

Devoted to noteworthy happenings

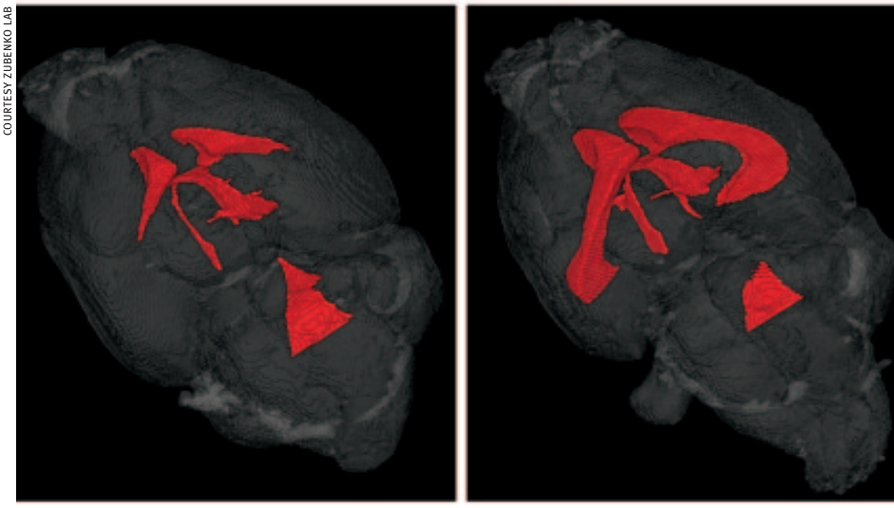
at the medical school

Mouse Models Depression

Major depressive disorder (MDD) causes personal suffering, affects families, and can lead to disability or even death, sometimes in the form of suicide. Pitt researcher and alumnus George Zubenko (MD '81 with a PhD from Carnegie Mellon University) is a professor of psychiatry in the School of Medicine. He has led a team that developed a genetically altered mouse that will enable deeper study of the affliction.

Zubenko's mouse model is based on the understanding that the familial form of MDD is linked to a mutation of a gene called CREB1. Zubenko replicated the mutation in an equivalent mouse gene. In addition to furthering the study of the brain mechanisms that lead to MDD, Zubenko says the methodologic approach used in developing the mouse model may be useful in the creation of models for other human diseases. ***—Joe Miksch***

COURTESY ZUBENKO LAB



Compared to the healthy mouse (left), Zubenko's mouse model (right) shows larger cavities, indicated in red—a sign of reduced brain tissue.

FOOTNOTE

Marvel-ous! Technology developed by Pitt's Jörg Gerlach, an MD/PhD at the McGowan Institute for Regenerative Medicine, appeared in Marvel Comics' *Avengers Academy* in May.

McGowan's Facebook page reports that "after two characters are badly injured in a building explosion, Hank Pym, who is one of the top scientific minds of the Marvel Universe, decides to treat their burns with the University of Pittsburgh's stem cell process"—Gerlach's skin cell gun.

STATE OF SCHOOL STRONG, YET THREATS LOOM

In May, Arthur S. Levine, senior vice chancellor for the health sciences and dean of the University of Pittsburgh School of Medicine, delivered his annual State of the School Address.

The school's 602 MD students, 308 PhD students, and 2,115 full-time faculty members, Levine says, are doing superlative work. The University faculty, driven by the med school, ranked fifth in the number of National Institutes of Health (NIH) awards granted between 2007 and 2010. Most Pitt MD graduates match with one of their top residency program choices (nearly 70 percent at top-tier programs). Faculty and student publication of research is at an all-time high. And, as the school develops partnerships abroad—the newest being with China's academic jewel, Tsinghua University—and with industry, its worldwide footprint is getting larger.

Levine says the school's greatest challenges come on the funding front, with NIH funding stagnant while state funds are cut. A video presentation of the address can be found at www.medschool.pitt.edu/about/index.aspx *—JM*



CAMI MESA

A&Q

Joel Greenberger Considers Fukushima Daiichi

Joel Greenberger, an MD, professor and chair of Pitt's Department of Radiation Oncology in the University of Pittsburgh School of Medicine, is also the director of the Center for Medical Countermeasures Against Radiation. He has appeared in these pages before. He and his team have developed a drug that, when administered to mice after exposure to radiation, significantly reduced radiation-induced death and adverse effects. In light of the Fukushima Daiichi reactor crisis in Japan, we thought it was time to talk with Greenberger again.

Long-term consequences in Japan?

Based on what we know … the easiest answer would be to say that long-term impacts are unknown. Unlike the Chernobyl disaster in 1986 and unlike other nuclear accidents, a huge confounding variable is the tsunami and flood damage. So you have two different categories of impact on the population in both the short term and long term. And so, we have to wait for more data.

On the handling of the crisis

I have nothing but praise for what the Japanese have done. The way that they handled this every step of the way was absolutely masterful, and I think it should be a lesson to us as to how a disaster like this should be handled.

On the safety of nuclear power

Our ability to detect radiation is getting much, much better. This makes people reluctant to push for more nuclear power plants. My own personal view is that we don't have enough. We should have twice as many nuclear power plants in this country. It's safe, it's clean, and it makes sense.

His questions for us

How concerned are you about levels of radiation exposure for you and your family? What would your level of concern be if you were asked to live near a nuclear power station? On that, I think you're going to get the reverse answer. There's a disconnect here … Some people are terrified of any radiation exposure, even when deemed "safe" by radiation safety officers, but are also willing to accept what their physicians tell them is a safe level. ***—Interview by Alexis Wnuk***

Faculty Snapshots

Brad Dicianno (MD '01, Res '05) recently won the AAP Young Academician Award from the Association of Academic Physiatrists. Dicianno is an MD and assistant professor in the Department of Physical Medicine and Rehabilitation.

The AAP praised Dicianno for his teaching, mentoring, his work as medical director of Pitt's Center for Assistive Technology and director of Pitt's Adult Spina Bifida Clinic, as well as his many publications in peer-reviewed journals.



Dicianno

Dicianno says he's grateful for the support of his chair, Mike Boninger, and mentor Rory Cooper. The academic environment they, and others, engender, Dicianno says, "is one of the many reasons I've never left Pitt since undergrad."

The School of Medicine's recently announced joint venture with Tsinghua University isn't its only foray into China. Pitt's Department of Pathology, through UPMC, has agreed to provide Web-based telepathology services for KingMed Diagnostics, China's largest independent medical diagnostic laboratory.

Department chair George Michalopoulos, an MD/PhD, says KingMed approached Pitt and UPMC about a year ago, seeking remote, second-opinion pathology consultations. The agreement, which spans three years, started late this summer. Michalopoulos says he expects that Pitt pathologists will consult on about 2,000 cases per month. Pitt's department is the largest of its kind, with 175 faculty members.



Handen

With a grant of $460,000 from Autism Speaks, Pitt will continue as one of 17 sites in the Autism Treatment Network (ATN). Benjamin Handen, a PhD associate professor of psychiatry and pediatrics at Pitt, is the principal investigator of the local site, which is a collaboration between the Center for Autism and Developmental Disorders at UPMC, Children's Hospital of Pittsburgh of UPMC, and the University of Pittsburgh Center for Excellence in Autism Research.

More than 230 families are enrolled in the local program, which supports diagnosis and medical evaluation for children and adolescents with autism spectrum disorder. ***—JM***

Treating Underserved Kids

Children's Hospital of Pittsburgh of UPMC has received $1.9 million from the U.S. Health Resources and Services Administration to expand its residency program for the primary care of underserved patients in both rural and urban areas. The five-year grant will cover the costs of training two residents per year. The program—Pediatric Advocacy, Leadership, and Service, or PALS—started in July with two residents. "A lot of the programming will be focusing on the kind of skills and attitude you need to provide effective primary care to the underserved," says Dena Hofkosh (Res '82, Fel '84), an MD and director of the Pediatric Residency Program.

—Megan Kopke



CATHERINE LAZURE

Neurons Don't Mature Fast

New neurons take about three or four weeks to develop in mice. It was assumed that the same timeframe applied to humans. But work by Judy Cameron—PhD professor of psychiatry at the University of Pittsburgh School of Medicine—and colleagues show that the process is much slower in primates.

Cameron, whose results were recently published in *Proceedings of the National Academy of Sciences*, shows that it takes up to six months for monkey granule cells (infant neurons) to reach maturity.

These findings, Cameron suggests, call into question the belief that it takes antidepressant medications three to five weeks to become effective, because that's how long it was thought to take for new neurons to generate in the presence of the drug.

Also, she adds, the more leisurely pace of neuronal development in primates allows a larger window for environmental factors to impact fetal development.

For example: "How does food the mother ingests change the development of brain circuits that control metabolism and body weight? There could be a lifelong effect on how you metabolize food and how likely you are to be chubby or thin," she says. *—JM*

VENTER GETS DICKSON PRIZE

J. Craig Venter is the recipient of the 2011 Dickson Prize in Medicine from the University of Pittsburgh School of Medicine, which will be awarded on Oct. 6 during the University's annual celebration of science and research—Science2011. Venter will also deliver the Dickson lecture at the festival's opening plenary session.

Venter, a PhD biologist best known for developing groundbreaking genomic discovery tools and sequencing the human genome, announced in 2010 that he and his team had constructed the first synthetic bacterial cell. He is founder and president of the J. Craig Venter Institute and founder and CEO of Synthetic Genomics. His lab focuses on creating synthetic biological organisms, developing applications related to this work, and unearthing the genetic diversity of the world's oceans. Venter received the 2008 National Medal of Science and is a member of the National Academy of Sciences. He is the author of *A Life Decoded: My Genome: My Life*. *—Chuck Staresinic*



VANCLIBURN FOUNDATION

PROF RECOGNIZED AS TOP PIANIST

Like his father before him, Barry Coutinho traded in a life in music for a career in medicine. In May, he placed third in the Van Cliburn International Piano Competition for Outstanding Amateurs. His performance of Maurice Ravel's *Gaspard de la Nuit* on a brand new Steinway Model D grand piano was an unanticipated success for Coutinho: "I played better than I expected. It seemed like I could do anything on that piano." Choosing a piece known as one of the most difficult of the early 20th century was an easy decision for the physician whose teacher in London's Guildhall School of Music & Drama studied under one of Ravel's own pupils. "I've played it so many times now that I knew it inside out," he says.

As a clinical assistant professor of family medicine in the School of Medicine and former chief resident of family medicine at UPMC Shadyside (Res '95), Coutinho has not performed often in the past decade. The Van Cliburn competition, which attracts the top amateurs from around the world, was one of his biggest performances in years: "I was worried about my competition experience but was very happy with the results in the end." *—Marc Melada*

Working on Caring

Holmes Morton, an MD, was the commencement speaker for the Class of 2011. He is cofounder with his wife, Caroline Morton, and executive director of the Clinic for Special Children in Strasburg, Pa., which specializes in the diagnosis and treatment of disorders of Amish and Mennonite children.

In his address, Morton touched on words spoken at a commencement long ago to illuminate his thoughts on what makes a good doctor:

"Learn to Care," in the sense of Dr. Francis Peabody's famous talk to Harvard medical students in 1926, titled, "The Care of the Patient." [Dr. Peabody said,] "One of the essential qualities of the Clinician is interest in humanity, for the secret of caring for the patient is in caring for the patient."

I understand that I am not by nature a friendly or caring person. I found that caring for a patient requires effort, thought. If I make learning about the life of the person being cared for [in the clinic] part of my daily work, the work of medicine becomes a rich human experience. Learning to care for the patient [as Peabody suggests] helps me value those I care for and adds to my sense that my work is meaningful.

Morton is a recipient of many medical honors, including the Albert Schweitzer Prize for Humanitarianism. Many of the clinic's patients suffering from a genetic condition called maple syrup urine disease were cured by liver transplants performed in Pittsburgh. *—JM*

FOOTNOTE

A science fair winner who is out of this world: **Andrew Abboud**, who will attend Pitt in the fall—with the promise of admission to the School of Medicine upon completion of his bachelor's degree—took "first award" in the recent Intel International Science and Engineering Fair. Abboud, of Ohio, won $3,000 for his research on "The Protective Effects of the Violacein Pigment against UV-C Irradiation in *Chromobacterium violaceum*." In honor of his achievement, Abboud will have a minor planet named for him. Really.