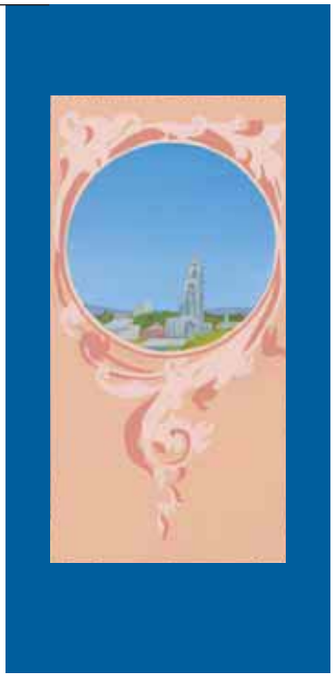


Devoted to noteworthy happenings at the medical school ... To stay abreast of school news day by day, see www.health.pitt.edu.



DINOSAUR: COURTESY CARNEGIE MUSEUMS OF PITTSBURGH. STARZL: COURTESY UPMC NEWS BUREAU.

EVOLVING OPPORTUNITIES

What would you do with an Egyptian mummy and a CT scanner? Or with 12,000 frozen mammalian tissue samples and some good DNA-sequencing equipment?

Students at the University of Pittsburgh School of Medicine will soon have the opportunity to find out. The school is adding four curators from the Carnegie Museum of Natural History as adjunct faculty. They are world-class specialists in vertebrate paleontology, mammalogy, and anthropology—Zhe-Xi Luo, John Wible, Sandra Olsen, and MacArthur Fellow K. Christopher Beard.

What does this have to do with medicine? It's all about giving students opportunities to become uniquely well-rounded doctors and scientists. Museum scientists are experts regarding the evolutionary perspective on life, building and maintaining collections that are vast records of life on earth. That means med students can look forward to novel seminars and courses that explore the intersection of evolution, anthropology, and medicine. The new appointments will also open the door to students who want to pursue scholarly projects in medicine and natural history.

—Chuck Staresinic

FOOTNOTE

Steelers fans who enjoyed Myron Cope's last year in the announcers' booth owe Michael Finikiotis (MD '89, Res '92) and Clark Rosen a "Double Yoi!" On his retirement, Cope acknowledged Finikiotis, who diagnosed and treated Cope for an arthritis-like condition, and Rosen, medical director of the Voice Center of Pitt's Eye & Ear Institute, who helped Cope regain his, um, distinctive voice after throat surgery.

Starzl Wins National Medal of Science

In November, Thomas Starzl, who is credited with establishing the field of transplantation medicine, was named one of eight recipients of the 2004 President's National Medal of Science, the nation's highest scientific honor. He says he was pleased to be one of 425 scientists so honored since 1962 and praised the colleagues and institution he says made his work possible. The fertile intellectual climate at Pitt, he reports, is unique and served to nurture his career.



Starzl

Starzl, 79, is a Distinguished Service Professor of Surgery in the University of Pittsburgh School of Medicine and director emeritus of the Thomas E. Starzl Transplantation Institute. He is the first President's Medal recipient with a primary appointment at Pitt. ***—Joe Miksch***



CAMI MESA

A&Q

With Men of Medicine and of the Church

Dennis Zerega (above) lays claim to "spirituality genes." His grandmother and aunt both served with the Holy Cross order. He became a teacher and, for 12 years, a Christian Brother. Eventually, he left the order and today is UPMC's vice president for graduate medical education and a member of St. Lawrence O'Toole Catholic Church in Garfield.

When Community of Christ minister Jeffrey Manuel (MD '05, not pictured) was a Pitt med student, classmates of various faiths turned out regularly to hear him preach. He downplays his popularity as "more of a novelty," but one of our informants reports his sermons helped students "think a little differently about [them]selves in relation to the world." Manuel began a family medicine internship at Saint Joseph Hospital in Denver last summer. When we spoke to him, he was looking forward to the end of a rigorous ICU rotation that kept his ministry on hold: "I work a lot of Sundays."

How faith influenced their careers

Manuel: A lot of medicine … doesn't take [spirituality] into consideration at all, yet most people consider themselves [spiritual]. So I guess I kind of went into medicine hoping to find a way to merge those two.

Zerega: [Living in a religious order] you're with extremely brilliant people [who are] committed to various kinds of clear goals. In the Christian Brothers it's all about education, and I always wanted to be an educator.

Whether medicine amplifies or diminishes faith

Zerega: I view it as another resource that individuals have to draw upon. I don't think any additional resources ever [diminish one's faith]. When you interact intensely and intimately with people, [things happen] that really call upon you to draw upon all resources.

Manuel: It definitely changes your view of God and your faith because you are dealing so much with life and death. [Seeing] how the body works … might take away some of your earlier notions. … If you don't just focus on the scientific aspects but [also] look at the broader connection that you have with the patients and the patients have with … others in their own faith, I think it definitely gives you a deeper understanding.

Their question for us

How does your spirituality or sense of meaning affect your interactions with patients and how can it have a bigger effect on that? ***–Interview by Elaine Vitone***

Go to http://pittmed.health.pitt.edu for more interview excerpts.

Faculty Snapshots

Do not expect to see rats lounging on beanbag chairs and eating Doritos in Michael Chancellor's lab. Chancellor's team injected a THC derivative (THC is the primary active component in marijuana) into these rodents. The derivative was first modified so that it wouldn't cross the blood/brain barrier and cause the rats to, well, get high. Nevertheless, what good can come of introducing modified pot to rats?

Chancellor, an MD and University of Pittsburgh professor of urology and director of neurourology and female urology, is investigating the efficacy of a THC-derived drug called IP 751 to reduce bladder pain. In the case of Chancellor's rats, bladder pain is induced via a diluted acid. The rats, much like people suffering from hypersensitive bladder disorders, urinate frequently to relieve the discomfort.



Chancellor

IP 751 works on receptors that block pain. Chancellor's study shows the rats' pain was relieved, and they returned to a normal urination schedule when administered the drug. If all goes well in clinical trials scheduled for later this year, Chancellor says, it's possible that some form of the drug will be on the market by 2009.



Kirkwood

Changing the way doctors treat the deadliest of skin cancers ought to get a fellow an award. John Kirkwood, professor of medicine and dermatology and director of the University of Pittsburgh Cancer Institute's melanoma program, was recently recognized with two. Both the European Society of Cytokine Research and the Melanoma Research Foundation honored the MD for uncovering the ability of interferon alpha to prevent relapse in and prolong survival of melanoma patients. The drug is now used by cancer centers around the country; with surgery, it can reduce relapse incidence by one-third, he says.

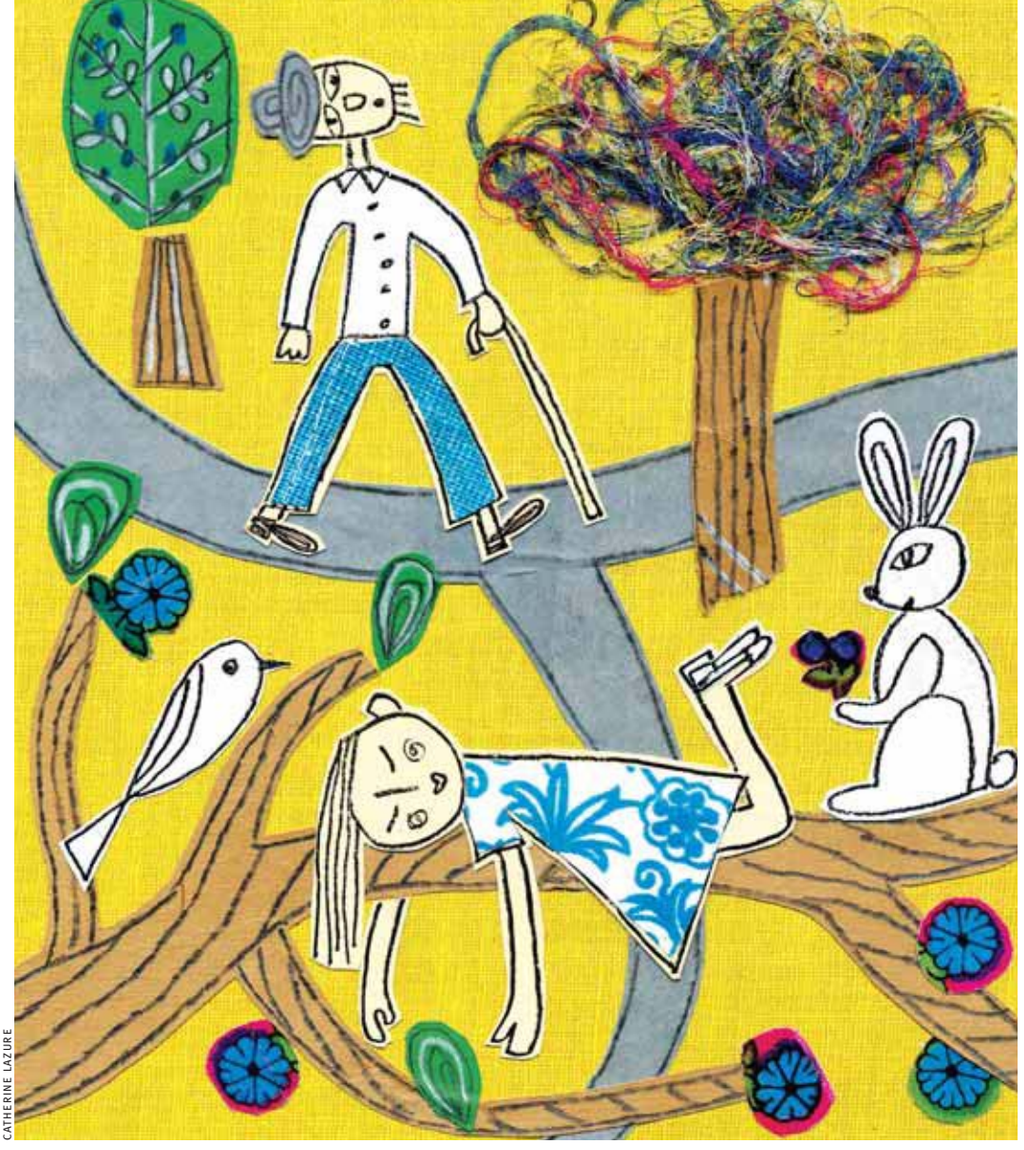


Kaye

"The whole melanoma and skin cancer center should share in the pride of this recognition," says Kirkwood.

The brain of an anorexic patient responds curiously to the chemicals it produces. Walter Kaye—an MD, director of research in Pitt's eating disorders program, and professor of psychiatry—correlated increased serotonin levels in the brains of anorexic patients with increased harm avoidance and anxiety (factors that trigger anorexia). Anorexic patients, Kaye has found, are also likely to have higher than usual dopamine receptor activity. A greater sensitivity to dopamine, which is associated with food, may account for why many of these patients feel full after having very little to eat, Kaye contends. *—JM*

As Minds Wander



CATHERINE LAZURE

Back in school, did you ever gaze out the window, waiting for the minutes to pass, not thinking about much in particular? The areas of the brain active as young adults daydream the minutes away—a process called the "default state" of cognition—are also the first to succumb to Alzheimer's disease, according to a recent study published in the *Journal of Neuroscience*.

This default state is defined as any time the brain is not engaged in a specific task—when we daydream, muse, or recall pleasant times, for example. Researchers hypothesize that somehow early default patterns contribute to metabolic changes over time that lead to Alzheimer's. They speculate that memory networks are also modulated as young adults let their minds wander.

The study relied on an experimental dye developed at Pitt. The dye, known as Pittsburgh Compound B (PIB), is the brainchild of Pitt coauthors William Klunk, an MD/PhD, director of psychiatry in the Alzheimer Disease Research Center, and associate professor of psychiatry, and Chester Mathis, a PhD professor of radiology and pharmaceutical sciences as well as director of the PET facility. It was one of five techniques used in the study. PIB PET scans helped reveal sites of the characteristic amyloid plaque associated with Alzheimer's. The dye can be used in living research subjects. Until the advent of the dye, the plaque could not be identified without an autopsy.

The paper's lead author, Randy Buckner of Washington University in St. Louis, says that PIB not only contributed to this recent study, it's likely to change the Alzheimer's research landscape.

"The development of Pittsburgh Compound B was really a watershed event for Alzheimer's research and human imaging," Buckner says. "We were waiting for it. We didn't know where it would come from, and Klunk and Mathis' team did it." *—Sharon Tregaskis*

FLASHBACK

Eben Byers, Pittsburgh industrialist, ladies' man, socialite, 1907 U.S. Amateur Golf Champion, and expert trapshooter, injured himself on a party train returning from a 1928 Harvard-Yale football game. Pittsburgh physician C.C. Moyar prescribed Radithor, a supposedly therapeutic radium-infused drink. Byers liked it. Felt great. So much so that he drank three bottles a day for two years. He quit his Radithor habit after his bones began to disintegrate. Byers died in 1932. (Note: Moyar was not a Pitt med grad.)



MICHAEL LOTENERO

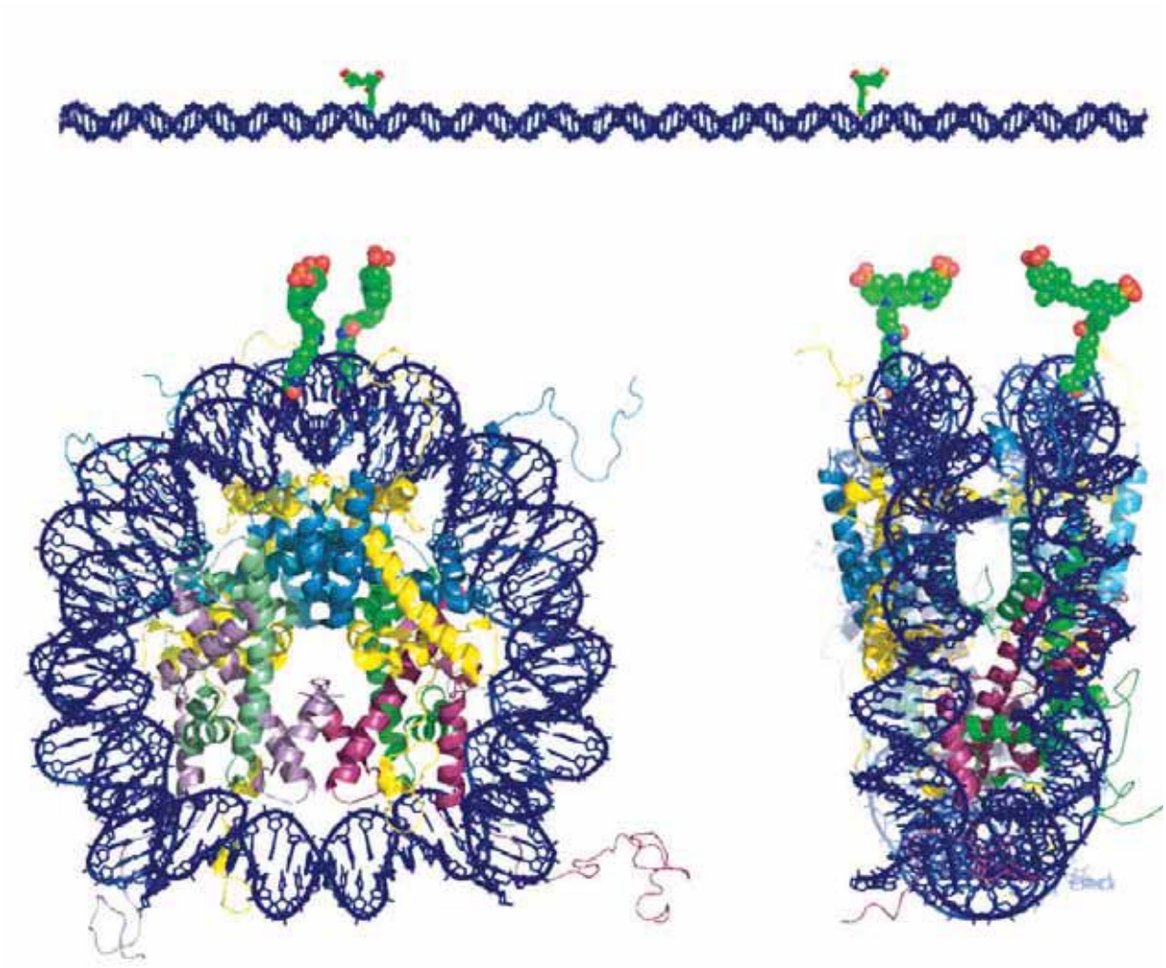
WHOSE LIVER IS IT, ANYWAY?

Linda Boig, not in nurse's clothing, but rather in a black dress and a short jacket, still can't help but ask her former patient a nurse's question: "You haven't gone back to smoking, have you?"

"Never!" says Joan Brown, turning to her daughter, Tonya Moore, and patting her on the knee. "I wouldn't do that to your liver." The three laugh—Boig, a Pitt nursing grad, coordinated last year's surgery in which Moore donated 60 percent of her liver to her mother.

The trio is surrounded by 300 others, brought together by UPMC's first Living Donor Appreciation Dinner for liver and kidney donations. After a three-hour drive from Clearfield, Pa., to the Westin Convention Center Pittsburgh, Brown and Moore begin many introductions with, "Are you the donor or the recipient?"

In 2004, Brown's internal bleeding necessitated emergency air transport to UPMC. Diagnosed with primary biliary cirrhosis, she needed a liver transplant to survive. Brown looked toward her only daughter—a perfect match. Like the others at the autumn dinner, Moore and Brown had their surgeries at the Thomas E. Starzl Transplantation Institute, which performs more living donor liver transplants than any other center in the country. — *Sarah Z. Wexler*



JOEL HARP, VANDERBILT UNIVERSITY

UNWOUND

DNA molecules wrap tightly around a histone core, creating a nucleosome. So how do other proteins squeeze in there and interact with the DNA? We asked Pitt assistant professor of cell biology and physiology Sanford Leuba. He discovered that, on occasion, DNA briefly unravels from the core and stays unfurled in durations long enough for RNA transcription and DNA repair to take place. Leuba and his team were the first to provide direct evidence of these alterations in nucleosome structure. TOP: A DNA molecule, unwrapped. BOTTOM: Frontal and side views of a nucleosome. —*JM*

Appointments



Phillips

Mary Phillips wants to know what's happening in the brains of patients who have difficulty regulating their emotions. Using functional magnetic resonance imaging, Phillips explores abnormalities in brain systems of people with conditions such as bipolar disorder, obsessive-compulsive disorder, and depression. She hopes to improve prevention, diagnosis, and treatment. Phillips, an MD, joined the University of Pittsburgh School of Medicine in July as a professor of psychiatry. She directs the Western Psychiatric Institute and Clinic's functional neuroimaging program. Phillips comes to Pitt from the Institute of Psychiatry in London.

After two decades at the University of Alabama at Birmingham, where he most recently served as a professor of anesthesiology and biochemistry, **Bruce Freeman** signs on at Pitt as professor and chair of the Department of Pharmacology. Freeman, a PhD, is noted for his research on nitric oxide, which, among other things, accelerates tissue inflammation in diseases such as arthritis, hypertension, and atherosclerosis through contact with oxidants and free radicals. His team is studying nitrated fatty acids, signaling molecules created through a reaction between fatty acids and nitric oxide derivatives, which appear to weaken inflammatory processes. Freeman hopes to create synthetic versions to treat conditions such as cardiovascular disease, diabetes, and metabolic syndrome.



Freeman

James Luketich, professor of surgery, is the new chief of the Heart, Lung, and Esophageal Surgery Institute, which combines all cardiothoracic surgery departments at UPMC. Luketich says the integration will allow for better education, training, research, and clinical care. Luketich, an MD known for his advances in minimally invasive surgical as well as nonsurgical treatments of esophageal and lung cancer, has been a faculty member at Pitt for 10 years, most recently serving as head of thoracic surgery. He has also been named the Sampson Family Endowed Professor in Thoracic Surgical Oncology (see p. 33). —*Erin N. Lawley*



Luketich