, has discovered one new remedy that just may speed up the process.

Her remedy comes in the form of 12 international students with lab skills from universities in Germany, Switzerland and Austria who help Butterweck keep up with the fast-paced competitive world of research and drug discovery.

In 2007, Americans spent \$4.8 billion on herbal and botanical supplements, drugs that are not required to be regulated by the Food and Drug Administration in order to be sold. Normally, it takes up to two years for new UF graduate students to be ready to conduct lab research, Butterweck said, and by then other herbal researchers have begun racing to market.

Through academic associates in her home country, Germany, where she earned her Ph.D., Butterweck arranged to host pharmacy students seeking internship experiences. For the next six months, all of the international students will assist Butterweck's research at UF. Some have just graduated from their universities and are completing their practical training requirements. Others are in their final year, completing a master's thesis required for graduation.

"The visiting international students are a big help because they already know how to use lab equipment and perform common tasks associated with research without having to relearn them," Butterweck said.

But Butterweck is not the only one winning — the students are as well. While Butterweck gets help completing her research faster than she could alone, the students continue to work toward completing their necessary requirements for graduation.

Pharmacists in Europe have laboratory training early in their studies and typically graduate with a master's degree, which prepares and allows them to work in research labs. The U.S. doctor of pharmacy education is more clinical, or patient-centered, rather than lab-focused.

European research experiences are limited, mainly concentrating on chemical extraction from plants. This is why the European students prefer more varied research experiences in America, Butterweck explained.

"I heard of UF's excellent reputation for its pharmacy school.



PHOTO BY SARAH KIEWEL

Veronika Butterweck, an assistant professor in the College of Pharmacy, recently took on 12 international students who are helping and learning in her herbal research lab.

I was more than happy when my professor in Vienna offered to establish ties with Dr. Butterweck," said Stefanie Weinoehrl, a student from the University of Vienna.

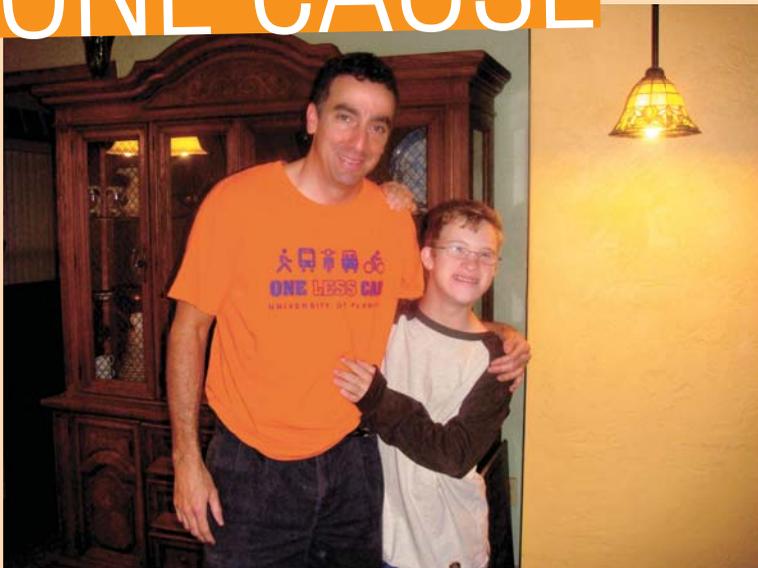
The students are helping her research herbs such as valerian for anti-anxiety and sleep-inducing effects and Russian tarragon for anti-diabetic effects. Having more students to work on several small projects helps Butterweck to work more effectively because those combine into bigger projects, she said.

Learning how drugs are researched and developed firsthand rather than just in theory is an important experience they get at UF, Weinoehrl said. The students also gain insight on their future plans as pharmacists, she added. Most of them are undecided on what to do next and working in the lab can help them make a decision.

Michael Fretz, a student from the University of Basel in Switzerland, said the greatest benefit to him was working in an international environment at UF — in a college with a good reputation.

"I haven't decided yet if I will go into research," Fretz said. "But after my experiences here, I definitely would be interested." **P**

# 100 miles, ONE CAUSE



Scott Erker (left) is participating in the Best Buddies Challenge to raise money for Best Buddies, an organization that helps his stepson Jonathan (right).

By April Frawley Birdwell

**T**wice a week, Scott Erker runs up and down the stadium steps at Ben Hill Griffin Stadium. He lifts weights, too, and cycles for miles four days each week.

Erker, a Shands at UF catering coordinator and UF doctoral student in anthropology, is training for a 100-mile bike ride from Boston to Hyannis Port, Mass., on May 30. He's cycled for 100 miles before — centuries, as they're called in bikespeak — but he hopes to get his best time this year. And more importantly, he's hoping to raise money for Best Buddies, an organization that helps his 15-year-old stepson, Jonathan.

The Best Buddies program pairs children and adults who have intellectual disabilities with volunteers, usually students in high school or college. The new friends spend time together each week.

Jonathan, who has Down syndrome and was born with a neurological defect called hydrocephalus, has a UF buddy also named Jonathan, Erker says.

"He loves it and it's great for him to bond with someone outside the family," Erker said. "It's a great program and that's why I wanted to raise money for it. It's helping Jonathan and other kids like him."

Ensuring that children with special needs get enough opportunities to socialize outside of school with friends or other people closer to his own age can sometimes be difficult, Erker says. That's one of the reasons he feels the Best Buddies program is so important.

"We're hoping that whatever his potential is he will reach it," Erker said. "We don't want to hold him back in any way, especially socializing with other people."

So far, Erker has raised \$2,600 and he hopes to raise more by the May 30 race, officially titled the Best Buddies Challenge.

To donate to Erker's effort, visit the Best Buddies Challenge Web site at [www.hpchallenge.org](http://www.hpchallenge.org) and click on "sponsor participant" to enter Scott Erker's name. You can also visit his participant page directly at <http://tinyurl.com/ScottErker>. **P**

# Sam I Am

College of Dentistry says goodbye to longtime staff member



Lydia Maree, a dentistry staff member, dressed as Sam Brill for his retirement party. Maree is sporting a prosthetic nose made from a casting of Brill's nose.

By Karen Rhodenizer

**T**here were no green eggs and ham on "Sam I Am" Day. No Dr. Seuss stories either. Rather, on March 23, faculty and staff in the College of Dentistry told their own stories about Sam Brill.

Brill, an audiovisual specialist who joined UF in 1977 and the College of Dentistry in 1980, retired March 31. Brill wore many hats during his employment with the college but will be best remembered as the college's official photographer.

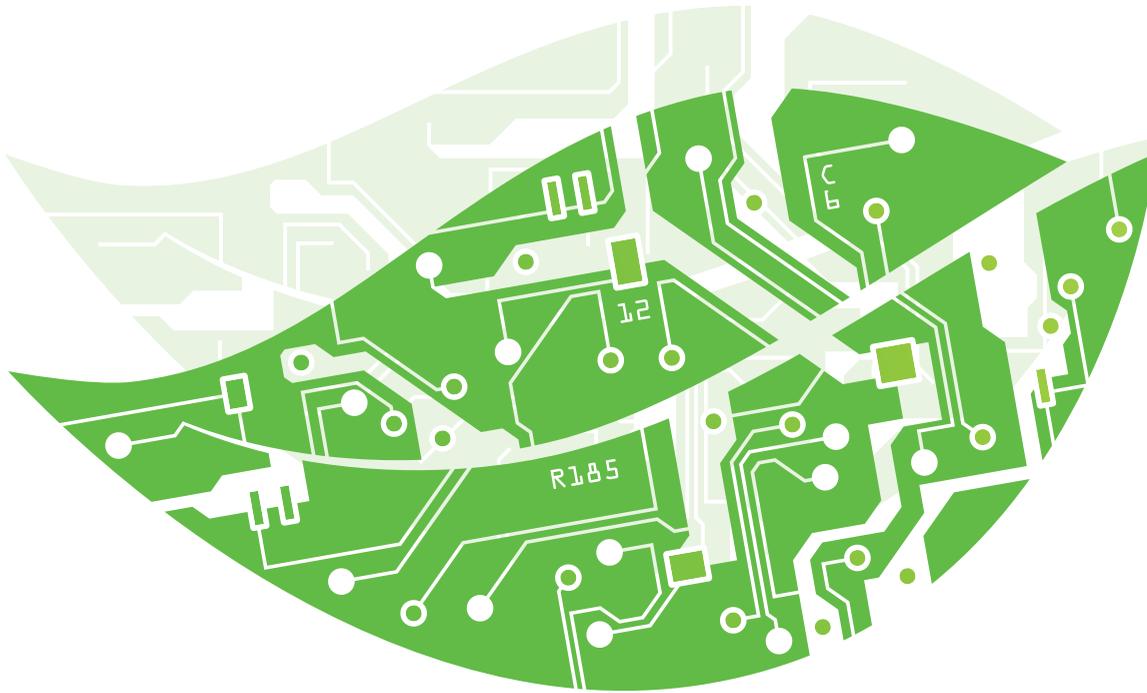
Brill said one of his strongest memories about the college is how he and others gathered to watch the events of Sept. 11, 2001 unfold on a TV he set up in a hallway on the third floor of the Dental Tower.

"We sometimes tend to describe where we work by the physical location, as in Dental Tower, but it was obvious on that day we are really 'family,'" he said. "We were separated from our real families until we were given administrative leave. As people gathered, we comforted each other as best we could."

Brill served on the Special Event Planning Committee for the college for many years and until his retirement, and threw himself into the events, wearing costumes to match the theme that were always topped off with a camera around his neck. He even took photos at his retirement party.

He says he is proud of his service to a college that always shows its "heart" when it comes to helping others, such as supporting the UF Community Campaign, Relay for Life, trips to foreign countries to provide dental care, the Heart Walk and many more.

"Although I won't be part of the daily activities of the college, it'll always be a part of me. I truly treasure the bonds we built together," he said. **P**



# 'IT' GOES green

By Jessica Metzger

**W**ith sustainability and cost-cutting high priorities these days, it's not surprising that even the UF HSC IT Center has taken some green measures of its own.

The biggest change IT made was the switch to virtualization, said Dick Deason, team leader of IT systems administration. Virtualization reduces the amount of physical servers that keep HSC data and systems running from about 45 servers to just six.

Most servers only use 10 percent of their capabilities, said Trey Johnson of IT systems administration. Virtualization allows multiple applications and systems to be run on the same machine, using them more efficiently.

Benefits of virtualization include saving power and space, Deason said. Both cut costs to UF, as well as produce less waste to the environment because there are fewer computer parts to throw away in the long run.

Also, technologically, virtualization improves disaster recovery. Deason said with physical hardware servers, recovery from crashes could take weeks. Now, failures due to hardware are almost nonexistent. Operating-system and application-level recoveries can be completed in mere hours. He also said virtualization allows for more memory, with more capacity and faster processing.

Because of the switch, IT saved about \$80,000 on its servers, including the cost of powering and cooling them. This will be continued annual savings, not just a one-time recovery, Deason said.

Deason said there is more to be done in the HSC. Next, they are looking to change personal work stations. IT has begun making small changes, starting with something as simple as shutting off the power to computers.

IT recently won a sustainability award from UF for both its virtualization of servers and turning off workstations when not in use — that's 12 hours a night and 48 hours each weekend — amounting to \$45,000 in annual cost savings for UF, Deason said.

Their next step is virtualizing workstations, Deason said. Called View Portal, the program allows users to access their own desktop on any PC. All users would need is their username and password, and they could access their desktop (just the way they left it, icons, open windows, programs and all) basically anywhere.

This prevents people from having to save work on a USB drive or a disk and transferring the data from computer to computer, reducing the potential for exposing sensitive information, such as protected health information.

Several departments at the HSC are already using View Portal. This program is safe and secure because the data never leave the data center, Johnson said.

Deason said the IT Center has worked hard to be economical, but also to ensure the safety and security of the HSC's servers and data. He said big things are still coming, like IT's new storage support solutions.

For more information on the HSC IT Center and its services, visit [www.health.ufl.edu/itcenter](http://www.health.ufl.edu/itcenter). **P**

## And the award goes to ...



**T**he UF Office of Sustainability recently awarded its first-ever Sustainable Solutions Awards. The HSC IT Center received an honorable mention for its energy conservation efforts. Other HSC winners included Rizan Yozgat, A.R.N.P., (pictured) of Student

Mental Health Services, who received the Bright Idea Award for her idea to eliminate the use of paper fliers on cars in the Stephen C. O'Connell Center parking lot before events. The change will reduce litter and save paper. Yozgat proposed using digital signs, e-mail and perhaps a Web site to announce events that could affect parking. Shands HealthCare also received an honorable mention for its efforts in conjunction with the Physical Plant Division to reduce waste.

# Beyond the facade

The good works of plastic surgery

By Jessica Brandi

Any surgeon can repair a broken rib, but not every surgeon can take that same rib and build you an ear.

In today's Hollywood-obsessed culture, it's easy to forget the world of plastic surgery reaches far beyond nose jobs and facelifts. Reconstructive plastic surgery can put a woman back into a bikini after a battle with breast cancer or give a child with a cleft lip the ability to smile.

Of the 12.1 million plastic surgery procedures performed in 2008, 4.9 million were reconstructive surgeries, according to the American Society of Plastic Surgeons. Reconstructive surgery is performed to improve or correct abnormalities caused by trauma, injury, infection, tumors or disease. This can include everything from creating skin grafts for burn victims to removing cancerous tumors and reconstructing the area with flaps of tissue and blood vessels taken from other parts of the patient's body.

"The biggest thrust of what we're involved in is restoring form and function and trying to take that to the highest level possible," said Matthew Steele, M.D., an assistant professor of plastic and reconstructive surgery in the UF College of Medicine.

He said one of the reasons he was attracted to plastic surgery was the chance to be innovative and find new solutions to medical problems.

"It's not the same cookbook kind of surgeries," he said. "There's not necessarily a right answer all the time."

One of his cleft palate patients, a young girl, couldn't smile because of her condition. Whenever she laughed or felt happy she couldn't show that emotion on her face, Steele said. Her doctors weren't able to use the nerves they normally would for a similar procedure, so they found a way to use the nerves associated with chewing instead.

The recovery was gradual, but she eventually learned to use her chewing muscles to smile and show emotion. Steele said the first time she passed a mirror in a store and realized she was smiling she ran around laughing and yelling to her mother.

"They came back and told everyone the story," he said. "They were really happy."

Dr. Brent Seagle (center), chief of plastic and reconstructive surgery, operates with fellow Dr. Mark Clayman (left) as student Lee Ferguson watches.

M. Brent Seagle, M.D., chief of reconstructive and plastic surgery at UF, said helping children like this and helping people get their lives back, in a sense, are the most rewarding aspects of reconstructive surgery.

"It's really rewarding when you get someone back to a place of normal function ... when you get someone close to who they were before cancer or an accident," he said.

Seagle said the public still harbors some misconceptions about plastic surgeons and what they do.

"There's a good bit of misunderstanding," Seagle said. "The cosmetic side is sensationalized on TV, in newspapers, all over the place."

He says another large part of the misunderstanding is that people assume cosmetic surgery is always performed by plastic surgeons, and when they hear about botched surgeries, they don't realize it wasn't necessarily a plastic surgeon who performed the failed procedure.

To achieve board certification, plastic surgeons are required to attend a U.S. accredited medical school and are subjected to a rigorous examination process that assesses everything from their surgical skills to their ethics and advertising practices, according to the American Board of Plastic Surgery.

"Real plastic surgeons aren't like 'Dr. 90210,'" Steele said in reference to the popular reality show following an eccentric cosmetic surgeon in Beverly Hills.

The field is constantly changing and innovating to find new solutions and develop less-invasive procedures with shorter recovery times. In the future, Steele hopes to see more developments in stem cell research and genetic tissue engineering so plastic surgeons can use genetically engineered body parts rather than taking flaps from other parts of the body or using donor transplants, which the body can reject.

"When you get more experience you're constantly making changes, and your work improves," he said. **P**



## New UF Plastic Surgery office

UF plastic and reconstructive surgeons offer a full range of both reconstructive and cosmetic surgical procedures. The surgical group opened a new office, UF

Plastic Surgery, this spring to offer patients the convenience of easy access and free parking. Located at 908 N.W.

57th St., Suite D-6, the office is just off

Newberry Road in the Park Avenue Office Complex. Fresh Faces, the office's skin rejuvenation program, offers a range of nonsurgical methods to help clients refresh their look. Learn more at

[floridaplasticsurgery.ufl.edu](http://floridaplasticsurgery.ufl.edu).

# The calling

Social workers an important part of cancer care

By April Frawley Birdwell

As she lay in the dark room, the thoughts came, whirring through her brain like an engine.

*“Am I going to live to see my grandchildren grow up?”*

*“Am I going to be able to work?”*

For years, she had heard these questions from patients in the Shands at UF Bone Marrow Transplant Unit, where she works as a social worker. Battling multiple myeloma and staying in the hospital while she waited for her own transplant, Gale Smith, L.C.S.W., began thinking these thoughts herself.

Smith, who has worked as a social worker for the Bone Marrow Transplant Unit for 17 years, was diagnosed with the blood cancer about five years ago. She underwent a stem-cell transplant in 2005 but a search has yet to yield a bone marrow match. She’s still battling the disease.

“In the beginning it seemed surreal, like, ‘O.K., God, what am I supposed to do here? What lesson am I supposed to learn?’” Smith said. “It has taught me so much about the human spirit and how strong we are. We can get so low and have some of the lowest moments and fearful moments and then hope comes.”

This battle has given Smith a unique perspective on her job. As a social worker, she helps bone-marrow transplant patients through every step of their own journeys.

There are 47 social workers working at Shands, and several of them, like Smith, focus specifically on patients with cancer. It’s a unique population of patients to work with, and for most who do, it’s a calling, says Victoria Pearson, L.C.S.W., a clinical social worker who has worked with outpatients at the UF Shands Cancer Center for 16 years.

Because a cancer diagnosis and treatment can



PHOTO BY SARAH KEMEL

Social worker Gale Smith spends a few minutes with Duane Bennett, a patient in the Shands at UF Bone Marrow Transplant Unit.

be so overwhelming, social workers often go over what doctors say with the patients to make sure they understand what’s going on. Patients don’t always speak up and ask questions when they talk to doctors, especially not when they’re already scared, Pearson says.

“I see it time and again. A patient will be crying with me and then a doctor comes in and asks how they are doing and they say ‘fine,’” Pearson said. “If we don’t have social workers to provide counseling and resource management then those patients are lost out there. Without social workers you lose a real caring, holistic view of the patient.”

And this is just one small part of how oncology social workers help patients.

Generally, social workers devise a plan for patients depending on their needs. This is important because not addressing patients’ social and psychological needs can negatively affect care, according to a 2007 Institute on Medicine report.

Jennifer Adams, L.C.S.W., also a Shands social worker, says it’s sort of like cold-call sales. With each patient she starts over. Some need help finding affordable medications. Others need services to help them with family issues and financial concerns while they’re sick. They also spend time talking about issues like body image, a concern for many cancer patients who sometimes lose their hair during chemotherapy. But often, what patients most want is to know someone is on their side, Pearson said.

“They are scared to death,” said Adams, who has worked at the cancer center for three years. “They want someone to get it right for them. Here, the most valuable service (for patients) is knowing things are going to get taken care of.”

“We’re like the tack holding all the papers on the wall.”

Often, it’s not only the patients they’re helping, either. They help caregivers and families, too. And sometimes doctors and nurses need support to handle the emotional toll and stress.

“Sometimes people will come knock on my door and I will invite them in to sit on the couch,” says Smith, who also runs a support group in the BMT unit for patients. “Sometimes 15 minutes can make the difference in someone’s day.”

People have asked Smith why she works in the Bone Marrow Transplant Unit. It’s dreary, they say. People die.

Smith doesn’t see it that way. She’s learned about living from people during their last moments. And she shares in happy moments, too.

“For every death I have witnessed, I can think of two or three absolute miracles, people who were not given a chance who survived death’s door several times,” Smith said. “I can be with one family through their loss, but I also know there is one person down the hall who is celebrating, their counts are coming up. Or when someone comes back, and they are years out from transplant and feeling good. That is what keeps me going.” **P**

# The art of job hunting

How this year's health science graduates are displaying flexibility in a tightening job market

By Laura Mize

When Dani McVety entered veterinary school, professors told her incoming class that demand was high for new veterinarians.

But as McVety and her classmates prepared for graduation, they met a different reality.

"One place I e-mailed literally wrote ... 'We are getting by with relief veterinarians until the economy turns around,'" McVety says. "I mean, that's amazing. When we got into vet school they told us that there were more positions than veterinary students could fill."

This year, new graduates in health-related fields are finding that positions are available, but perhaps not in the abundance or variety they had expected. The changing market has tested their perseverance and creativity.

With an infant at home and her husband graduating from law school and also looking for a job, searching for a position also requires finding the right situation for her family. Originally, McVety sought something in the north Tampa area. But when an offer came in March, she declined because it wasn't a good fit.

McVety decided instead to work in emergency veterinary medicine because the typical schedule of three weekly night shifts would mean more time to spend with family.

"I'm looking in Port Charlotte, Fort Pierce and south Miami," McVety writes in an e-mail. "You never know. I'm the main breadwinner for the first few years out of school so we'll go wherever I get the best offer for emergency medicine."

With limited options, McVety is considering ways to set herself apart from colleagues.

"I have actually seriously considered going to law school, even if it's part time," McVety says, "and in five years doing animal law, doing patent law for pharmaceutical companies, you know, different things to make myself more marketable."

Mike Chaddock, D.V.M., deputy director of the Association of American Veterinary Medical Colleges, says that with some imagination, new veterinarians should get jobs.

"The job market is much tighter, absolutely. But (it depends) on where a person wants to find work and being a little bit creative — are they looking at industry, are they looking at government, are they looking at the nonprofit sector?"



PHOTO BY SARAH KIEVEL

**“The nursing profession is not immune to what is happening in our economy nationwide. What we are seeing is most likely a dip in a very promising career forecast.”**

**— Karen Miles, Ed.D., R.N.**



PHOTO BY SARAH KNEVEL

**NEW GRADS: MEREDITH PARNS, COLLEGE OF PUBLIC HEALTH AND HEALTH PROFESSIONS (OPPOSITE PAGE) AND MICKEY LETH, COLLEGE OF DENTISTRY**

## **The Waiting Game**

Many of this year's UF health science graduates face similar challenges. People looking for health jobs are still faring better than those in other types of fields. Seven of the 20 fastest-growing jobs are related to health care, according to the Bureau of Labor Statistics. But the contracting economy and growing unemployment mean more competition for jobs even in the most in-demand health-care occupations.

“Providers, which include the physicians, physicians’ assistants, nurses, lab techs and others, will stay pretty strong,” says Russell Armistead, M.B.A., C.P.A., UF’s associate vice president of finance and planning for health affairs. “The business office and overhead personnel will be the first area that will experience a reduction in employment. But employment has held up reasonably well so far.”

Like McVety, Meredith Parns’ personal life has been intertwined with her search for a position after graduation. A graduate of UF’s master’s in health administration program in the College of Public Health and Health Professions, Parns learned she landed a fellowship spot with Poudre Valley Health System in Fort Collins, Colo., in late February. Students are normally awarded fellowship positions in November, she says.

Parns says the extended wait made her very nervous and affected her personal life. She and her fiancé, a UF police officer, informally planned to marry this fall and stay in Gainesville. The sudden news of her new position changed that. Parns’ fiancé is looking for jobs in Colorado. Now, they’re not sure when they’ll get married.

But Parns is just glad to have a fellowship.

“It’s been frustrating. I’m very relieved now that I have a job. But it took me six months to find one.”

Parns says fewer students in her 18-person graduating class found fellowship positions than in past classes. This year seven students got fellowship positions and six accepted jobs. The remaining graduates are either still looking for jobs or have other postgraduation plans.

“Clearly this year’s placement process has been tighter than historically has been the case,” says R. Paul Duncan, Ph.D., a professor and chair of health services, research, management and policy in the College of Public Health and Health Professions. “On the other hand ... 15 of the 18 are in outcomes that are kind of normal for people finishing a master’s degree program like this and three of them are still looking.”

He says finding fellowships in health administration is not impossible right now, but it isn’t surprising that it can be challenging, either.

According to the American Hospital Association, a recent survey of 1,078 hospitals revealed troubling trends nationwide. The report indicates that most hospitals are seeing fewer patients for inpatient services and elective care. Meanwhile, a larger percentage of patients either can’t pay for care or are dependent on public support. Also, in late 2008 and early 2009, almost half of the hospitals surveyed cut staff and nearly a quarter decreased services.

**Continued** ON PAGE 14



PHOTO BY PRISCILLA SANTOS

## NEW GRAD: SYDNEY VANDEVEER, COLLEGE OF NURSING

“Certainly it is the case that when hospitals are faced with budget constraints, administrative fellowships are one of the things that might get cut.”

For students in the college’s occupational therapy, physical therapy and audiology programs, Joanne Foss, Ph.D., O.T.R./L., says the number of open jobs is growing.

“Anybody who’s going into elder care ... especially here in the state of Florida, or (working with) children that are at risk for disabilities, those are ever-increasing (professions).”

She says the college’s career day in February saw a record turnout of organizations looking to hire students.

“We had a significant increase in the number of vendors, and they were all actively recruiting.”

## Veteran Workers Return

Sydney Vandever, who recently graduated with a bachelor’s degree in nursing, doesn’t have the same family-related concerns as McVety and Parns. She just wants to find a job.

Last fall, she began inquiring about training programs for new nurses at hospitals near her hometown, West Palm Beach. Rookie nurses usually work alongside experienced nurses before they can work independently.

They “gave me the impression that there weren’t really a lot of spots available and they weren’t really hiring new graduates,” Vandever says.

Orienting new nursing graduates tends to be costly for hospitals, and in a tough economic climate employers may steer more toward hiring more experienced nurses. Vandever has applied at five hospitals in the area and expanded her search to include any hospital nursing positions. She originally applied only for emergency or critical care positions.

Vandever has had one job interview, in early May. She feels

optimistic about it, though she’s still waiting to see what will happen.

She will take the licensing exam for nurses this summer, though new graduates often find jobs before the exam. Vandever says she will expand her search to other areas of South Florida if necessary.

Karen Miles, Ed.D., R.N., associate dean for academic and student affairs in the College of Nursing, says former nurses going back to work and nurses postponing retirement make it challenging for new nurses. The American Hospital Association reports a decrease in patients at hospitals because of financial reasons, which also may explain why some hospitals are hiring fewer nurses.

But experts say a shortage of nurses will resurface after the economy recovers some, especially as the population continues to grow older. Peter Buerhaus, Ph.D., R.N., the Valere Potter professor of nursing at Vanderbilt University’s School of Nursing, says that by 2025 there could be almost 500,000 fewer nurses than needed nationwide.

“The nursing profession is not immune to what is happening in our economy nationwide. What we are seeing is most likely a dip in a very promising career forecast,” Miles said. “Nursing graduates, especially from UF, will still continually be sought out because people will always need quality health care. It just may be a bit more difficult than in years past for graduates to find their ideal positions. They may have to broaden their horizons with regard to specialty or location.”

Similarly, new dentists are also seeing some crowding in their field from veteran dentists, says Mickey Leth, a recent UF College of Dentistry graduate. But their challenges are different.

“It’s much tougher to get loans at the current time to open a dental office,” Leth says. “Now, it wasn’t even an option (to buy property and start a practice).”

Unable to start practices, Leth says, associates are continuing to work for other dentists. That means fewer associate jobs available for new dentists.

Still, he says he doesn’t think the economy’s negative effect on his profession is significant. With some flexibility, his classmates are getting jobs, though maybe not in their preferred geographic areas.

Boyd Robinson, D.M.D., associate dean for clinical affairs at the College of Dentistry, says it’s unclear how the dental field overall is affected by the recession, but there is still plenty of opportunity.

“It’s a mixed market now,” he says. “I don’t think it’s a closed market in any specific sense.”

Some types of practice offer more opportunity than others for dentists.

“The areas that are slowing down are the general practice, fee-for-service areas,” Robinson says, emphasizing that community health organizations may be the most surefire places to find work as a dentist.

Leth is proof that finding a position in a private practice is possible. He’ll begin work at a dental practice in his hometown of St. Augustine this summer.

“The practice ... (belongs to) a dentist who’s got a five-year retirement plan, basically,” Leth says.

Leth will take over the practice when the owner retires.

## Pharmacy Supply And Demand

Julie Justo, a new pharmacy graduate, landed a one-year residency position at the University of Illinois at Chicago without much trouble. But she does see a change in the market for pharmacists right now. She always planned to pursue a residency but says a saturated market for pharmacists in her preferred location, South Florida, intensified her desire for a residency spot.

Justo applied to eight programs, instead of the typical four or five. The program at University of Illinois was one of her top choices.

Justo and William Riffie, Ph.D., dean of the College of Pharmacy, say pharmacy programs in South Florida such as those at Nova Southeastern University and Palm Beach Atlantic University exacerbate the job crunch for pharmacists there.

An experimental new business approach at Walgreens, one of the state's largest retail pharmacies, is having effects statewide. The retailer plans to establish a "central pharmacy" in Orlando to fill many prescriptions, such as those ordered in advance. Florida is the first state where the company is implementing this system.

Riffie says it may mean layoffs and fewer jobs available for new pharmacy grads, though it's too early to tell. He says there have been fewer pharmacists hired at Target and in hospitals, too.

"Something's going on in Florida that appears to be replicating itself across the country, from what I can understand from other deans."

Riffie says he thinks demand for pharmacists in Florida is still higher than the supply, but the balance is changing.

"It is my opinion from anecdotal evidence only that we are closing in on being 'in balance,'" Riffie writes in an e-mail. "Only the next year will really show if this is a trend or an unusual blip."

## Finding The Right Fit

Despite the challenges of getting a job in the struggling economy, some new health science graduates are finding exciting opportunities and hope for the future.

After months of uncertainty, Dani McVety, the veterinary medicine graduate, finally found a position in mid-April. She'll start work at Animal Emergency Clinic of Brandon as an associate veterinarian in early June.

Though it required some compromise, McVety says in many ways the job is just what she needs.

The salary is "a bit less than my previous offer, but learning the medicine is the most important part of being a new graduate and the hours will allow me more time to spend with family in addition to pursuing other entrepreneurial ventures with my husband," she writes in an e-mail.

"To me, it's the best of both worlds. Ideally, we'd like to open or purchase a practice in about five years." **P**



PHOTO BY SARAH KIEWEL

**NEW GRADS: JULIE JUSTO, COLLEGE OF PHARMACY (TOP) AND DANI MCVETY, COLLEGE OF VETERINARY MEDICINE (BOTTOM)**



PHOTO BY SARAH KIEWEL

Of the six health science colleges, graduates of the College of Medicine seem least affected because medical students enter predetermined residencies after graduation. Congress commits a set amount of money to fund residency positions for doctors-in-training, so the number of positions won't shrink unless legislators reduce funding. "There's a general sense that there's a shortage of physicians in the country," says Tim Flynn, M.D., the college's senior associate dean for clinical affairs. "I doubt residents will be out of work when they finish their residency."

# A COUNTRY in need

Medical student starts project to combat infant, maternal mortality in Sierra Leone



Beryl Greywoode recently went to Sierra Leone to launch Project RAIN, an initiative she founded to help reduce infant and maternal mortality in the country.

By Jessica Metzger

At 26, Beryl Greywoode is at the top of her game, and it keeps getting better.

Aside from graduating medical school in May and being selected to complete her residency at Harvard Medical School's Children's Hospital Boston, the UF medical student also has started her own nonprofit organization.

Project RAIN (Relieving Areas in Need) launched its first efforts at the end of March, when Greywoode and others from the U.S., Sweden, Canada and England went to Freetown, Sierra Leone, to run a children's clinic at a hospital for a month. The project aims to create a partnership between the Princess Christian Maternity and Children's Hospital in Freetown and providers in London and at UF to combat the childhood mortality rate, Greywoode said.

Greywoode, whose family is from Sierra Leone, started Project RAIN while a first-year medical student. She was in New Orleans, taking a break from volunteering after Hurricane Katrina, when she thought about doing more to help people. So, she decided to Google "how to start a nonprofit organization."

"The country I come from has the highest infant mortality rate and rate of women dying in childbirth," Greywoode said. "It was a desire to go back, realizing I owe it to my country to go back and help out."

The biggest challenge was determining the country's most vital medical needs. Sierra Leone experienced a civil war, which began in 1991 and

ended in 2000. Its aftermath is still affecting the country, especially health care.

"Postwar, there's nothing," Greywoode said. "It's hard knowing what to take, what are the needs, what's most effective?"

At the clinic, the primary focus will be on teaching oral rehydration and implementing interventions for anemia and diarrhea. Greywoode said the goal is to make Project RAIN sustainable by giving vaccines and educating people on proper hygiene and breastfeeding.

The organization has raised about \$35,000 to purchase essential supplies such as vitamins, vaccines, antibiotics, bandages and more.

Greywoode's mother, Eudora Greywoode, said she is proud of her daughter and her ambitions.

"I am very happy for her. We don't tell them (the children) what to do, they choose based upon their interest. It's something she wants to do and she is successful at it," Mrs. Greywoode said. "I am very pleased she came up with a plan and was able to carry it out. It's a very good idea and very needed."

Greywoode said she feels blessed to be helping others. Her roots trace back to Africa. She was born in Nigeria in 1983, the second of five children. Greywoode's parents had left Sierra Leone before she and her siblings were born, uncomfortable with raising children in a climate that soon turned to civil war.

The family moved to Gainesville when Beryl was 5. Her father, Emile, focused on earning a doctorate in computer science at UF. It wasn't always easy. At one point in 1993, her family was homeless. But she said

she was always happy.

"I feel like we've come into our own. I'm grateful for all the trials and struggles," Greywoode said. "I'm thankful for the fact that I don't look at life and expect things. I take care of the things I have."

Greywoode vividly remembers the moment she knew she wanted to be a doctor.

"I was in fourth grade, and my mom was picking my friend Kristen and I up from school," Greywoode said. "A doctor had come to speak at our school. I remember ranting to Mom about healing all the people in the world."

Greywoode decided on pediatrics after her second year of medical school. She was speaking with Kendall Campbell, M.D., assistant dean of minority affairs, after one of his lectures.

"He said you don't pick a specialty, you are called to a path in medicine. I thought about it, and said it's always kids. I've been a camp counselor and a medical volunteer on the pediatric wards," Greywoode said.

Greywoode also volunteered at the UF Shands Eastside Community Practice with Campbell.

"She's an outstanding student, very compassionate," Campbell said. "She's very altruistic. She is a visionary in where she wants to see health care for patients go."

Greywoode credits her accomplishments to encouragement from friends and family, especially her parents' faith and character.

"We're an immigrant family, and it was a lot of hard work and sacrifice on behalf of my parents," Greywoode said. "There were times without jobs, times we were homeless. I am blessed to be able to give back to others." **P**

PHOTO BY MICHAEL PERRI



Providers treat more than 20,000 patients a year at the Christianville Medical Clinic. Malaria researcher Bernard Okech plans to collaborate with clinicians to research malaria drug resistance and to train local people in malaria screening and treatment.

PHOTO BY ANDREW KANE



Slande Celeste, an internship coordinator for the M.P.H. program, leads a community needs assessment with a group of parents. The group will develop health education programs for teachers, students and parents on topics such as good hygiene practices.

# Help for Haiti

## UF researchers begin public health projects in Haiti

By Jill Pease

**E**dsel Redden has been volunteering in Haiti for 20 years to assist in the production of protein-rich foods for young children. Today, 1,800 children a day receive farmed fish and eggs at the Christianville School in Gressier, Haiti.

But more work needs to be done, said Redden, director of the UF Institute of Food and Agricultural Sciences Putnam County Cooperative Extension Service.

“Public health programs to address issues like malaria, clean water and latrines are pretty much nonexistent,” Redden said. “I knew the expertise was here at UF to help us with these problems.”

Redden recruited faculty from the College of Public Health and Health Professions and the Interdisciplinary Family Health program to investigate potential public health projects during a trip to Haiti in April. Group members toured the Gressier area, conducted interviews with health professionals and led two community needs assessment groups with parents. The UF group then identified four project areas for future trips to Haiti: malaria detection and screening; clean water assessment; health education for teachers, parents and children; and health data tracking and basic medical care for children in a local orphanage.

With input from locals, the UF group named their initiative “Santé pou Lavi,” Creole for “Health for Life.” 



PHOTO BY ANDREW KANE

UF Santé pou Lavi team members (kneeling) Andrew Kane, a PPHP associate professor; (standing left to right) Michael G. Perri, PPHP's interim dean; Bernard Okech, a PPHP research assistant scientist; Edsel Redden; Gina Murray, educational coordinator for Interdisciplinary Family Health; Slande Celeste, public health internship coordinator; and Rhondda Waddell, associate director of Interdisciplinary Family Health.



# Lessons from a killer

Scientists discover how smallpox may derail immune system

By John Pastor

**U**F researchers have learned more about how smallpox conducts its deadly business — discoveries that may reveal as much about the human immune system as they do about one of the world's most feared pathogens.

In findings published recently in the online early edition of the *Proceedings of the National Academy of Sciences*, scientists describe how they looked at all of the proteins produced by the smallpox virus in concert with human proteins, and discovered one particular interaction that disables one of the body's first responders to injury — inflammation.

"This virus that has killed more humans than any other contains secrets about how the human immune system works," said Grant McFadden, Ph.D., a professor of molecular genetics and microbiology at the College of Medicine and a member of the UF Genetics Institute.

With researchers from the University of Alberta, the Centers for Disease Control and Prevention and a private company called Myriad Genetics, UF researchers for the first time systematically screened the smallpox proteome — the entire complement of new proteins produced by the virus — during

interactions with proteins from human DNA.

These protein-on-protein interactions resulted in a particularly devastating pairing between a viral protein called GIR and a human protein called human nuclear factor kappa-B1, which is believed to play a role in the growth and survival of both healthy cells and cancer cells by activating genes involved in immune responses and inflammation.

"One of the strategies of the virus is to inhibit inflammation pathways, and this interaction is an inhibitor of human inflammation such that we have never seen before," McFadden said. "This helps explain some of the mechanisms that contribute to smallpox pathogenesis. But another side of this is that inflammation can sometimes be harmful or deadly to people, and we may learn a way to inhibit more dangerous inflammation from this virus."

Smallpox is blamed for an estimated 300 million deaths in the 20th century, and outbreaks have occurred almost continuously for thousands of years. The disease was eradicated by a worldwide vaccination campaign, and the last case of smallpox in the United States was in 1949, according to the CDC. The last naturally occurring case in the world was in Somalia in 1977. **P**

# Probing the evolution of HIV-related dementia

By Czerne M. Reid

**T**hanks to the introduction of highly effective drugs, in the developed world an HIV or AIDS diagnosis is no longer the swift death sentence it once was. But although deaths rates have fallen drastically, there has been no corresponding decline in the rates of dementia associated with HIV.

Twenty-five to 30 percent of persons infected with HIV develop an aggressive Alzheimer's-like dementia even if they are taking anti-HIV drugs. Those figures are about the same as they were in the mid-1990s when highly active antiretroviral therapy, also known as HAART, was introduced.

Although HIV-associated dementia doesn't kill people, it can quickly impair those who have it. And with people with HIV living longer, the overall number with minor HIV-related cognitive impairment appears to be on the rise.

There is no effective therapy for HIV-associated dementia. But a UF evolutionary biologist is exploring the problem by investigating what genetic changes happen during HIV infection of the brain.

Marco Salemi, Ph.D., an assistant professor in the department of pathology,



MARCO SALEMI, PH.D.

immunology and laboratory medicine at the UF College of Medicine, has won a five-year, \$3.5 million grant from the National Institutes of Health to probe the genetic origins of HIV-associated dementia, using animal models and computational studies.

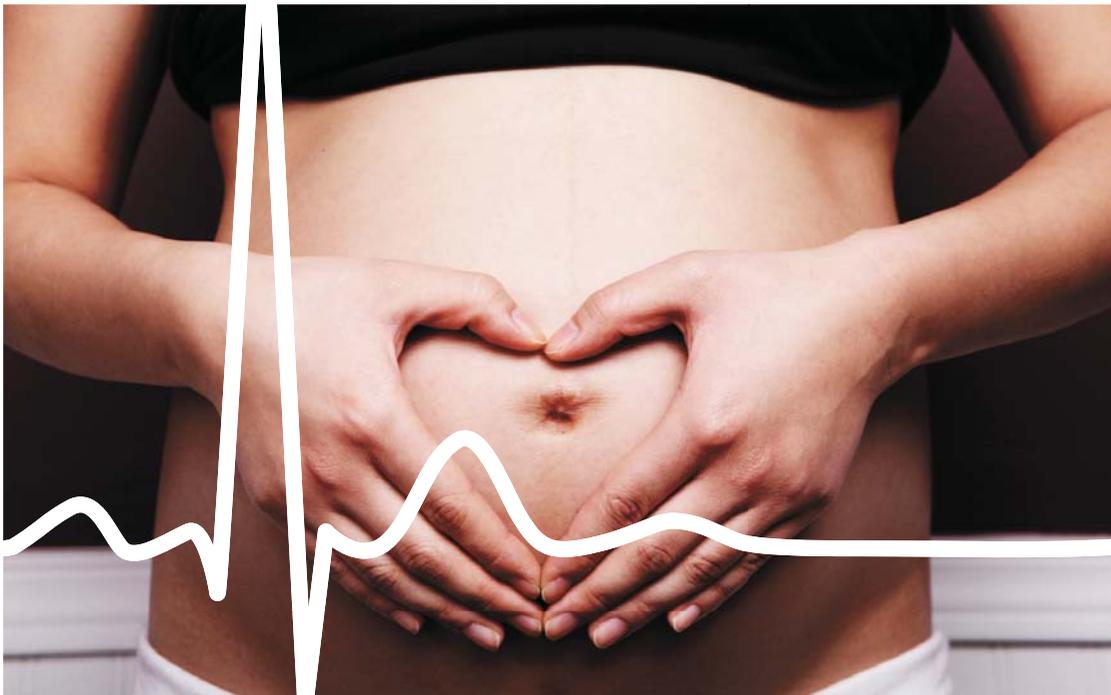
"It will give us the unprecedented opportunity to study the interaction between HIV and the brain and what causes dementia in HIV-infected people," Salemi said. "It definitely opens a new way of looking at HIV infection in the brain."

The research findings could ultimately lead to the development of new tools for diagnosis and treatment of HIV-associated dementia and other AIDS-related neurological disorders. They will also give insights into brain processes involving Alzheimer's disease.

The multidisciplinary effort is a collaboration between UF and Boston College researchers, including co-principal investigator Kenneth C. Williams, Ph.D. The team will include theoretical and experimental researchers in the fields of virology, neurobiology, computational biology and bioinformatics and computer-based analysis of DNA sequences.

The work is also a project of the Florida Center for AIDS Research, which, under the leadership of Maureen M. Goodenow, Ph.D., is working to gain designation from the National Institutes of Health as a center of excellence for HIV/AIDS research. **P**

# Getting to *the heart* of preeclampsia



By Czerne M. Reid

**P**regnancy-induced hypertension, which generally occurs in the third trimester of pregnancy, might have its roots in gene malfunction during placenta development in early pregnancy, according to new findings from UF and the University of Pittsburgh.

Kirk P. Conrad, M.D., a professor in the College of Medicine, and collaborators are the first to report altered expression levels in at least three dozen genes in the placenta as early as six months before the condition — also called preeclampsia — develops.

“Some of the affected gene products might be proteins secreted into the blood that could serve as first trimester biomarkers,” Conrad said. “Using these, we might soon be able to predict who will become preeclamptic.”

That would enhance research efforts and, in time, help to improve the care patients receive.

“This is an interesting observation, but ultimately we have to find out what those gene products do during the onset and progression of pregnancy,” said Nasser Chegini, Ph.D., a professor in the department of obstetrics and gynecology. “Comparing this information with gene profiles already obtained in other pregnancy complications might help us do that.”

The researchers hypothesize that during the first trimester in women destined to develop preeclampsia, gene malfunction prevents proper

placenta development, which is critical for adequate oxygen and nutrient supply to the fetus.

Preeclampsia’s cause is unknown, there are no preventive measures, and the only cure is to deliver the baby and placenta. It is a leading cause of maternal and fetal death in the United States. Mothers and children who survive it face increased risk of cardiovascular disease.

The condition occurs in 3 percent to 8 percent of all pregnancies, according to the American College of Obstetricians and Gynecologists and the National Institute of Child Health and Human Development.

“The socioeconomic impact of it is very high,” Chegini said, citing the millions spent on neonatal care of infants from preeclamptic or preterm labor patients.

Previous studies evaluated second- and third-trimester placental tissue collected after delivery. Because those studies were done after the onset of the condition, it has been difficult to distinguish cause from effect.

In the current study, however, placental tissue was obtained at a very early stage of pregnancy, and well

before delivery, so the results likely point to causes of preeclampsia and not effects of a disease that has already set in.

To examine the origins of the problem, Conrad’s group conducted a pilot study using placental tissue left over from prenatal genetic testing of 160 women, age 34 to 44, who were in their 10th to 12th week of pregnancy.

Four of the women went on to develop preeclampsia. Their tissues were compared with samples from women with normal pregnancies and no underlying medical disorders.

Analyses called DNA microarray studies were used to determine overall patterns of gene expression and potentially reveal links between underlying biological processes and clinical manifestations of disease.

Although fetal chromosomes were normal in number and appearance in the preeclamptic mothers, at least 36 genes in the placenta were expressed differently compared to normal pregnancies: Thirty-one genes had lower expression than normal, while five had higher expression.

Conrad, a member of UF’s Reproductive and Perinatal Biology Research Group, and colleagues had expected to see overexpression in genes involved in the body’s response to oxygen depletion or production of harmful “reactive oxygen species.” That’s because previous preeclampsia studies found indirect evidence for depleted oxygen levels in the placenta, as well as signs of so-called “oxidative stress” resulting from stoppage and restarting of blood flow. Those studies used placental tissue obtained after delivery.

But analysis of pre-delivery tissue from the end of the first trimester showed that genes involved in those processes were unaffected at that point.

“To me this is one of the most unexpected results because of current beliefs,” Conrad said, adding that the time sequence suggests that previously noted oxygen effects likely are later events — not primary causes — in the disease process.

The results, published recently in the journal *Placenta*, might not apply to younger women — those included in the study were at relatively advanced age, and therefore considered to have at-risk pregnancies.

The findings need to be corroborated by a larger study, but getting enough samples is a challenge.

“This study was a labor of love — it took us four or five years to get 160 samples, and we had to enroll 160 patients to get four that became preeclamptic,” Conrad said. “We couldn’t wait anymore.” **P**

# Promising findings for muscular dystrophy



By John Pastor

Researchers have cleared a safety hurdle in efforts to develop a gene therapy for a form of muscular dystrophy that disables patients by gradually weakening muscles near the hips and shoulders.



**BARRY BYRNE, M.D.**

Described as the first gene therapy trial in muscular dystrophy to demonstrate promising findings, researchers from UF, Nationwide Children's Hospital in Columbus, Ohio, and The Ohio State University report how they safely transferred a gene to produce a protein necessary for healthy muscle fiber growth into three teenagers with limb-girdle muscular dystrophy.

The findings, which have relevance to genetic disorders beyond muscular dystrophy as well as conditions in which muscles atrophy, were published online in April in the *Annals of Neurology*.

"We think this is an important milestone in establishing the successful use of gene therapy in muscular dystrophy," said Jerry Mendell, M.D., director of the Center for Gene Therapy in The Research Institute at Nationwide Children's Hospital and the lead author of the study. "This trial sets the stage for moving forward with treatment for this group of diseases and we are very pleased with these promising initial results. In subsequent steps we plan to deliver the gene through the circulation in hopes of reaching multiple muscles. We also want to extend the trials over longer time periods to be sure of the body's reaction."

Limb-girdle muscular dystrophy actually describes more than 19 disorders that occur because patients have a faulty alpha-sarcoglycan gene. In each of the disorders, the muscle fails to produce a protein essential for muscle fibers to thrive. It can occur in children or adults, and it causes their muscles to get weaker throughout their lifetimes.

The trial evaluated the safety of a modified adeno-associated virus — an apparently harmless virus known as AAV that already exists in most people —

as a vector to deliver the alpha-SG gene to muscle tissue.

"The safety data is accumulating because this is the same type of vector that we and other research groups have successfully used in gene therapy trials for other diseases," said Barry Byrne, M.D., a UF pediatric cardiologist who is a member of the UF Genetics Institute and director of the Powell Gene Therapy Center. "In this effort, although proof of safety was the main endpoint, the added benefit was that this was an effective gene transfer. Even though we were dealing with a small area of muscle, the effect was long-lasting, and that has never been observed before."

Research subjects received a dose of the gene on one side of the body and saline on the opposite side. Neither the researchers nor the patients knew which of the foot muscles received the actual treatment until the end of the experiment.

The volunteers were evaluated at set intervals through 180 days, and therapy effectiveness was measured by assessing alpha-SG protein expression in the muscle, which was four to five times higher than in the muscles that received only saline.

The volunteers encountered no adverse health events, and the transferred genes continued to produce the needed protein for at least six months after treatment.

In addition, scientists actually saw that muscle-fiber size increased in the treated areas, suggesting that it may be possible to combat the so-called "dystrophic process" that causes muscles to waste away during the course of the disease.

Beyond muscular dystrophy, the discovery shows muscle tissue can be an effective avenue to deliver therapeutic genes for a variety of muscle disorders, including some that are resistant to treatment, such as inclusion body myositis, and in conditions where muscle is atrophied, such as in cancer and aging.

"These exciting results demonstrate the feasibility of gene therapy to treat limb-girdle muscular dystrophy," said Jane Larkindale, portfolio director with Muscular Dystrophy Association Venture Philanthropy, a program that moves basic research into treatment development. "The lack of adverse events seen in this trial not only supports gene therapy for this disease, but it also supports such therapies for many other diseases."

The research was supported by the Muscular Dystrophy Association and the National Institutes of Health. **P**



# New look, new life

Trauma docs help woman rebuild life after shooting

Vickie Green-Smallwood was treated at Shands Jacksonville after suffering a gunshot wound.

By Kandra Albury

**O**n the morning of Feb. 2, 2007, Vickie Green-Smallwood, 43, was commuting to her office in downtown Jacksonville when a stray bullet hit her in the face.

“I didn’t know what was happening,” Green-Smallwood said. “The paramedics came and they rushed me to Shands.”

Green-Smallwood was taken to TraumaOne, Shands Jacksonville’s Level I Trauma Center, where a multidisciplinary team of UF physicians treated her. She woke up three weeks later after being in a drug-induced coma. She could barely remember what happened but realized that a huge portion of her lower jaw was missing.

One of the leading oral and maxillofacial surgeons in the region, Rui Fernandes, M.D., a UF College of Medicine-Jacksonville assistant professor of oral and maxillofacial surgery, took on the challenge of reconstructing Green-Smallwood’s jaw.

“She needed to have a new lower jaw made, as well as facial muscles and the inside of her mouth remade,” Fernandes said.

In May 2007, Fernandes transplanted some of Green-Smallwood’s lower leg bone, skin and muscle, along with an artery and veins, to rebuild her jaw. The procedure took about 10 hours.

“The surgery is very difficult and the technique is sensitive because of the detailed work needed to reconstruct the jaw and make it look like normal,” Fernandes said. “It’s the microvascular portion that is most challenging as it requires suturing with needles that are thinner than a human hair.”

## Behind the numbers: TraumaOne at Jacksonville

**30:** Counties in Florida and Georgia that TraumaOne at Shands Jacksonville serves

**2,392:** Admissions in 2008

**4,019:** Resuscitation volume for 2008

**53:** Average daily census at the Jacksonville trauma center

**Two:** Helicopters to transport patients in Florida and Georgia

**1,011:** Patients who are airlifted to Shands Jacksonville each year

Fernandes said after undergoing this major operation, she underwent a second for tooth implants.

Fernandes does this type of microvascular procedure often and is the only surgeon in North Florida currently able to perform it.

Green-Smallwood said she was concerned about how her face would look after the operation and whether there would be any noticeable scarring.

“People don’t notice my face — that’s just how good of a job he did,” Green-Smallwood said. “Dr. Fernandes is my hero. I will never forget him because he’s not only talented, but he is a kind and awesome doctor.”

Since the tragedy, Green-Smallwood said she’s hopeful and always looks forward to spending quality time with her 14-year-old daughter. Now, she plans to attend Florida Community College at Jacksonville to become a registered nurse.

“I would not have wanted another trauma center to treat me other than Shands Jacksonville, because they really took care of me,” Green-Smallwood said. **P**

## COLLEGE OF PHARMACY

### RHONDA COOPER-DEHOFF,

Pharm.D., M.S., an associate professor of pharmacy and medicine, is one of nine presenters out of 376 whose work was selected as a featured poster in May at the 2009 meeting of the American Society of Hypertension in San Francisco. The award honors scientific merit, research quality and creativity. Cooper-DeHoff's poster outlines a new mechanism for how blood sugar metabolism is disrupted by diuretic drugs — also called water pills — in patients with high blood pressure and metabolic syndrome.



Rhonda Cooper-DeHoff

### HENDRIK LUESCH, Ph.D.,

an assistant professor of medicinal chemistry, has been selected as one of 10 inaugural recipients of the Jack Wessel Excellence Awards for Assistant Professors. Wessel, a friend of UF, wished to recognize the research productivity of faculty members early in their academic careers. Each award is a one-time allocation of \$5,000 in support of research and can be used to fund travel, equipment, books, graduate students and other research-related expenses.



Hendrik Luesch

### GREG WELDER, Pharm.D.,

who graduated in May, and **WILL ROBERTSON**, a third-year pharmacy student, each received the American Society for Clinical Pharmacology and Therapeutics Presidential Trainee Award in March at the annual ASCPT meeting in Washington, D.C. Each student displayed a poster and gave a short presentation at the meeting. Welder received the award for the second time. His winning research abstract was "Atorvastatin reduces ENA-78 chemokine concentrations independent of LDL-C changes in a cardiovascular disease free population." Robertson also presented his research, "CXCL5/ENA-78 Genotype Progression to Death or Transplantation in Heart Failure Patients."



Greg Welder



Will Robertson

## PUBLIC HEALTH AND HEALTH PROFESSIONS

### WILLIAM MANN, Ph.D.,

O.T.R./L., a distinguished professor and chair of occupational therapy and director of the Ph.D. program in rehabilitation science, was the co-winner of this year's Institute for Learning in Retirement Outstanding Research Mentor award. Mann was recognized for his work mentoring graduate students with an emphasis on aging research and improving the quality of life for older adults.



William Mann

## COLLEGE OF MEDICINE

### PHILLIP BARKLEY, M.D.,

director of the Student Health Care Center, received the C. Arthur Sandeen Improving the Quality of Life Award, which honors individuals who have demonstrated a commitment to improving the quality of life for UF students. A committee composed of the student body president, the dean of students and Dr. Sandeen chose Barkley for the award.



Phillip Barkley

### ALEXANDER C. WAGENAAR,

Ph.D., a professor of epidemiology and health policy research, will receive the Society for Prevention Science's annual Prevention Science Award at the group's annual meeting in May. The award is given to recognize a researcher whose work has made significant contributions to prevention research. Wagenaar, a social epidemiologist, studies the ramifications of policy changes and other public interventions. He was also recently named associate director of a new Robert Wood Johnson Foundation-funded initiative. The project supports research that will examine legal and regulatory solutions to current public health issues such as infectious and chronic diseases, and health emergencies such as floods, bioterrorism and various health epidemics.



Alexander C. Wagenaar

### PETER R. NELSON, M.D.,

M.S., an assistant professor of surgery, will speak in May in Australia as the Association for Academic Surgery's international visiting professor. The professorship award is part of a leadership exchange program between the AAS and the Younger Fellows Committee of the Royal Australasian College of Surgeons. Nelson, a vascular surgeon, will give three talks in Australia and will moderate a research poster competition. His talks will focus on issues confronting the field of surgery, research program development and the important role of research in training future surgeons.



Peter R. Nelson

## JACKSONVILLE

### MICHAEL SUK, M.D., J.D.,

an assistant professor of orthopaedic surgery and chief of the division of orthopaedic trauma surgery, has been appointed by the Orthopaedic Trauma Association to serve on its Health Policy and Planning Committee through March 2012. Suk is also an associate program director for the orthopaedic surgery residency program at the UF College of Medicine—Jacksonville.

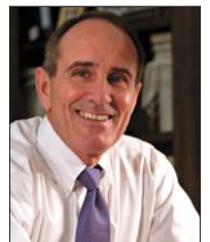


Michael Suk

## SENIOR VICE PRESIDENT, HEALTH AFFAIRS

### DOUGLAS J. BARRETT,

M.D., UF's senior vice president for health affairs, was recently named a member of the Institute of Medicine Committee to Review Vaccine Safety. Composed of experts from across the country, the committee is charged with reviewing evidence related to negative effects of certain vaccines, including the varicella zoster vaccine, influenza vaccines, the hepatitis B vaccine and the human papillomavirus vaccine. Barrett, a pediatrician who specializes in immunology, has served as senior vice president for health affairs since 2002. He is set to step down from this position later this year. He plans to resume teaching and practicing medicine and hopes to spend more time advocating for children's health services.



Douglas J. Barrett



Three students from the UF College of Veterinary Medicine have received financial awards from Gulfstream Park to further their equine studies. Established after the death of 2006 Kentucky Derby winner Barbaro, the award program is in its third year. Magna Entertainment Corp., which owns the park, provides \$12,500 in financial assistance and professional mentoring through the American Association of Equine Practitioners to two senior UF veterinary students committed to careers in equine medicine and surgery. Those scholarships are known as the Gulfstream Barbaro Awards, and this year's recipients are **Megan Lamb** and **Erica Rosen**. The park also provides \$5,000 through the Barbaro Research Award to a UF veterinary graduate student who is conducting equine research. This award went to **Astrid Grosche**, a board-certified internist in large animal medicine. Shown here (from left) are committee member Kas Willis, veterinary student Erica Rosen, jockey Kent Desormeaux, veterinary student Megan Lamb, committee member Jan Hansen, graduate student Astrid Grosche, and committee members Jeff Humke and Shirley Horn. (Photo courtesy of Gulfstream Park)

# The spirit of caring

Planetree winner Marcia Miller recognized for compassionate patient care

By Jessica Brandi

Physicians are trained to establish bedside manner, to be respectful and deliver diagnoses in a non-threatening way. But for some doctors, there are more personal ways to connect with patients.

“It’s usually a hand on their shoulder and listening — a very light touch, but there’s that connection that goes beyond words if it’s done in the appropriate manner,” said Marcia Miller, M.D., an assistant professor in the department of community health and family medicine.

Miller was the recipient of this year’s Planetree Spirit of Caring Award in recognition of her commitment to patients and her personal approach to medicine. In 1998, Shands AGH became the first hospital in Florida to affiliate with Planetree, a nonprofit organization committed to the development of patient-focused health care.

Miller said humanistic medicine means looking at everything that contributes to a person’s well-being, including their life stressors and family and spiritual needs in addition to their physical ailments.

“It’s about encompassing the whole person, not just their disease and their diseased state,” she said. “You can’t take care of a patient with that narrow focus.”

The Planetree philosophy focuses on human needs and taking a more holistic approach to medicine. Patients are given choices and are encouraged to be actively involved in their health care.

Department Chair R. Whit Curry Jr., M.D., said the Planetree model is incorporated into all aspects of a hospital from the staff’s attitude toward patients to the way the rooms are designed. Some of these touches can include the use of wood floors and warm colors over sterile white hospital tile and rehabilitating patients with art and music.



MARCIA MILLER, M.D.

PHOTO BY SARAH KEVEL

“It’s an attempt to make a hospital, a rather frightening environment, a more user-friendly place for patients, by making patients feel more at home and by encouraging more family involvement,” he said.

While empathizing with a patient’s condition and making them feel comfortable about treatment is important, Miller said that sometimes it’s “just the pleasantries” that make a difference, and it is equally important to laugh and connect with patients on a personal level.

“I saw a lady last night in the emergency room who I had taken care of three years ago. She walked in the door and said to me, ‘Hey girlfriend!’ It was just nice to elicit that response. She obviously remembered me, and it was a nice feeling,” she said.

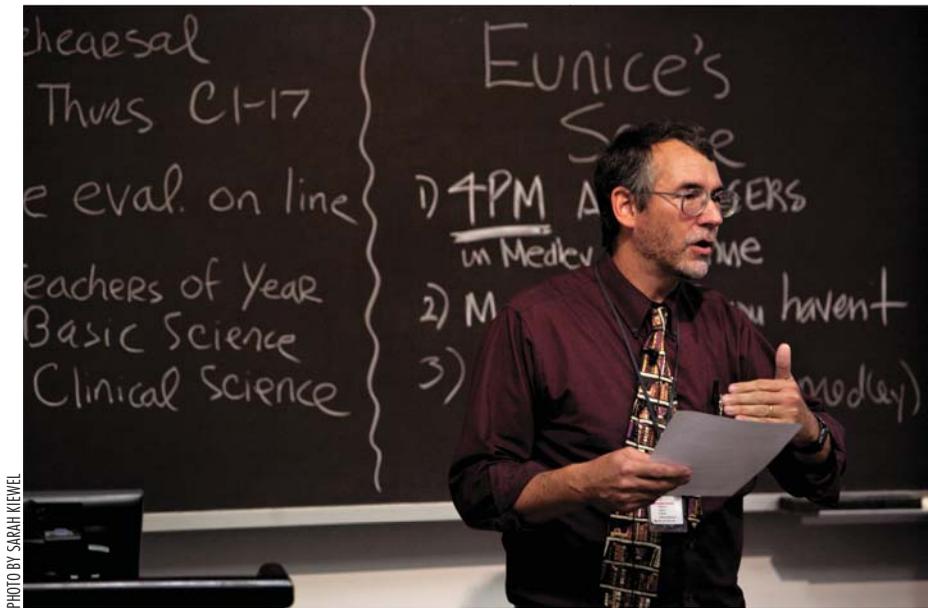
Miller said community health and family medicine allows her to establish continuing interactions with patients who come back to her over the years. She said she likes when patients give her updates about their jobs and families and share parts of their lives with her.

“You have these ongoing relationships, which you don’t really think of when you’re just doing hospital medicine, and it’s a nice way to still be involved with the patient, with their life,” she said. “You kind of go in and out, but that’s OK too.”

Curry said Miller stands out because she is consistently recognized as a gifted healer and an inspiring role model by students, staff and patients.

“What can I say about a doctor that sits on the bed next to you, holds your hand, shares M&M’s and lets you cry and calms your fears? Awesome!” a patient’s daughter said in a past evaluation. “I watched her soothe out all the wrinkles of worry in my mom’s face and leave her with smile lines.” **P**

SEE YA!



During the College of Medicine Class of 2009's "last lecture" May 8, Dr. Jay Lynch, a UF oncologist, read from several essays medical students had written about their experiences with patients. The lecture covered a range of topics, centering mostly around what it means to be a good doctor.



Shands at UF recently celebrated the grand opening of the Shands Children's Surgical Center at Ayers Medical Plaza. Dr. David Kays (left), the division chief of pediatric surgery, was one of several leaders who spoke at the grand opening.



Dr. Maureen Novak wears many hats in her roles as a pediatrician, the associate dean of medical education and in her home life. She explained this point by donning a hat during her talk at the College of Medicine Medical Education banquet in April.

# THE POST

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