

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

Biosensible

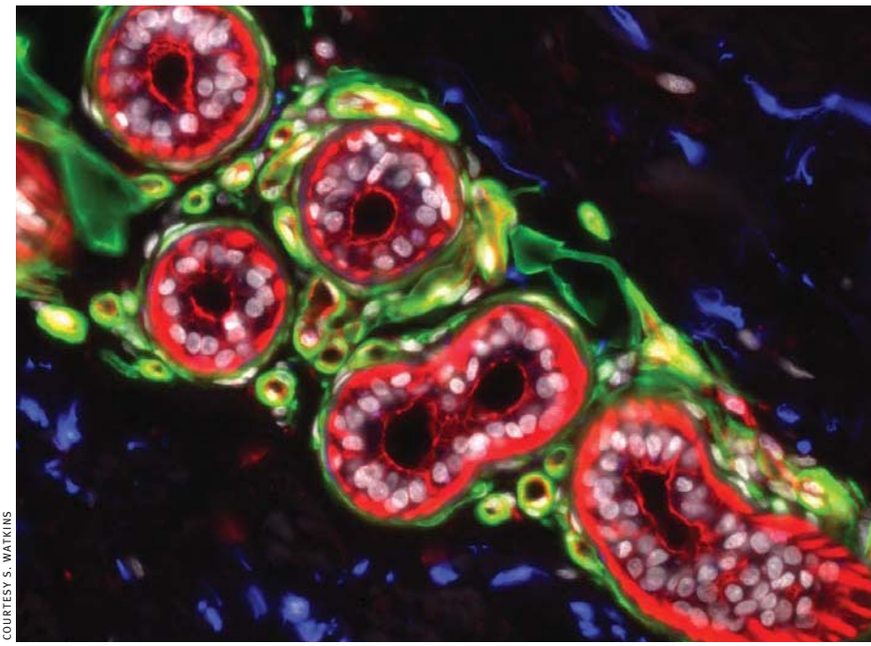
One's got the imaging equipment and know-how. The other has some of the most advanced fluorescent dyes available.

Together, the University of Pittsburgh and Carnegie Mellon University will be able to delve more deeply into how cells work and make the body function.

With a $13.3 million grant from the National Institutes of Health, Pitt and CMU are creating a National Technology Center for Networks and Pathways that's housed at CMU's Mellon Institute. In the words of Simon Watkins, director of Pitt's Center for Biologic Imaging, the technology center will "help develop and build new ways of studying the molecular pathways that exist inside a cell."

The grant will allow Alan Waggoner—director of CMU's Molecular Biosensor and Imaging Center, who is known in scientific circles as the king of fluorescent dyes—and Watkins—widely acknowledged as a guru of biologic imaging—to combine their complementary skills to probe and observe cells in novel ways.

Already, Watkins says, they have plans to obtain the first hand-held confocal probe, a device with an imaging tip the size of a pencil eraser. "It allows us to probe things you can't get an ordinary microscope into." *—Joe Miksch*



COURTESY S. WATKINS

Pitt and CMU partner to probe cells in new ways.

FOOTNOTE

As Pitt students explore the Wyoming "Dinosaur Graveyard," which rancher Allen Cook deeded to the University this year, they needn't look for a T-Rex old folks home.

Adolescents experience bouts of angst. *A zit!?!?! On prom night!?!* But usually they mature into well-adjusted adults. More than *Sturm und Drang* was in store for dinosaurs at puberty, though. In many cases, researchers say, sexual maturity led to the end of life. Child-rearing stresses for females and fights between males over mates meant few saw the far side of 16.

KILLING CANCER WITH ASPIRIN

Yong Lee believes he has found a novel and cheap way to curtail aggressive recurring cancer: aspirin.

Lee is a PhD professor of surgery and pharmacology at the University of Pittsburgh. He's found that cancer cells in culture resistant to a new treatment called TRAIL respond to the treatment after being dosed with aspirin for at least 12 hours. TRAIL is designed to induce programmed cell death. Aspirin, Lee says, blocks signaling pathways that cancer cells need to survive and allows TRAIL to do its job on cells that would otherwise have developed resistance to it from a first round of therapy.

Lee says his lab will soon experiment with animal models and is working on developing aspirin/TRAIL human protocols. He can't predict when the therapy might become available in the clinic but notes that TRAIL is in clinical trials and aspirin already has FDA approval, which could expedite the process. *—JM*



CAMI MESA

A&Q

with Anthony Fabio on Violent Generations

One line from Hannah Arendt's *On Revolution* sticks with Anthony Fabio (shown above), a University of Pittsburgh assistant professor of neurological surgery. His recollection of it is written on a dry-erase board in his office in Pitt's Center for Injury Research and Control: "The hope of man in his singularity is in the fact that not man but men inhabit the Earth and form the world between them." As an epidemiologist, Fabio wonders about society's influence on young people, particularly in relation to shifts in rates of violence. Following his curiosity, he teamed up with Distinguished Professor of Psychiatry Rolf Loeber, principal investigator for a longitudinal study of inner-city boys known as the Pittsburgh Youth Study, to look at the issue from a generational perspective.

What they asked and found:

We focused on two generations. ... The oldest generation, even at the same age, reports more violence than the younger generation. And so then our question was: Why? [Our] results suggest to us that the difference in reported violence isn't due to the generations being different, i.e., they are not worse kids, but that some macrolevel effects—period effects, such as the economy or changes in cultural norms—are the reason behind the differences in the generations. So if we could magically switch the generations between the time they grew up we would see the [younger] generation now report more violence because they are now the ones exposed to this period effect.

How this approach stands out:

In the early '90s we saw a decrease in violence. [*Freakonomics* authors Steven Levitt and Stephen Dubner] estimated that up to 50 percent of the decrease had to do with the legalization of abortion. [They reasoned that] there were fewer unwanted children. My results really don't support that at all.

Many [other studies about the causes of violence are looking at] things like the unemployment rate, and the census data, and the rate of violence in a specific area. It's important to move beyond that. ... If we can find out what this period effect is, we could [try to] find the right data ... to predict future epidemics of violence.

His questions for us:

Is there anything you can do as an individual to affect societal forces? Is there anything you can do as an individual in response to societal forces? *—Interview by Elaine Vitone*

Faculty Snapshots

Merrill Egorin has won the American Association for Cancer Research's (AACR) Joseph H. Burchenal Clinical Research Award. The award recognizes Egorin's contributions to making chemotherapy safe and effective.

Egorin, professor of medicine and pharmacology in the University of Pittsburgh School of Medicine, began his life as a cancer researcher in 1968; he has been at Pitt since 1998. The MD has developed rules for using chemotherapy drugs based on their pharmacologic features, toxicity profiles, and effects on body function.

His efforts, the AACR says, enabled doctors to administer drugs whose toxicity allows for little error in terms of dosing.



Egorin

Pitt's Bernard Fisher was honored at the same meeting this year with the AACR's Award for Lifetime Achievement in Cancer Research. Fisher, who earned his MD from Pitt in 1943, did early groundbreaking work in breast cancer metastasis, led clinical trials that found lumpectomy to be just as effective as total mastectomy, and established the effectiveness of the synthetic estrogen tamoxifen in treating breast cancer and as a preventative measure against the disease. The Distinguished Service Professor of Surgery received the Burchenal award in 1998.



Fisher

For 60 years, the American Cancer Society (ACS) has supported research at Pitt. Robert Sobol is the latest Pitt researcher to be awarded an ACS grant.



Sobol

Sobol, a PhD assistant professor of pharmacology, recently received $720,000 from the ACS to pursue research into temozolomide (TMZ), a novel chemotherapeutic agent being used to treat glioblastoma, considered an essentially incurable form of brain cancer. Sobol seeks to understand the molecular basis for resistance to TMZ in some brain cancers. The grant runs until July 2009.

Pitt has 10 other active ACS grants totaling about $6 million. Christopher Widnell, ACS scientific program director for extramural grants (and a professor emeritus in the medical school), says that figure puts Pitt at number six nationally in terms of ACS funding.

Sobol sees an ACS grant as an important step for a junior investigator: "I'm extremely pleased with the help of the ACS in getting my research lab on solid footing." Pitt and ACS will celebrate their long-standing relationship in a September award ceremony. *—JM*

Young Scientist, Get a Life



JULIETTE BORDA

It's a life that has been in sync with the academic calendar since kindergarten. Imagine you're a scientist who has finally worked your way into a junior faculty position. With the right combination of luck, work (lots of work), and ingenuity, you'll get tenure, your own lab, and make a significant contribution to your field.

But, silly you, you also got married, have two young children, like to go out to a movie once in a while, and have a hankering to, on occasion, read something that's not a scientific journal. Well ...

Well, reportedly, it can be done. Melissa McNeil, who has an MD and MPH, is chief of women's health and associate chief of general medicine at the University of Pittsburgh. She was among those giving advice during a panel discussion titled "Striving for Sanity" that was part of a three-day course in scientific management and leadership for young investigators. To the budding scientist looking to make a mark and have a life, McNeil offered these and other tips:

• Schedule fun time and stick to it. You schedule your workday and never shirk obligations. Do the same with your free time.

• Learn to say "no." If at all possible, find a mentor who will help you decide what's worth going the extra mile for and what you should pass up.

With support from the Burroughs Wellcome Fund and Howard Hughes Medical Institute Partners in Scientific Training Program, the Office of Academic Career Development offered the sessions designed to help attendees on the path through academia. The program touched on such topics as how to navigate the politics of the academy and apply for grants. *—JM*

PITT/UPMC TO RUN SICILIAN SCIENCE CENTER

Last year, an 11-year-old Sicilian boy affected by severe respiratory failure was the recipient of the first pediatric double-lung transplant in southern Italy. The Mediterranean Institute for Transplantation and Specialized Therapies (ISMETT), which UPMC cofounded seven years ago, has been home to other medical firsts in the region. In light of ISMETT's successes, the University of Pittsburgh and UPMC have been asked by the Italian president, the president of the region of Sicily, and Italy's National Research Council to run a major new research center in Sicily. The $400 million Biomedical Research and Biotechnology Center (BRBC) will house programs that build on Pittsburgh's strengths in computational and structural biology, vaccine development, drug discovery, molecular imaging, tissue engineering/regenerative medicine, and neuroscience. Italy will construct the 400,000-square-foot center in the province of Palermo. The facility will open its doors perhaps by 2010, though collaborations may begin as soon as this year.

Organizers say no other center in Italy has the critical mass of scientists and research projects proposed for BRBC. They envision the center strengthening Italy's scientific position in relation to other industrialized nations and spurring biotechnology research and commercial activity in Italy and Pittsburgh. *—Erica Lloyd*

For more information on potential BRBC collaborations:
Arthur S. Levine at levine@hs.pitt.edu

Medical Journalism 101

At 2:30 one afternoon, the Falk Library of the Health Sciences' computer lab has become a newsroom. Six University of Pittsburgh med students type urgently. Deadline is in half an hour, and they need 500 words on a British study of how breast asymmetry may be a risk factor for breast cancer.

Each of those 500 words has to be comprehensible to a layperson. The first rule of the School of Medicine's minicourse Medical Journalism 101: Know your audience. The professor, KDKA's medical correspondent Maria Simbra (MD '93), reminds her students to imagine they are writing to a "really smart 5th-grade science student." They're getting used to it.

Homework for the third meeting of this four-session, ungraded course asked them to explain an organ, medical device, or drug. Gaurav Shukla, a second year MD/PhD student, wrote about the chemical processes smokers undergo. Using analogies, Simbra says, helps readers comprehend scientific concepts. So Shukla compared the adrenaline rush smokers get to the feeling of "being late for a big meeting."

MD/PhD student Aaron Secrest, who studies epidemiology, says that he entered the course because of the inadequacies he sees in medical journalism. "A lot of it oversteps its bounds or is just wrong," he says. But the course is giving him a new view of the field: "Journalism, in general, is very difficult."

As students devise a KDKA broadcast plan for the breast cancer study, Simbra advises Secrest that they probably can't use a graphic displaying how to measure cup size.

"I don't know what you can and can't do with TV," he says. "If it was Fox, you could probably do more." *—Sydney Bergman*



JIM JUDKIS

FLU!

The morgue piled high with bodies. Pressure mounted as infected patients inundated the hospital. Disoriented and alarmed, med students shouted, "Where is the ICU?" They wore facemasks and protective jackets designating their roles on a team. When team members fell ill, remaining students, already hampered by limited resources, did double duty, filling vacant positions on other teams. The intensity was only somewhat mitigated by the fact that the bodies were cardboard cutouts and the scene at Scaife was just a drill for responding to an avian flu pandemic, part of a day-long pandemic training program in May.

—Alicia Kopar

Name-Dropping

The School of Medicine was in very good company this spring.

Ferid Murad, cowinner of the 1998 Nobel Prize in Physiology or Medicine for discovering that nitric oxide can signal blood vessels to relax and widen, thus lowering blood pressure, visited in April as a lecturer in the Senior Vice Chancellor's Laureate Lecture series. The Distinguished Chair of Physiology and Medicine and director of the Institute of Molecular Medicine at the University of Texas, Houston, spoke about a nitric oxide–related signaling pathway and drug development.

In May, Philip Beachy, professor of molecular biology and genetics and a Howard Hughes Medical Institute investigator at Johns Hopkins University, also visited as a Laureate Lecturer. Beachy is a member of the National Academy of Sciences and a fellow of the American Academy of Arts and Sciences. He discussed how cell differentiation and the growth and development of malignant cells are influenced by what's known as the Hedgehog signaling molecule, a protein secreted during embryonic development. (See the Dean's Message on p. 2 to learn how sheep and cyclopes fit into the Hedgehog story.)

After having a chance to learn more about the med school, Beachy notes, "The growth there is very impressive, as is the magnitude of resources that are available. It seems pretty clear that Pitt is headed for great things."

Risa Lavizzo-Mourey suggested to the Class of 2006 that truly great things can come their way. The class had invited her to help mark their graduation as the commencement speaker. Lavizzo-Mourey is president and CEO of the Robert Wood Johnson Foundation, a private foundation dedicated to improving Americans' health.

She told the graduates, "Each of you will have the chance to enrich the human condition and enhance the quality of life of people you will come to know and love—and people you perhaps will never meet at all." *—JM*