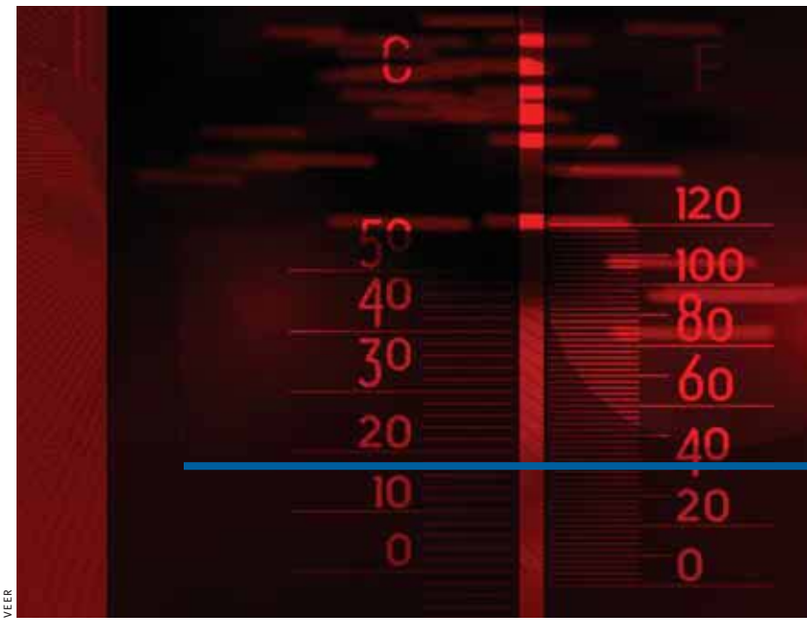


Devoted to noteworthy happenings at the medical school ... To stay abreast of school news day by day, see http://pittmed.health.pitt.edu

Chill, Repair, Rewarm, Revive

Years ago, Peter Safar, the late University of Pittsburgh Distinguished Service Professor, decided that the only way to save the lives of some trauma victims would be to "preserve" them until surgeons could repair their wounds. By flushing the circulatory system with cold saline solution, he found lab animals could go as long as two hours without breath or pulse, then be revived, astonishingly, with no neurological damage. Now, Safar's protégés Samuel Tisherman (MD '85, Res '93, Fel '94), associate professor of surgery and critical care medicine, and Patrick Kochanek, professor of critical care medicine and director of the Safar Center for Resuscitation Research, have extended this time to three hours by adding glucose and oxygen to the saline solution. Tisherman is working toward a clinical trial to test the approach and hopes the therapy will soon be applied to save the life of a patient. That person is likely to be a gunshot victim who loses too much blood and slips into cardiac arrest around the time of arrival to the emergency department. If all goes as planned, the patient will be chilled, surgically repaired in one to three hours, then slowly rewarmed to recover from a traumatic insult that otherwise would have been fatal.

—Chuck Staresinic



VEER

FLASHBACK

"People in the Graduate School still talk about the time in 1953 when such a heavy snow fell that the city was virtually at a standstill; classes were cancelled and driving was impossible. [Vice Chancellor for the Schools of the Health Professions] Dr. [Francis Sargent] Cheever snowshoed himself from his home in Point Breeze to the animal labs ... and fed the animals."

—*Pitt Physician*, spring 1971 issue

PITT RANKS SEVENTH IN NIH FUNDING

The latest data from the National Institutes of Health show that the University of Pittsburgh and its affiliates were awarded $396 million in NIH grants for the 2004 fiscal year, making Pitt the seventh-highest-ranked university in the United States for the agency's funding. (Pitt was ranked eighth the year before.) The funding is largely driven by the work of medical school faculty.

That's good news for the whole Pitt med body—not just its research arm—says Arthur S. Levine, senior vice chancellor for the Health Sciences and dean of the School of Medicine.

"There are no objective, nationally competitive, peer-reviewed benchmarks that measure the strength of the faculty or the quality of patient care," says Levine. "But no institution ranked this highly in research support does not also have a strong faculty, a strong student body, and an excellent track record of providing quality patient care." *—Elaine Vitone*



CAMI MESA

A&Q

With Gene-Therapy Point Man Joseph Glorioso

During the pretrial days of hype and promise in the early '90s, it seemed that gene therapy would quickly become the new cure for every genetic disorder imaginable. A decade of lackluster clinical trials then quieted enthusiasm, and the death of a participant in a study at the University of Pennsylvania in 1999 raised concerns that the risks of gene therapy might outweigh its potential benefits. Two years ago, two Severe Combined Immunodeficiency (SCID) patients in France developed leukemia as a result of a study, overshadowing the study's treatment successes. Yet, to date, 17 SCID patients—who otherwise would've likely died young—are now cured, living normal lives, attending school.

It's a familiar tale of public opinion on a pendulum. But Joseph Glorioso (above), director of Pitt's Molecular Medicine Institute and chair of the Department of Molecular Genetics and Biochemistry, remains optimistic, quick to tell you that new treatments have always taken a slow, uphill climb. The PhD researcher says that, historically, new treatments have been made possible by key breakthroughs in technology. For transplantation, it was immunosuppressants. In the case of gene therapy, he says the next step will likely be an advancement in engineering vectors: "Genes already know what to do, but the problem is how to get them there."

On media scrutiny of gene therapy

Why would the press be so eager to emphasize two or three cases of leukemia and ignore all the [SCID patients] who are back in school?

On the future of gene therapy

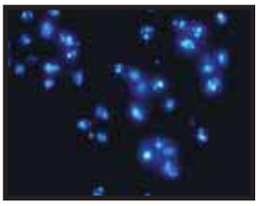
Most new medical treatments that require new technology generally take 20 to 30 years to develop. We're kind of midway now. ... Gene therapy will become, I think, standard practice. We're just in the process of seeing the first successes, and I think we have a long way to go to make it generally available.

His question for the world

What are people's expectations? If they expect gene therapy to be a treatment for a broad spectrum of problems in the near term, that's not gonna happen. But I think that if they ask the question, "What diseases will be treatable by gene therapy in the next 10 years?" I can give them some reasonable guesses: arthritis, diseases that result from nerve degeneration, certain problems related to heart disease, and some forms of cancer.

–Interview by Elaine Vitone

Faculty Snapshots



Learning how NSAIDs work against colorectal cancer.

How do anti-inflammatories like Suldinac work against colorectal cancer? Non-steroidal anti-inflammatory drugs (NSAIDs) are effective at warding off colorectal cancer. But they're nothing without certain genes.

Lin Zhang, assistant professor of pharmacology, and his team of researchers have identified two genes, BAX, and, more recently, SMAC, which are integral to programmed cell death and play a significant role in the effectiveness of NSAIDs as chemopreventive agents.

Without these genes, the cell-death inducing properties of NSAIDs are thwarted.



Wood



Seki

There's this enzyme that's, well, a bit promiscuous. Richard Wood, the Richard Cyert Chair of Molecular Oncology, and Mineaki Seki, research associate in the basic research division at the University of Pittsburgh Cancer Institute, recently discovered polymerase-Q. During DNA replication, this saucy little number will plant base A opposite wherever bases are missing. It does so to keep the process going and the cell alive. Which is nice. Yet the enzyme is indiscriminate. It'll just plop that A wherever it sees the need, regardless of which base belongs in the chain. And it doesn't stop there. Polymerase-Q goes back and adds a second base next to the first, creating the illusion that all is normal in the chain. Eventually, these stopgap errors are fixed by other DNA repair mechanisms. Sorting out how that happens is the next step of investigation for Wood and Seki and could have implications for cancer treatments.

COURTESY KENYON

Membership nominations are in for the School of Medicine's new Academy of Master Educators. A rigorous peer-review process continues this fall, after which the School of Medicine will announce the inaugural members. About 50 of the 800 faculty members who teach students in the School of Medicine will receive the honor.

The program recognizes those who have contributed to the medical program in innovative ways as teachers, mentors, researchers, and leaders. The names of those honored will be made available at http://pittmed.health.pitt.edu. — *Joe Miksch*

Dreams and Good Care

The stethoscope around Diego Chaves-Gnecco's collar waggles as he weaves among 13 people crowded inside a mobile clinic on Pittsburgh's South Side. Some are physicians, nurses, and pharmacists volunteering their time at Salud Para Niños (Health for Children). Others are patients and their parents. Josue, 2, clings to his mother, Estela Mendoza. His wide eyes peer over her shoulder. He waves a toy taxi at his sister, Fernanda, 8, who is taking a vision test. When a nurse tries to get Josue's temperature—he has been running a mild fever all week—he cries. Chaves-Gnecco jumps in, exclaiming, "*Mira! Mira!*" ("Look! Look!") snapping the cord holding his name tag until Josue laughs.

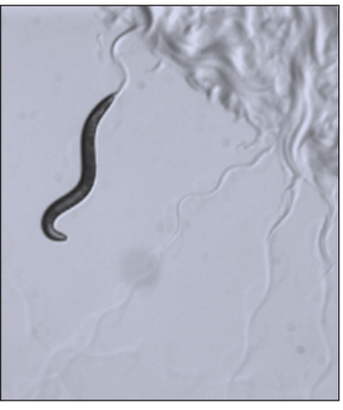
Chaves-Gnecco (Res '04), a native of Colombia, is a child development and behavioral pediatrics fellow at Children's Hospital of Pittsburgh. In 2002, he created Salud Para Niños in the form of a bilingual clinic at the hospital. Since last year, the program has included the free mobile clinic. Mendoza's family is part of Pittsburgh's growing Hispanic community. Her shirt says DREAM in big purple letters; she and her husband dreamt of leaving Mexico City for America five years ago. Here at Salud, her kids receive free health care, discounted prescriptions, and referrals to no-charge dentists and optometrists.

Chaves-Gnecco started the program after recognizing that Pittsburgh's youngest Hispanic residents might not be getting proper care because of insurance, language, and cultural issues. He points to a baby's shakira, a beaded bracelet for warding off bad luck. A doctor who doesn't understand the belief may worry about the baby choking and cut the bracelet off—and the mother likely won't return. Chaves-Gnecco would rather caution the parent about the hazard and suggest the baby wear the bracelet on his ankle, reducing the risk while respecting the family's beliefs. But he barely has time to explain this—Josue is crying again, and the doctor runs to soothe him with a book and a stuffed bear. ***—Sarah Zoe Wexler***



CAMI MESA

Fernanda and Josue at the Salud Para Niños mobile clinic.



LONG LIVE WORMS

It appears that Cynthia Kenyon is well on her way to creating the Methuselah of worms.

Kenyon, the American Cancer Society Professor of Biochemistry and Biophysics at the University of California, San Francisco, visited the University of Pittsburgh in October to give the Mellon Lecture during Science 2005, the University's annual celebration of science and technology. Her talk—"From Worms to Mammals: The Hormonal Regulation of the Lifespan."

For years, Kenyon has worked with *Caenorhabditis elegans* (shown left), a tiny translucent roundworm. She discovered that by disabling a gene that controls the insulin receptor system, the worm could live more than a month, about two times its normal lifespan. Her lab is looking into whether the process works the same way in mice.

While visiting Pitt, Kenyon talked with a slew of Pitt scientists, including DNA-repair researcher Laura Niedernhofer, who studies premature aging in mouse models. The beauty of these chats, says Niedernhofer, is that "you learn what the next hypothesis is and where people are headed, which is years ahead of what comes out in the literature." ***—JM & CS***

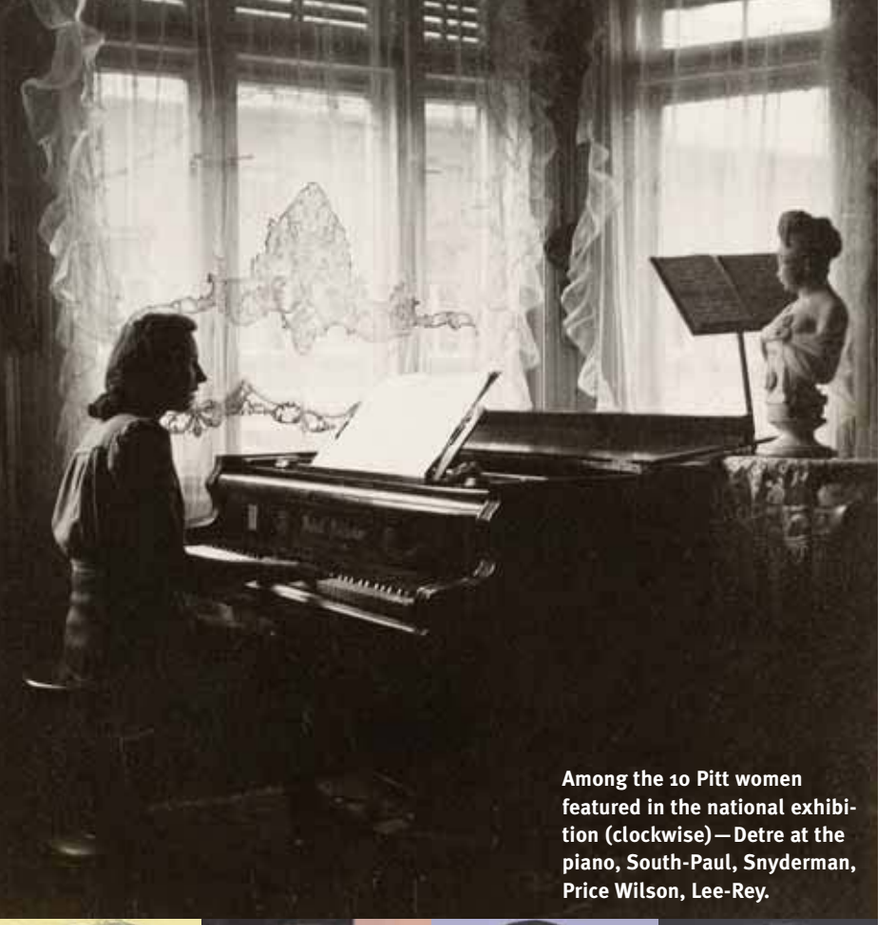
CHEAT SHEET ON THE CLASS OF '09

Allow us to introduce the Class of '09. Their average MCAT score—at 11.3—is the highest of any entering Pitt med class yet. But we don't want you to think they keep their heads buried in books. Like most Pitt med students, they are well-rounded as well as bright. Here's a cheat sheet so you can get to know a few of them: For starters, an awful lot of them studied music seriously. Yvonne Lai and William Wang both performed at Carnegie Hall; Sami Makaroun played the piano in duets with his sister; and Daniel Roh, who taught English in South Korea on a Fulbright, plays several instruments.

Hiwot Woldu was born in Ethiopia. Reginald Anunobi in Nigeria. Dahmi Lee was born in Korea, then raised her brother by herself in the United States after moving here at the age of 13. Dalia Balsamo lived with her grandparents in Paris until she was 12; then she joined her mother in Iran. Daniel Henning organized a deafness-screening program for children in Mexico, and Meredith Dixon and Sapan Ambani both did AIDS work in Africa.

Ian Bledsoe used to play his violin for Alzheimer's patients in a nursing home; his inspiration comes from his father, who cares for people dealing with homelessness, alcoholism, or mental illness. Sun Ahn says she is interested in "healing the whole body" after having served as a Bible-study teacher and pianist for her dad's parish. Neilly Buckalew is a trained doula. Phillip Chaffin was a Mormon missionary in Belgium (he also has recorded a CD with a band that plays ska, a precursor to reggae). And Scott Barr studied in a Vermont monastery for a year but chose to become a doctor instead of a monk. Jeffrey Walch studied architecture, and Jared Bieniek, biomedical engineering. Max Rohrbaugh is trained as a luthier, or stringed-instrument craftsman.

Wait till you see the talent show. *—EV*



Among the 10 Pitt women featured in the national exhibition (clockwise)—Detre at the piano, South-Paul, Snyderman, Price Wilson, Lee-Rey.



COURTESY NATIONAL LIBARY OF MEDICINE

HEAR THEM ROAR

By 1912, it had been three years since women were admitted to the Western Pennsylvania Medical College (what is now Pitt's School of Medicine). Women and men studying the healing arts together? Looking at exposed body parts while in each other's company? How embarrassing, the administration thought. That year, organizer of the local Women's Medical Society, Amelia Dranga (MD '10) weighed in on the issue, telling the *Pittsburgh Press*, "Bosh!" The administration subsequently saw things Dranga's way.

Evidence of such was seen at the Falk Library Aug. 24 through Oct. 14. Falk was the first of 61 stops for "Changing the Face of Medicine," an exhibition presented by the National Library of Medicine and others that recognizes the accomplishments of women who are physicians.

Ten of the 350 women featured have a lineage that includes Pitt: Katherine Detre of Pitt's Graduate School of Public Health is internationally recognized for her research on coronary artery disease and diabetes. Jeannette South-Paul (MD '79) chairs Pitt's Department of Family Medicine. A former army physician, she is probably the first African American woman to permanently run a department in an American medical school. Marjorie Price Wilson (MD '49) served as senior associate dean at the University of Maryland School of Medicine in Baltimore before her death in 1997. She was one of the first women to achieve such a high academic post. Elizabeth Theresa Lee-Rey (MD '90), of the Albert Einstein College of Medicine, codirects New York's Hispanic Center of Excellence. Roz Diane Lasker (MD '76) founded the Center for the Advancement of Collaborative Strategies in Health at the New York Academy of Medicine. Catherine DeAngelis (MD '69) is the first woman to edit the *Journal of the American Medical Association*. Surgeon Nancy Snyderman (Res '83) was a health correspondent for ABC for 15 years. Diane Gail Snustad, former Pitt med faculty member, is medical director of the University of Virginia Geriatric Clinic. June Osborn, former Pitt postdoc, was dean of the University of Michigan School of Public Health. And Nunzia Bettinsoli Giuse served as a medical informatics consultant at Pitt from 1985–1994; that work made her an authority in her field.
—Nita Chawla and Joe Miksch

Appointments



Lakkis

Ignorance is more than bliss. **Fadi Lakkis**, the new scientific director of Pitt's Thomas E. Starzl Transplantation Institute, believes that it may also be a key player in the future of organ transplantation.

Immune ignorance is what happens when a given microbe fails to reach the lymphocytes. In this context, the immune system fails to "see" the microbe so it doesn't "know" that it might respond. Lakkis has studied the complementary role that natural occurrences of immune ignorance and transplant tolerance—the body's acceptance of transplanted organs in the absence of immunosuppressants—have played in successful transplantations. He imagines that in the future, scientists will be able to encourage tolerance and ignorance for the benefit of transplant patients. Lakkis, former director of transplant medicine and associate professor of medicine and immunology at Yale University, was drawn to Pitt because of his interest in conducting both fundamental and clinical research to discover more about what triggers rejection. (Most other transplantation research institutions focus on one or the other, he says, not both.)

Jonas Johnson, a faculty member in Pitt's otolaryngology department since 1979 and vice chair of otolaryngology since 1982, has been named the department's new chair. He is the editor of *The Laryngoscope*—the most prestigious ear, nose, and throat journal in the country—as well as the principal investigator for a study supported by a federal Specialized Program of Research Excellence grant that seeks to develop a vaccine for cancer of the head and neck. Johnson succeeds Eugene Myers, who led the department to its stature as one of the best in the country. Myers will remain at Pitt as a clinician, faculty member, and adviser to mentees like Johnson.



Johnson

George Gittes, formerly of the University of Missouri–Kansas City School of Medicine, joins the pediatric surgery division as its new chief. The Society of University Surgeons has elected him its next president (that makes Gittes the fourth Pitt surgeon in recent history to hold this prestigious post). With the help of a new real-time imaging technology (ultrasound backscatter microscope), Gittes hopes to engineer mature pancreatic cells to one day free patients with diabetes of their dependence on insulin, "because insulin is not a cure."



Gittes

He sees Children's Hospital of Pittsburgh as "poised to go to the next level, which is to be the premier surgical program in pediatrics." *—EV*