

Devoted to noteworthy happenings at the medical school... To stay abreast of school news day by day, see www.health.pitt.edu

Extreme Research

With a sun that never set and temperatures as low as minus 27 degrees Fahrenheit, Bret Goodpaster, assistant professor of medicine, knew he wasn't in Pittsburgh anymore. He recently skied 120 miles to the South Pole as a researcher and participant in the NovoLog Ultimate Walk to Cure Diabetes. His research compared how the physiology of two men changed as they skied 700 Antarctic miles in two months. One man was Will Cross, the expedition leader and a Type 1 diabetic. The other was not diabetic. "Will had doctors tell him he was crazy for doing this," says Goodpaster, a PhD exercise physiologist at the School of Medicine. The descriptive study—along with Cross' successful completion of the trip—suggests that a Type 1 diabetic, with proper training and preparation, can accomplish astonishing physical feats in demanding conditions. His forthcoming paper, Goodpaster jokes, is best suited for the *Journal of Antarctica Research*. —*Star Zagofsky*



Why does someone with Type 1 diabetes ski to the South Pole? Because it's there.

FOOTNOTE

It's fine to have a song in your heart. But researchers at the University of Cincinnati say 98 percent of test subjects frequently got songs stuck in their heads for several hours. "Who Let the Dogs Out?" by the Baha Men was a frequent offender, Reuters reported. Researchers identified a common quality of the self-replicating tunes: "Stupid lyrics."

PITT DUO TO RECEIVE MOTT PRIZE

The General Motors Cancer Research Foundation will award a husband-and-wife Pitt team the Charles S. Mott Prize in recognition of their contributions to cancer research.

Patrick Moore and Yuan Chang are best known for their 1994 discovery of KSHV, the herpes virus that causes Kaposi's sarcoma, now one of the most common cancers worldwide. KSHV is an excellent study model, because it is a complete cancer-causing package in and of itself. "The virus carries all the genes that are required to cause a tumor in previously healthy cells," says Chang, a professor of pathology. By dissecting how KSHV works, the scientists hope to shed light on the pathways involved in the development of all types of cancer, notes Moore, a professor of molecular genetics and biochemistry.

"The Mott Prize may be the most prestigious award given worldwide for cancer research, short of the Nobel," says Arthur Levine, dean and senior vice chancellor for health sciences. —*Dottie Horn*



CRAIG THOMPSON

A&Q

with Beth Fischer and Michael Zigmond

Michael Zigmond, a professor of neurology and psychiatry, is known not only for his work in Parkinson's disease, but for his role as a "mentor's mentor." The PhD rejects a mind-set he has encountered among too many academics, a way of thinking, he says, that amounts to: "The way you train graduate students is you put them in a lab, you close the door, and five years later, you open the door, and there they are." Zigmond and Beth Fischer, an instructor in education, codirect the University's Program in Survival Skills and Ethics. They reach 500 Pitt graduate students each year—as well as academicians all over the world—with their workshops on skills essential to success in academia.

On the most crucial skill they teach

Fischer: "Oral communication. It's important because you need to be able to go out and give a seminar, but it's also how you present yourself, how you're going to network at meetings.

"Michael and I were at a meeting where we heard someone who had won the Nobel Prize give a lecture. ... We went up to him [a day or so later] and said, 'That was a wonderful talk.' I will never forget how he said, 'That was the most exciting moment of my scientific career. You can't believe what it was like to feel that you were connecting with 5,000 people.'"

On how much mentoring is valued in academia

Zigmond: "Faculty get together and talk about science reasonably often, but except in those cases where Beth and I have initiated it, I've never heard faculty members get together and talk about different mentoring strategies the way you might talk about different parenting strategies. ... A lot of faculty members don't realize that you can get, I would say, every bit as much satisfaction from having an impact on people through your mentoring as you can from making an important discovery."

A question for the world

Zigmond: "I would be interested to know, from those people who have left their formal training [at Pitt] and gone out into the 'real world,' what training do they wish we had provided so that they could do better?" ***—Interview by Dottie Horn***

FOR MORE INFORMATION: **www.pitt.edu/~survival**

Faculty Snapshots

Pitt scientists have used gene therapy to reduce cancer-related pain in mice with tumors. The therapy reduced guarding (the avoidance of using a limb) and limping in mice with a bone tumor in one leg. **David Fink**, professor of neurology and an MD, along with **Joseph Glorioso**, chair of the Department of Molecular Genetics and Biochemistry and a PhD, hope to begin testing the experimental treatment in humans within a year. The researchers created a vector, or gene-transport vehicle, by crippling the herpes virus that causes cold sores—a project under way for 10 years, notes Fink, who's chief of neurology at the VA Pittsburgh Healthcare System. The herpes virus has a unique quality that makes it useful for treating pain: When injected under the skin, it travels to nearby sensory neurons in the skin. The gene carried by the vector stimulates the nerve cells to produce proenkephalin, a pain-killing protein.

Children exposed to alcohol while in the uterus show effects of that exposure at age 14, according to a new paper by **Nancy Day**, professor of psychiatry, pediatrics, and epidemiology. "The most important finding was that there are effects of prenatal exposure to alcohol at such low doses—less than two drinks a week," says Day, a PhD whose ongoing $20 million study follows 500 mothers and children. Her results showed that children of women who drank during pregnancy were shorter, weighed less, and had smaller heads than children of mothers who did not drink while pregnant. (Head circumference is a measure of brain development.) The bottom line, according to Day: "Women should not drink during pregnancy, not any amount. They should stop drinking as soon as they know they're pregnant. Better yet, if they're planning on being pregnant, they should stop drinking then. Women aren't hearing that message loud and clear ... and they need to be."



Day

On November 19, **Peter Safar**, Distinguished Service Professor of Resuscitation Medicine, got a surprise. The next day, his colleagues told him, the First Annual Safar Symposium would be held at Pitt in his honor. At the day-long event, he saw many familiar faces—including Max Harry Weil, who initiated the specialty of critical care medicine with Safar. Tore Laerdal was there as well; his father created the first mannequins now widely used in resuscitation education. The annual event pays homage to Safar, who helped develop CPR. This spring, he received an honorary doctorate from the University during its honors convocation. *—DH*



Safar



Safari Pittsburgh

Imagine it's July, and a soon-to-be Pitt med student is about to move to Pittsburgh from Idaho. She's nervous, wondering what to expect from the next four years. Help arrives in the mail: *The Official Pitt Med Survival Guide*. It's a 108-page powerhouse. There's a detailed guide to Pittsburgh—including commentary on places to eat, drink, and have fun. There are practical tips for thriving during each step of med school—including how to prepare for the United States Medical Licensing Exam (a.k.a. the "Unsavory Sado-Masochistic Loathsome Experience"). Don't miss the 10 Laws of Remaining Happy and Fruitful at Pitt Med. (One pointer: "You'll go bananas if you study every minute of your free time.")

Funded by the Medical Alumni Association, the guide is mailed to incoming students each summer. "Before you come to Pittsburgh, the guide helps generate a lot of excitement," says second-year student Elena Balestreire, who edited the Class of '06 edition with classmate Sarah Harper. *—SZ*

THE HUMAN FIGURE, REVISITED

Ashish Mahajan (Class of '05) had a question: Is there a difference between ornamentation and cosmetic surgery? When Seattle-based sculptor Akio Takamori includes big hairstyles, flowing skirts, and traditional Japanese costumes in his work, is that different from when plastic surgery resident Sean Bidic sculpts a nose or tucks a tummy?

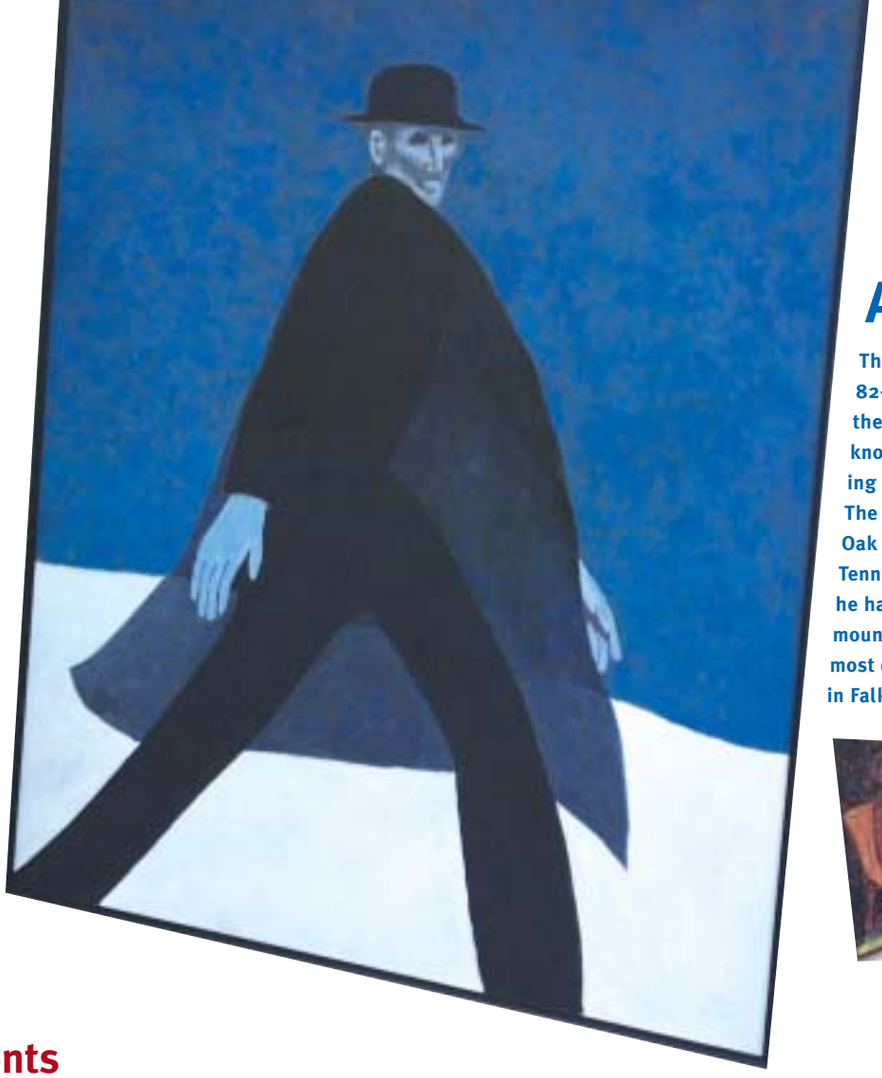
Bidic pointed out that many plastic surgery procedures are reversible. This made the line even fuzzier for Mahajan. There were few easy answers during this recent panel discussion, featuring Bidic; Takamori; Margaret Ragni, a professor of medicine; and Elisabeth Agro, an assistant curator at the Carnegie Museum of Art. Pitt med students attended the discussion on influencing the human figure as part of a pilot program. Modeled after classes offered at Yale and Cornell, the pilot aims to teach students about art while making them aware of how they observe and describe. According to a study published in the *Journal of the American Medical Association* in 2001, such efforts can help train medical students to observe patients more thoroughly. Jennifer Harris (Class of '05), Mahajan's partner in creating the program, believes the program also helps refine descriptive abilities. Last year, groups of med students delineated still-life paintings as part of a discussion on nature led by art historian Charles Pearo. *—SZ*

BREATHING SPACE

Children's Hospital of Pittsburgh has announced a change in plans for construction of its new $420 million hospital, ambulatory care center, and pediatric research facility. The structures were to be located on the already densely packed Oakland campus; now, they will occupy the site of the former St. Francis Medical Center in Lawrenceville. Less than a 10-minute drive from Oakland, the Lawrenceville campus includes an additional 9.5 acres, which means Children's can build a larger hospital now and expand in the future. Another advantage: A 230,000 square-foot facility on the new site will allow all of the hospital's pediatric researchers to be housed under one roof. The hospital, which should be completed by 2007, will be one of the first environmentally "green" hospitals in the United States. *—SZ*



RIGHT: ELENA CERRI. ABOVE: MICHAEL LOTENERO



A Painterly Life

Though he has sold dozens of his paintings, 82-year-old Ralph Kniseley (MD '43) laughs at the notion that he's a professional artist. And he knows a good source for cheap canvasses: "I'm painting over stuff I did 20 years ago rather than store it." The retired associate chair of the medical division of Oak Ridge Associated Universities, Kniseley lives in Tennessee. His vibrant paintings often depict places he has visited—crumbling Mayan ruins, an Idaho mountain, a Peruvian river. Forty-five of his paintings—most donated by the artist—are on permanent display in Falk Library and Scaife Hall. ***—SZ***



KNISELEY: TOM ALTANY

Appointments

Some things are better left alone.

Our DNA is damaged every day by normal living—that's in addition to any harm that hazardous radiation levels or chemicals might inflict. This isn't usually a cause for alarm, however, since our bodies employ tactics like base excision repair (BER), one of several ways cells repair DNA. BER takes place through a minimum of five steps: In the first step, for example, an enzyme removes the damaged base, leaving a hole in the genome. Yet, if the repair process is not completed—after any of the five known steps along the way—the outcome for the cell can be worse than if the damaged DNA had been left untouched. That's according to studies by **Robert Sobol**, a PhD assistant professor of pharmacology who came to Pitt recently from the National Institute of Environmental Health Sciences. "What we have discovered is that damage that's not repaired properly ends up causing a very, very severe problem," says Sobol. He seeks to understand how interruptions in BER can lead to tumors and cell death.



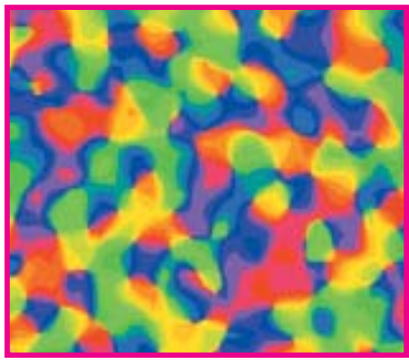
Sobol

THEY'RE IN

Pitt now boasts 15 faculty members elected to the Institute of Medicine. James Roberts and Karen Matthews are the latest on the school's faculty to be so honored.

Roberts, a professor of obstetrics, gynecology, and reproductive sciences and director of Magee-Womens Research Institute, is changing the way physicians view preeclampsia, which claims the lives of 50,000 expecting women in developing countries each year. Roberts helped show that the disease involves a profound abnormality of endothelial cells lining blood vessels. He heads a new clinical trial that will treat 10,000 women with vitamins C and E to see if the therapy is preventive.

Matthews, a professor of psychiatry, studies behavioral factors that put adolescents and postmenopausal women at risk for cardiovascular disease. She has shown that in teens higher physiologic responses to stress predict higher blood pressure later in life. Matthews tries to unravel which groups of adolescents are most physiologically reactive to everyday stressors. One finding: Children who grow up in families that are cohesive and warm (where family members care about each other overtly) are less reactive to stress than kids whose families are less so. ***—DH***



Do fMRIs tell us what we think they do?

When neural activity in one part of the brain increases, blood flow to that region also increases. Functional MRIs measure changes in blood flow, so scientists use them to study which parts of the brain are active when a person performs a particular task. But how accurate an indicator of neuronal activity is the technology? The relationship between activation of neurons and increased blood flow is not well-defined, notes Seong-Gi Kim. The professor of neurobiology came to Pitt last June from the University of Minnesota. A PhD chemist, he would like to improve current fMRI technology, develop new imaging methods, and better define the relationship between blood flow and neuronal activation. *—DH*

EXPECTING TEENS, UNEXPECTED PALS

BY MEGAN E. SOFILKA



MARTHA RIAL

When Marlana Jernigan (left) delivered Khaliya, med student Sandy Fernando was there.

Fourteen-year-old Marlana Jernigan was going to her prenatal appointments alone last year. Then she was asked if she would like a medical student to accompany her. Sure, whatever. She wasn't very interested in a stranger coming along. That's before she knew Sandy Fernando (Class of '05), a volunteer with the Pregnant Adolescents Learning with Students (PALS) program offered by the School of Medicine. Fernando was paired with Jernigan and met her less than two months before the teen was due to give birth.

"At first I didn't care if I had a PAL or not," says Jernigan, who turns 15 in May, a tall girl whose hair is pulled back in elaborate twists. "But then I was really happy when I met Sandy."

For the next several weeks, the two went to prenatal classes and doctor's appointments together. Fernando was there for support, but, if needed, could also serve as a bridge between physicians and the teen, explaining medical options and language. As the due date grew near, Fernando made sure Jernigan had her cellphone number, so that she could hurry to Magee-Womens Hospital as her PAL went into labor.

Fernando is one of the approximately 20 Pitt med students each year who volunteer with PALS. The program is designed to help pregnant teens lacking a strong support network. Sometimes, teens' families are too busy to accompany the girls to their doctor's visits, or they simply don't see the need to go. Often, the babies' fathers are uninvolved.

When it was time to deliver, Jernigan was happy to have Fernando by her side. The 11-hour birth included seven hours of cramping before the girl received pain relief. Fernando wheeled a television set up to the room so that the two could review birthing videos to help put Jernigan at ease. She also made a trip to the gift shop for hard candy, a treat for the mom-to-be.

After the birth of Khaliya in October, the two women kept in contact. Jernigan talked to the med student about her weight concerns. Fernando helped the teen understand different options for birth control, including side effects to expect. Meeting again for the first time in a few months, they hug and tell each other how great they look.

"Did you cut your hair?"

"Yeah! Do you like it?" replies the petite Fernando, whose short dark hair accents her large brown eyes.

"Yeah it looks nice! I just did mine the other day, too. All my friends have been asking me to style theirs, too!"

They speak as if they've known each other for years, as though most of their time together hasn't been while one was wearing a paper gown.

For Fernando, the program was a chance to help someone in a meaningful way and gain clinical exposure during her first year. "Delivery was the most interesting part," she says. "Besides the doctor, I was the only person who could actually see the progress of the birth. I could give Marlana feedback on what was helping in the process, such as what kinds of pushes helped."

And PALS has a new ambassador:

"I try to get all my friends to come here so they can have the same thing I had," says Jernigan. ■

FLASHBACK

In his 1927 book *Pioneer Medicine in Western Pennsylvania*, Theodore Diller wrote that late-18th-century doctors commonly had their apprentices care for the horses and stables, clean offices, shine shoes, chop wood, catch leeches, and, it was rumored, help "the doctor's good wife with the family washing." They also were expected to pull teeth and assist in surgery. The patients, who didn't have the benefit of anesthetics, probably weren't the only ones biting bullets.