

Devoted to noteworthy happenings

in the medical school

A New Home

Children's Hospital of Pittsburgh of UPMC prepared for the worst as it mobilized to receive 54 children uprooted from a Haitian orphanage as a result of the January earthquake. Yet when a team of nurses and physicians met the children at Pittsburgh International Airport, it found them in surprisingly good health. Mild dehydration was the most common ailment—no broken bones, even. Once medically cleared, the children were welcomed at a hospital comfort center outfitted with cots and, of course, plenty of toys.

The journey from the BRESMA orphanage in Port-au-Prince was fraught with logistical obstacles and required a coordinated effort by the children's caretakers (Pittsburgh natives Jamie and Ali McMutrie), UPMC, the U.S. Department of Homeland Security, the Allegheny County Department of Human Services, and several other agencies and nonprofits. The children have been adopted by families in the U.S., Canada, Spain, and elsewhere or taken in by the Holy Family Institute in Pittsburgh. ***—Ben Korman***

FOOTNOTE

Orthopaedic surgeon Victor Prisk's deepest cuts don't require a scalpel—just barbells and lots of protein. The Pitt prof and bodybuilder placed first in the welterweight division at the 2009 North American Bodybuilding Championships. A former competitive gymnast, he's been known to mix work and play. Among his research interests: musculoskeletal healing.



ILLUSTRATION: FRANK HARRIS. PHOTO: CAMI MESA

O'Toole

O'TOOLE ACCEPTS PRESIDENTIAL APPOINTMENT

President Barack Obama has appointed the University of Pittsburgh's Tara O'Toole to the position of under secretary for science and technology in the U.S. Department of Homeland Security (DHS). O'Toole, an MD whose appointment was confirmed by the U.S. Senate in November, was previously a professor of medicine in the School of Medicine and chief executive officer of the UPMC Center for Biosecurity.

The science and technology directorate is the primary research and development arm of DHS. It addresses the full range of homeland security issues, says O'Toole, from biometrics and digital identity to situational awareness of national borders. It supports research on detection of chemical and biological weapons and countermeasures against the effects of such weapons. For O'Toole, the appointment marks a return to government service; she was the U.S. assistant secretary of energy for environment, safety, and health from 1993–1997.

The biosecurity center is now under the leadership of former deputy director Thomas Inglesby, an MD associate professor of medicine at Pitt. O'Toole says the center has become "known as an expert source of information on a wide variety of biosecurity issues, from the specifics of medical care to issues associated with mass casualty care in hospitals."

—Chuck Staresinic



MARTHA RIAL

A&Q

Ryan Shugarman: Understanding Stalkers

Stalkers have made headlines for terrorizing stars such as Uma Thurman, Britney Spears, and Mel Gibson. But the majority of stalking victims aren't gracing the pages of *People*. Twelve percent of women and 4 percent of men have been stalked, says Ryan Shugarman (Fel '08). Shugarman, now a forensic psychiatrist at Saint Elizabeths Hospital in Washington, D.C., investigates these little-studied cases.

On the victims of stalking

No one is immune from stalkers. Victims can be young or old, but the average age is 28. It is a highly prevalent phenomenon. Women are three times more likely to be stalked than raped. ... The majority of stalking victims know their stalkers. In 30 percent of the cases, victims are stalked by former intimate partners. These victims are at the greatest risk of being harmed. Across all stalking cases, serious injury is infrequent, occurring in only 15 to 19 percent of the cases.

On people who stalk

You can't just look at someone and say, "He is high-functioning and doesn't have the potential for stalking." But some individuals are predisposed. They are often underemployed or unemployed, lack a history of successful relationships, and have concurrent substance abuse or psychiatric disorders. But the majority of stalkers are not psychotic, contrary to popular belief. The majority are male—68 to 87 percent. Eighty to 85 percent are unmarried at the time of the offense.

On treating stalkers

Typically they will not seek treatment on their own. Most who receive psychiatric evaluation are court-ordered to do so. Therapy involves [training the stalkers to empathize] with their victims, identifying motives, and showing how problematic this behavior is for their own lives. Often, stalkers don't initially experience remorse or shame about their conduct. Many don't see their behavior as problematic. Imprisonment may not deter stalkers. That is what makes it such an interesting phenomenon. They feel a strong desire to engage in this phenomenon, sometimes at any expense.

His question for us

With stalking so prevalent, why isn't there more research about it and training for clinicians about how to effectively treat these individuals? —*Interview by Cristina Rouvalis*

Faculty Snapshots

Scleroderma, characterized by a thickening of the skin and organs, is not the most fashionable of rheumatic diseases. Although it affects as many people as multiple sclerosis, it receives just 10 percent of the amount of federal research funding. In recognition of decades of much-needed work on scleroderma awareness and research, Thomas Medsger Jr., an MD, was recently awarded the Scleroderma Foundation's Lifetime Achievement Award. He is Pitt's Gerald P. Rodnan Professor of Medicine and director of the Scleroderma Research Program. Medsger's legacy extends to future generations of researchers. Six of his former mentees have developed scleroderma programs at other institutions.



Medsger

Killing cancer cells is relatively easy; killing cancer cells without also killing healthy cells is the challenge. Christopher Bakkenist is meeting this challenge head-on, thanks to a $50,000 Scientific Merit Award from the Lung Cancer Research Foundation. Bakkenist, a PhD assistant professor of radiation oncology, is searching for a less-destructive alternative to current cancer therapies.



Bakkenist

Jill Siegfried has been awarded a $1 million grant from the V Foundation for Cancer Research in support of clinical trials. The award comes as a result of promising lung cancer research from Siegfried, a PhD and coleader of the University of Pittsburgh Cancer Institute's Lung and Thoracic Malignancies Program, and Olivera Finn, a PhD, Distinguished Professor, and chair of Pitt's Department of Immunology. The grant will support one trial exploring the use of estrogen-blocking treatment in women to prevent lung cancer from occurring, recurring, or spreading. Another trial tests a vaccine shown to boost immunity against cancer. The V Foundation was established by former North Carolina State University basketball coach Jim Valvano, who died of cancer. —*Tiffani Emig*



Siegfried

GEORGIA SPORTS COMMUNICATIONS

Flashback

In 1796, English doctor Edward Jenner created history's first vaccine; it involved fluid from the cowpox pustules of bovines. This 1802 cartoon—rendered with cows emerging from Britons' faces, limbs, and rumps—satirizes a once-widespread fear that inoculation would induce bovine characteristics in people. Though perhaps for more nuanced and sophisticated reasons, many still fear vaccination. Pitt's Ernesto Marques, an MD/PhD in Pitt's Center for Vaccine Research, notes, "Two-hundred years later, we've got the same kind of story making headlines."



COURTESY LIBRARY OF CONGRESS/J. GILLRAY, 1802

HAVING A (SOFT) BALL

This is a community of high achievers. But it's unlikely that, aside from second-year med student Kellie Middleton, many have a .400 career batting average.

Middleton, a Georgia native, came to the School of Medicine after playing NCAA Division I softball at the University of Notre Dame and the University of Georgia. (She'd graduated from Notre Dame early and had a year of athletic eligibility remaining.) At Georgia, the starting center fielder earned a Master of Public Health degree. Then the Akron Racers of the National Pro Fastpitch softball league chose the speedy Middleton in the first round of the draft in 2007.

When she entered med school last year, Middleton decided to keep her body moving by teaching kickboxing, rather than remaining a softball pro.

Middleton would like to be a physician who concentrates on bringing a higher quality of care to underserved populations.

She credits her family for inspiring her to aim high. "My dad comes from a family of 14. He was taught to work hard, be the best, and express himself in whatever field he enjoyed most."

Middleton's brother, William, was a fifth-round draft pick for the NFL's Atlanta Falcons. Another brother, Wyatt, is in the U.S. Naval Academy, where he also plays football. His sister was in the stands when Pitt defeated the Midshipmen, 24–17, in September. "It was just before a huge exam, but I went anyway. Navy did not play well." *—Joe Miksch*



Middleton: big-league material

Starzl Given IOM Medal



Starzl

Thomas E. Starzl has won the Institute of Medicine's 2009 Gustav O. Lienhard Award. Starzl, MD/PhD Distinguished Service Professor of Surgery in the School of Medicine and director emeritus of the Thomas E. Starzl Transplantation Institute, earned a medal and a $25,000 prize with the award.

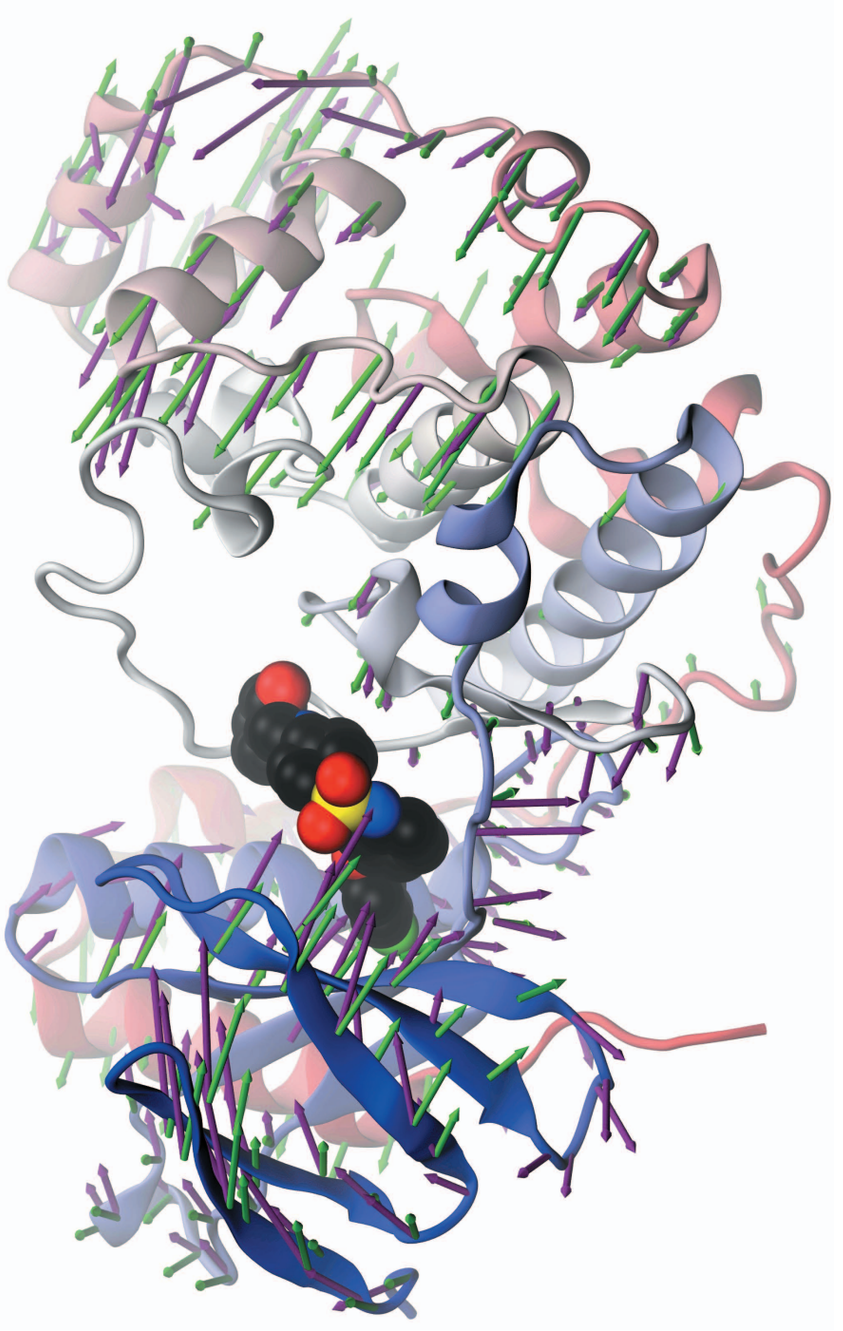
A household name in Pittsburgh and giant in modern medicine, Starzl is renowned for advancing the science and techniques of organ transplantation and immunology.

"Surgery and medicine have been profoundly affected by the transformative work of Dr. Tom Starzl and his clinical teams," says Harvey Fineberg, president of the Institute of Medicine. *—JM*

SHAPE-SHIFTERS

Though not an ideal procedure, it is possible to put a square peg into a round hole. But it's much better to match square with square and round with round. Ivet Bahar, John K. Vries Chair of the Department of Computational Biology in the School of Medicine, has made a discovery regarding the shape, or shapes, of proteins that may make it easier to design more effective drugs.

The theory was that drug binding causes a change in the target protein's structure. However, Bahar and her then-doctoral student, Ahmet Bakan (PhD '09), found—by computer modeling three common drug targets—that a protein has many different conformations and that the ligand, a binding molecule (shown right in black), attaches to the shape it fits best. This better fit, Bahar says, leads to more effective control of the protein's function. RIGHT: The shape-shifting of this kinase, which is of interest in inflammatory diseases, helped Bahar's lab rethink the fundamentals of protein binding. Arrows show which way key structural elements are likely to move, based on modeling (green) and experiments (purple). *—JM*



AHMET BAKAN, IVET BAHAR, 2009 PNAS USA 106, 14349-14354.

Name-Dropping

Science 2009, the University of Pittsburgh's annual science festival, brought these distinguished guests to town in October.

Victor Ambros, a PhD and the Lasker Award-winning Silverman Professor of Natural Sciences in the Molecular Medicine Program at the University of Massachusetts Medical School, gave the Dickson Prize in Medicine Lecture. Ambros was among the first to uncover the mysteries of microRNA, tiny RNA strands once thought to be junk, which turned out to be gene silencers and activators.

The Mellon Lecture was presented by **Cori Bargmann**, Torsten N. Wiesel Professor and head of the Laboratory of Neural Circuits and Behavior at Rockefeller University. Bargmann's expertise lies in the neurology of *C. elegans*, a roundworm that's proved to be highly valuable in biomedical research. (The worm is where Ambros first came across microRNA.) Bargmann, a PhD, discussed the genes that regulate how these nematodes recognize one another and how they interact socially.

Bruce Beutler, MD professor and chair of the Department of Genetics at the Scripps Research Institute, gave the Klaus Hofmann Lecture on how the innate immune system detects infections. Beutler, who is a member of the Institute of Medicine and the National Academy of Sciences, has dedicated his career to understanding molecular and genetic roles in inflammation as well as how organisms use inborn resistance to combat infectious diseases. *—JM*