Pitt Chronicle

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Pitt's Black History Month Program Named for K. Leroy Irvis

K. Leroy Irvis

By John Harvith

The program of Black History Month observances that the University of Pittsburgh inaugurated in 2004 has now been established as the University of Pittsburgh K. Leroy Irvis Black History Month Program to honor the memory of the legendary Pennsylvania legislative leader, Pitt alumnus, and emeritus trustee. Irvis, who in 1977 became the first African American speaker of the House in Pennsylvania and the first Black speaker of any state house since Reconstruction, sponsored in 1966 the bill that made Pitt a state-related institution of higher education.

Pitt established a number of ongoing opportunities to honor Irvis, among them are his being named a member of the University's inaugural class of preeminent alumni, the Legacy Laureates; the creation of the K. Leroy Irvis Fellowship, the establishment of the Pitt Hillman Library's K. Leroy Irvis Reading Room—dedicated at a standing-room-only ceremony on Dec. 6, 2001—which houses his personal archive; and the production of a 2004 video documentary on his life and work, *K. Leroy Irvis: The Lion of Pennsylvania*, narrated by Julian Bond, issued on DVD, and broadcast both locally on WQED and statewide on public television. Pitt also presented Irvis with the School of Law Distinguished Alumni Award in 2004.

"This establishment of the Irvis Black History Month Program is not only the latest recognition by the University of the historic significance of K. Leroy Irvis' many contributions to Pitt, Pittsburgh, the Commonwealth of Pennsylvania, higher education, and the cause of human rights, but also a decision to bring his name to the forefront of our Black History Month observances, keeping it before current and future generations of Pennsylvanians," said Pitt Chancellor Mark A. Nordenberg.

"I take great personal satisfaction in having been touched by the greatness of K. Leroy Irvis through my many interactions with him in his roles as a Pitt trustee, 1954 alumnus of the Pitt law school, dynamic legislator, neighbor, mentor, and friend. I also am grateful for the many opportunities for community partnering that our Black History Month celebrations have presented since 2004. I look forward to continuing those parnerships as Pitt's Black History Month Program moves forward under the name of Speaker Irvis—and all that he stood for," Nordenberg added.

"This new University of Pittsburgh initiative, which serves as a tribute to K. Leroy Irvis' beliefs and a celebration of his life, has brought joy to my heart," said Cathryn L. Edwards Irvis, Speaker Irvis'

Continued on Page 6

Pitt Rises in Peace Corps' Ranking of Schools Producing Volunteers

PHOTO COURTESY OF PEACE CORPS

By Sharon S. Blake

The University of Pittsburgh moved up two places on the Peace Corps' annual list of large schools nationwide producing Peace Corps volunteers. Pitt has 54 alumni currently serving as volunteers, making it number 13 among large universities across the country. It also ranked first among large schools in Pennsylvania, for the second straight year. Since the Peace Corps' inception, 564 Pitt alumni have joined its ranks.

Pitt placed ahead of such other institutions of higher learning as the University of Illinois at Urbana-Champaign, Indiana University, and the University of California at Los Angeles in this category.

In the Peace Corps ranking of graduate schools, Pitt was ranked number 10 for the second straight year, with 11 alumni with advanced degrees currently serving as volunteers.

Pitt ranked first among large schools in Pennsylvania, for the second straight year.

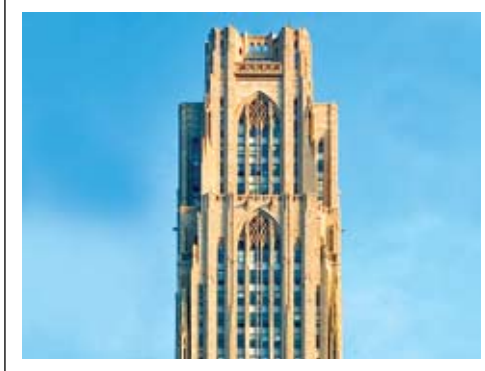
"The Peace Corps provides a unique opportunity for graduates to use their education and skills, and apply them in the real world," said Peace Corps Director Ron Tschetter. "There are 1,192 institutions of higher learning represented by volunteers serving in 74 countries overseas," he added, "and these volunteers can be proud of the contributions they are making in the lives of others."

Schools are ranked according to the size of the student body. Small schools are those with fewer than 5,000 undergraduates, medium-size schools have between 5,001 and 15,000 undergraduates, and large schools are those with more than 15,000 undergraduates.

Although it is not a requirement for service, the majority of individuals who have volunteered in the Peace Corps since its founding in 1961 have been college graduates. Currently, 95 percent of the volunteers serving the 27-month commitment have at least an undergraduate degree.

The Peace Corps is celebrating a 46-year legacy of service at home and abroad. It has more than 8,000 volunteers overseas. To view the entire Peace Corps Top Colleges 2008 list, visit www.peacecorps.gov/news/resources/stats/pdf/schools2008.pdf.

Pitt Moves Up To Sixth Place In NIH Funding



JIM SCHAFER

By Michele D. Baum

In an era when the federal budget for biomedical research is failing to keep up with inflation, the University of Pittsburgh has improved its ranking to sixth in the nation among academic institutions and their affiliates in funding from the National Institutes of Health (NIH), a universally recognized benchmark of research excellence.

Newly released data for fiscal year 2006 show that Pitt received $447 million in NIH research support. In addition, Pitt ranks fourth nationally in the number of individual grants received.

"Research is the major area of institutional activity that most clearly distinguishes our mission from that of most other institutions of higher learning," said Pitt Chancellor Mark A. Nordenberg. "Our University's consistently high ranking among the top recipients of competitively awarded NIH funds is clear evidence of the pioneering research being completed by our faculty, and we are extremely proud of this record."

"NIH ranking is the only objective metric that we have in a nationally competitive, peer-reviewed context," said Arthur S. Levine, senior vice chancellor for health sciences and dean of Pitt's School of Medicine. "While it is very difficult to measure the quality of education or the true quality of patient care, such a ranking means that we are well positioned to attract high-quality students and residents, excellent faculty, and to offer superb patient care."

The upward shift in ranking occurs at a time when NIH budgets have flattened, following a period of steady growth. "In 2006, NIH experienced its first budget cut since 1970, resulting in a 13 percent loss of research purchasing power since 2003, while grant applications have doubled since 1998," Levine noted.

The University of Pittsburgh's ranking encompasses 1,082 individual grants to faculty members for a total of more than $447 million. Pitt is one of more than 3,000 entities receiving NIH support.

The top 10 research-intensive universities (including affiliates) in the United States in 2006 were: Harvard University; Johns Hopkins University; the University of Pennsylvania; the University of California, San Francisco; the University of Washington; the University of Pittsburgh; the University of California, Los Angeles; Duke University; the University of Michigan; and Washington University.

In the number of NIH grants received, Pitt trailed only Harvard, Johns Hopkins, and the University of Pennsylvania.

Briefly Noted

CBA Students Win National Marketing Competition

Robert Gilbert and 23 College of Business Administration students recently won a national marketing competition sponsored by American Honda Motor Co. The competition, "The Accord Coupe Marketing Challenge: New Car, New Generation," allowed college students to compete in raising awareness for the vehicle on their respective campuses. The winning students were enrolled in Gilbert's Projects in Marketing class, which provides students with hands-on marketing experience. Gilbert is a professor of business administration in the Joseph M. Katz Graduate School of Business.

Throughout the fall semester, the student-run marketing agency, Pros In Motion, designed and implemented the "Shake It Up" campaign. The campaign featured Accord Coupe replicas in lecture halls and the Pitt Crew, a four-member street team dressed in white Honda racing suits that roamed the streets of Oakland in search of students willing to "shake it up." The team also held a CAR-nival, which included television game-show-style entertainment and prizes.

One of three schools selected to present its campaign to Honda executives at the company's headquarters in Torrance, Calif., the Pitt team won the challenge's first place trophy and $5,000. During last spring's Honda competition, Pitt students marketed the Honda Fit crossover vehicle and also took home Honda's first place trophy.

—By Amanda Leff

Chinese Exhibition Month to Begin Jan. 28

Pitt's Chinese Students and Scholars Association (CSSA) will host Chinese Exhibition Month from Jan. 28 to Feb. 29.

The events include an Olympic exhibition, Spring Festival stage show, film screenings, karaoke, Ball Night, and several tea houses. CSSA will use this month-long celebration to reinforce the Chinese culture in Pittsburgh and promote the Beijing 2008 Olympic Games, whose theme is "One World, One Dream."

Schedule of events:

Jan. 28– Olympic Exhibition and Tea House, 3-7 p.m, William Pitt Union (WPU) Ballroom. Refreshments and prizes will be provided.

Feb. 3– Spring Festival Stage Show and Tea House, WPU Ballroom, Assembly Room, and Kuztman Room. Teahouse begins at 3 p.m., dinner at 6 p.m. (pre-registration required, two-ticket limit per Pitt ID), stage show at 8 p.m., and festival activities at 10 p.m.

Feb. 9– Karaoke, 7-11 p.m., WPU Dining Room A.

Feb. 17– Ball Night, 7-11 p.m., WPU Assembly Room.

In addition, beginning Jan. 23, a film will be shown every Wednesday and Friday, 7-11 p.m., Swanson School of Engineering Auditorium. Films shown from 7-9 p.m. will have English subtitles.

These events are open to students, faculty, and staff. The program is cosponsored by Pitt's Asian Studies Center, University Center for International Studies, Graduate and Professional Student Association, Office of Cross-Cultural and Leadership Development, Office of International Services, Confucius Institute, and East Asian Library and GlaxoSmithKline's Asian Employee Support Network. For more information, contact Wan Zhu at 412-251-3597, or e-mail sorc+csfa@pitt.edu, or visit www.pittcssa.net.

—By Amanda Leff

GSPH Dean Burke Launches Global Health Blog

Donald S. Burke

Donald S. Burke, dean of Pitt's Graduate School of Public Health and associate vice chancellor for global health, has launched a blog to chronicle his world tour of international sites associated with the health sciences at the University and the University of Pittsburgh Medical Center (UPMC). The blog can be viewed at www.publichealth.pitt.edu/deansblog.

"An important first step in building a strong global health program is to examine ongoing research and practice activities at the University of Pittsburgh and UPMC international sites where we already have strong relationships," Burke said. "This blog will allow me to describe my travels and offer my observations in real time to those interested in global health."

The sites Burke is visiting during his 24-day trip this month are:

Palermo, Italy, home to the Mediterranean Institute for Transplantation and Specialized Therapies (ISMETT) and a biomedical research and biotechnology center founded in partnership with UPMC.

Doha, Qatar, where UPMC offers education, training and services to the emergency medical system. Several American universities have established schools in Qatar, such as the computer science program run by Carnegie Mellon University.

Hyderabad, India, home of the MediCiti Institute of Medical Sciences, a health care facility comprising two hospitals, a medical college and nursing school, and a large community health project. Pitt cardiologist P.S. Reddy founded MediCiti.

Wuhan, China, a sister city to Pittsburgh and home to Wuhan University. Pitt's Asian Studies Center was awarded Pennsylvania's first Confucius Institute by the Chinese Ministry of Education. Burke is on the advisory board of the Confucius Institute, a cooperative project with Wuhan University.

—By Clare Collins

Pitt-led Research Team Creates Process With Potential For Better Development, Testing of Cystic Fibrosis Drugs

By Morgan Kelly

A team led by researchers from the University of Pittsburgh developed a process that, for the first time, allows the individual stages of the protein deterioration that leads to cystic fibrosis (CF) to be observed, and possibly interrupted. Although it needs further refinement, the technique could be instrumental in developing pharmaceutical treatments for CF and for testing recently developed drugs that may ultimately be used to treat the disease.

> "We hope that this system will open up new methods to identify drugs that will... help treat the disease."
> –Jeffrey Brodsky

The researchers—led by Jeffrey Brodsky, professor and Avinoff Chair in Pitt's Department of Biological Sciences in the School of Arts and Sciences—describe the process in the current edition of the journal *Cell*. Brodsky and Pitt research associate Kunio Nakatsukasa worked with Johns Hopkins University professor Susan Michaelis and research associate Gregory Huyer.

The team focused on the protein created by the Cystic Fibrosis Transmembrane conductance Regulator (CFTR) gene. Normally, this protein acts as an ion channel on the outer membrane of cells—primarily in the lungs, pancreas, and intestines—and regulates the balance of chloride within the cell. With CF, a mutation blocks the ability of this protein to be transported to the cell membrane. As a result, the levels of chloride, other salts, and water inside and outside of the cell become unbalanced. This ultimately manifests as the thick mucus, pancreatic malfunction, and breathing difficulty commonly found with CF.

Normally, even healthy CFTR proteins can degrade quickly, so the process has been difficult to replicate in the laboratory using human cells, Brodsky said. Therefore, he and his team first genetically engineered yeast cells to produce the CFTR protein. (They reported on this accomplishment in 2001.) Once this system was established, the team generated cell membranes already containing CFTR proteins and recombined them in a test tube. Brodsky and his colleagues then monitored how the CFTR protein was selected and then "tagged" by the short protein ubiquitin prior to being degraded. Ubiquitin's primary function is to mark other proteins for destruction.

"Until now it was difficult to define individual steps during the destruction of CFTR or other similar disease-causing proteins," Brodsky said. "We hope that this system will open up new methods to identify drugs that will block the degradation of this protein and help treat the disease."

The team also repeated the process for two other defective proteins in the test tube, suggesting that the newly developed system will be widely applicable. They have reproduced yeast systems for proteins that lead to ailments such as Alzheimer's disease and alpha 1-antitrypsin deficiency, a condition marked by defective lung and, sometimes, liver function. The team will next attempt to control the degradation of these proteins using the process for CFTR proteins, Brodsky said.

To read the complete paper, visit the *Cell* Web site at www.cell.com/content/article/ab

Chronicling

An ongoing series highlighting
University of Pittsburgh history

On Jan. 26, 1920, ground was broken on what would become the University of Pittsburgh's Eberly Hall.

With more than 150 faculty members and 900 students returning from World War One military service, Pitt faced a dire shortage of space, according to Robert C. Albert's *Pitt: The Story of the University of Pittsburgh 1787-1987.* The sudden growth in the student body forced Pitt administrators to convert army barracks and other facilities into make-shift classrooms.

The University's alumni proposed a remedy to the tremendous congestion: construct a large hall that would have 36 classrooms, four lecture halls, and 16 faculty offices. Accordingly, they began a fundraising campaign, set a $600,000 goal, and agreed to limit financial solicitations to Pitt graduates. At the time, the goal and approach were viewed as almost undoable. A high percentage of Pitt's 8,000 alumni were under 30 years of age or had recently returned from combat, and the general feeling was that their contributions would most likely be low. Still, the campaign raised more than $670,000.

Completed in the spring of 1921, the building was named Alumni Hall, and it provided recitation and lecture space for as many as 2,500 students at a time. For 15 years, it remained Pitt's only major teaching facility. In 1998, the structure was renamed Eberly Hall, in recognition of the Robert E. Eberly family's support of the University.

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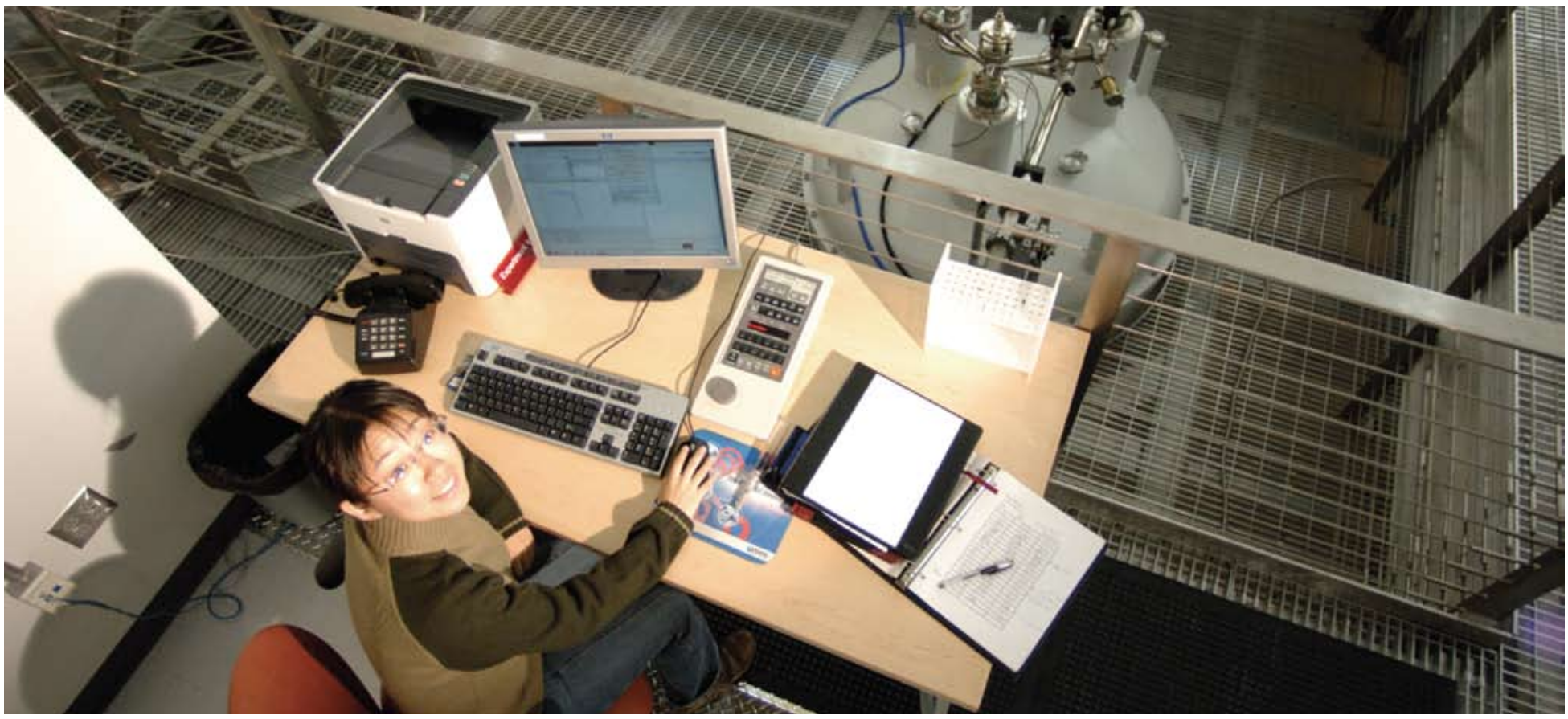
Graduate and Professional Education: Mapping the Future

Doctoral Students Without Borders

To train scientists of the future, Pitt rethinks what a graduate program in the life sciences should be

This is the second in a series about the University of Pittsburgh's programs in graduate and professional education.



RIC EVANS

Lin Liu, a molecular biophysics and structural biology graduate student, works in the Nuclear Magnetic Resonance (NMR) facility in the Department of Structural Biology.

By Reid R. Frazier

In the past generation or so, scientists have been rethinking how they study human biology. Today's powerful imaging helps them see how a cell's tiniest particles behave. The untangling of the human genome allows them to trace precisely how human bodies are built, or impacted by disease. Scientists borrow techniques from disparate disciplines to sort through the big questions of biology: Why do cancer cells behave the way they do? How does the brain work? Can we rebuild dead tissue? They use molecular biophysics, pharmacology, and cognitive psychology to study mental illness; they use mathematics, computer science, and chemistry to study cancer.

Clearly, this is a brave new world. It's also a challenging landscape to train the next generation of researchers in the biomedical and biological sciences. After all, the disciplines may look entirely different in 20 years. But the University of Pittsburgh has emerged as a leader in training young scientists in this new terrain—mainly by rethinking the very notion of what graduate studies can be. It has established new graduate programs that are based upon collaborations among schools within the University, including the schools of medicine, arts and sciences, and engineering.

"We've consciously tried to develop this approach," explains Provost James V. Maher. "Creating these programs has gone hand in hand with strides in biological and biomedical research at Pitt. The old distinctions between disciplines are increasingly becoming obsolete. Scientists need to be able to think across traditional boundaries to solve the big questions. We find it is these PhD programs we are creating—and the students themselves—that are breaking down walls, unifying both the research and graduate study across this campus and beyond."

> "We created these programs to stay ahead of the curve in training the professors and researchers who will shape the next generation of science. We're training people to address the questions of the future even though we often don't know what those questions will be."
> –*James V. Maher*

RIC EVANS

(From left) Naveena Yanamala and Arpana Dutta, graduate students in the Program in Integrative Molecular Biology, work with their mentor, Judith Klein-Seetharaman.

This wave of innovation began in the 1990s, with the creation of programs in neuroscience and bioengineering. More recently, we developed PhD programs in computational biology, molecular biophysics and structural biology, and integrative molecular biology to capture trends in emerging fields. "Many of these fields simply didn't exist a generation ago," says Maher. "We created these programs to stay ahead of the curve in training the professors and researchers who will shape the next generation of science. We're training people to address the questions of the future even though we often don't know what those questions will be."

Arthur Levine, senior vice chancellor for the health sciences and dean of the School of Medicine, says the programs leverage Pitt's considerable research talent in the biological and biomedical fields. The University of Pittsburgh faculty ranks 6th in the nation in grants from the National Institutes of Health (NIH)—the gold standard for measuring a university's biological and biomedical research prowess.

PHOTO COURTESY OF PITTSBURGH POST-GAZETTE

Angela Gronenborn

"I think the interdisciplinary nature of these programs reflects the science of the times in which we live," says Levine. "There are excellent investigators across this campus and at Carnegie Mellon, and we need to take advantage of that.

"It makes a lot of sense to bridge disciplines, to bridge ideas, and to use different technologies. It's where the science is leading us. There have been so many changes in technology over the last 20 years. We now have tremendous database resources, very sophisticated imaging, and new ways of tracking molecules within single cells. We've learned more about the biology of the human body in the last 20 years than in the history of science," Levine adds.

The structural biology and molecular biophysics program was created in 2005 to train students in a field that emerged from breakthrough imaging technology that allows scientists to "see" the smallest parts of the human cell. In the computational biology program, students use mathematics and computer science to model complex biological phenomena. The integrative molecular biology program trains students in a broad array of research topics, such as genomics, proteomics (the study of the body's proteins), gene function, and cell and developmental dynamics.

N. John Cooper, the Bettye J. and Ralph E. Bailey Dean of the School of Arts and Sciences, says the interdisciplinary programs have enabled the school to recruit top-flight faculty and graduate students.

"To be cutting edge, you have to provide the opportunity for faculty and graduate students to get in-depth in these interdisciplinary areas. You need to be ahead of the curve in creating these programs. I think that Pitt, in the last five years, has been moving faster than other places. And we are now thinking about the next generation," he says.

One such key recruitment was the School of Medicine's hiring of faculty member Angela Gronenborn, UPMC Rosalind Franklin Professor and chair of the Department of Structural Biology. Gronenborn came to Pitt from the National Institutes of Health, where she developed and used nuclear magnetic resonance to study cellular processes at molecular and atomic levels.

She says her field involves an interac-

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Doctoral Students Without Borders

Continued from Page 3

tion between disciplines that was rare 30 years ago. "A physicist never used to talk with a biologist during their studies," says Gronenborn, who was elected to the National Academy of Sciences in 2007. "Students should move seamlessly across those boundaries. In terms of their education, and of science in general, those boundaries to me are artificial."

RIC EVANS

Rachel Brower-Sinning, a computational biology graduate student, talks with Pitt faculty member Bino John in a computational biology classroom.

NEUROSCIENCE

One of the earliest and best examples of these interdisciplinary and inter-school graduate programs is neuroscience. Through the Center for Neuroscience at the University of Pittsburgh (CNUP), PhD students have access to more than 90 faculty in more than a dozen departments across the campus and beyond.

"What I like about it is we encompass a huge neuroscience community," says Beth Siegler Retchless, a PhD candidate. Siegler Retchless majored in neuroscience as an undergraduate at Brown University. When choosing a graduate school, her adviser cited Pitt as one of the top neuroscience programs in the country. "We have people from all over the University—and the University is huge. All these people work on different aspects of brain function—everything from MRI studies, where they can look at what areas of the brain are active during a learning task, to figuring out how molecules work, and everything in between."

Siegler Retchless is conducting her doctoral research on a protein that acts as a target for glutamate, a neurotransmitter important for learning and memory. She studies how a single amino acid can change the behavior of the protein, which is found in brain cell membranes. When activated by glutamate, the protein opens up a pore in the membrane through which electricity can flow. But sometimes the pore is blocked by specific ions—and Siegler Retchless wants to know why. Scientists believe that learning more about these targets will give insight into how complex phenomena like Alzheimer's and schizophrenia work. Siegler Retchless says she has relied on mentoring from CNUP faculty in an array of disciplines—mathematics, molecular genetics and biochemistry, and neurobiology.

> "The important thing we do here is create a mindset of problem-solving, rather than a specific technique that you master. We can train students for what they do now, but they're not going to be doing what they do now forever."
> *–Susan Amara*

"The degree of collaboration here means I have this tremendous resource that just isn't available in other places," she says.

Alan Sved, CNUP codirector, professor of neuroscience, and chair of that department, says the program is designed to give students a broad range of experiences and skills as they begin their scientific careers. "We're not simply a collection of outstanding neuroscientists. We're an interactive group of outstanding neuroscientists. Students aren't simply working with one primary investigator locked away in a lab somewhere."

It wasn't always this way. For years, Pitt neuroscientists were scattered around the campus—some in neuroscience within the School of Arts and Sciences, some in neurobiology within in the School of Medicine. This worked well enough, but it confused many within and outside the University. What's the difference between neuroscience and neurobiology? In truth, there wasn't much of one, says Cooper.

So Pitt united these programs under the CNUP banner—bringing together psychologists, cell biologists, pathologists, and others for research and graduate training. "The idea was that instead of running two PhD programs that would be different, but look similar and confuse everybody, we should combine the resources into a single PhD program clearly focused on neuroscience. It provides a well-marked, come-in-the-front door approach," Cooper says.

CNUP codirectors Alan Sved (left) and Susan Amara

Creating the CNUP graduate training program gave Pitt one of the top-ranked neuroscience programs in the country. Incoming students' average GRE and GPA scores are well above the national average for other neuroscience programs. Most of the students are drawn by their intense interest in research. They have the opportunity to work in a number of CNUP-affiliated research groups—such as those focused on aging, Alzheimer's disease, Parkinson's disease, schizophrenia, and pain.

But the integration didn't just happen. The University worked hard to break down traditional barriers between disciplines, Sved says. For instance, there was a learning curve before students in Arts and Sciences and the medical school faculty became accustomed to working with one another—and vice versa.

"It was a major divide," Sved says. "It was a barrier to doing things. Now, we don't even see it. It is transparent to the students. We have students who on any given day couldn't tell whether they were working with Pat Card, (professor in Arts and Sciences' neuroscience department) or Bill Yates (professor in the School of Medicine's otolaryngology department). In fact, they're working with both of them."

David Moorman, who received his PhD in neuroscience in 2005, did his doctoral research at the CNUP and the Center for the Neural Basis of Cognition, a joint Pitt-Carnegie Mellon University initiative. He worked with neuroscientists, computer scientists, and psychologists to study the way the brain processes certain kinds of spatial information. Each faculty member brought different skills and strategies from their discipline, their own particular "toolbox."

"Part of it just has to do with knowing what techniques are available to you," says Moorman, now a postdoctoral neuroscience fellow at the Medical University of South Carolina studying the neural basis of drug addiction. "If your research lies at the interface of all these different disciplines, you have to pay attention to all these different things."

At Pitt, he studied cognitive neuroscience, which is the study of neural circuitry underpinning cognition and behavior. In his current fellowship, he's had to learn a more molecular approach to neuroscience—studying drug targets on specific neurons. The CNUP's emphasis on collaboration laid the foundation for Moorman to learn from others in his current lab.

"It's almost impossible to use all these techniques yourself. If you want to ultimately tackle some of these problems, you're going to have to work with other people. That's how the big problems get solved," Moorman adds.

Susan G. Amara, CNUP codirector, Thomas Detre Professor, and chair of the Department of Neurobiology, says graduate students need to be able to keep pace with the rapidly changing field.

"One of the interesting challenges for neuroscience education is training students to be adaptable, to be nimble when they're confronted with the landscape of the future," says Amara, a member of the National Academy of Sciences. "The important thing we do here is create a mindset of problem-solving, rather than a specific technique that you master. We can train students for what they do now, but they're not going to be doing what they do now forever."

Neuroscience graduate student Beth Siegler Retchless in her lab at the Center for Neuroscience at the University of Pittsburgh.

BIOENGINEERING

Pitt's Department of Bioengineeering

has a long history of training students to use multiple disciplines to tackle complex medical and biological problems. The department celebrated its 10th anniversary last fall, but its roots go deeper. Pitt bioengineers were instrumental in UPMC's groundbreaking artificial heart program, which implanted its first artificial heart device in 1985, and discharged the first patient on a ventricular-assist device five years later.

Today, Pitt's bioengineering program is among the best in the country, ranked in the top 10 by such publications as *U.S. News & World Report*.

Harvey S. Borovetz

"Our students come from everywhere, they're interested in everything," says Harvey S. Borovetz, chair of the Department of Bioengineering and Robert L. Hardesty Professor of Surgery. "Every year they become more and more diverse."

Though their degrees are granted by the Swanson School of Engineering, graduate students conduct research in labs at the School of Medicine, the McGowan Institute for Regenerative Medicine, the University of Pittsburgh Cancer Institute, the School of Dental Medicine, the Graduate School of Public Health, and the School of Health and Rehabilitation Sciences, in addition to laboratories within the Swanson School.

This open access to broad swaths of campus expertise, Borovetz says, "is not part of the reason for our success. It is the reason. It's what other places would love to be able to claim."

From his office in Benedum Hall, Borovetz has a view of the medical school and UPMC's training hospitals perched atop "Cardiac Hill." It is a reassuring sight for Borovetz, who spent two decades in Pitt's artificial heart program, along with cardiac transplant surgeons and cardiovascular physicians at UPMC and the School of Medicine.

The bioengineering program's success stems in large part from its access to clinical settings, lab space, and faculty talent provided through its unique partnership with the medical school. "We are totally integrated with the School of Medicine," says Borovetz. "That gives our students opportunities that are, quite frankly, limitless in terms of what they want to do."

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–Harvey S. Borovetz

Rebecca Long, a fifth-year PhD student, uses the science of mechanical engineering and physiology to conduct basic research into tissue engineering science. With biomechanics, Long says, "you're taking principles you learn in mechanical engineering or basic physics and seeing how to apply them to things that don't behave like a steel beam. It's taking those same concepts and using them to learn how the body works."

Long, who majored in chemical engineering and biomedical engineering at Carnegie Mellon as an undergrad, was drawn to Pitt's program by the opportunity to work with Michael S. Sacks, William Kepler Whiteford Professor of Bioengineering. In 2006, Sacks shared a *Scientific American 50* award with William R. Wagner, deputy director of the McGowan Institute and a professor of surgery, bioengineering, and chemical engineering. The award recognized their pioneering research into tissue engineering.

For her PhD dissertation, Long is studying the biomechanics of bladder cells. Sacks, Wagner, and their McGowan Institute colleagues are working to engineer soft tissue that could eventually replace defective tissues, such as heart valves. Long's research on cell behavior in the bladder—an organ which frequently atrophies following a spinal cord injury, could lead to drugs to prevent urinary tract problems in spinal patients.

Pitt's bioengineering program prepared Tim Maul (ENGR '07) well for the interdisciplinary environment of biomedical research. A postdoctoral fellow in Wagner's lab at the McGowan Institute, Maul is working to design injectable polymer- and lipid-based microbubbles that will seek out inflamed blood vessels. His current lab includes a biophysicist, a biochemist, a physician, and a chemical engineer. "The bioengineering program is the ideal incubator for learning how to grow in this kind of environment," he says. "Working in these highly interdisciplinary teams is the key to having big successes in research."

For his doctoral research, Maul studied the mechanics of stem cells—how they reacted to conditions similar to those inside a blood vessel. His work touched several different disciplines—mechanical engineering, cellular and molecular biology, and statistics. He worked with chemical and molecular biologists, and experts in tissue engineering. "A lot of times, people who study biology and mechanical engineering or chemical engineering have a hard time communicating because they don't speak the same language. But I learned in my labs how to learn from people around me."

Students coming out of the program enter a field bursting with opportunities in private industry, academia, and government-funded research institutions. Borovetz is convinced that Pitt is training the next generation of leaders in fields such as tissue engineering, imaging technology, and prosthetics.

"I don't know how or when, but I know that this is going to be the place where you're going to see these kinds of discoveries being made. That's what's so great about having our students participate in this research. Turn them loose and they're going to bioengineer great solutions down the road," Borovetz says.

BRADEN WOLFE/CDDE

Tim Maul (ENGR '07) is a postdoctoral fellow in biomedical research at Pitt's McGowan Institute for Regenerative Medicine.

Students from Pitt's chemistry PhD program, part of the Carnegie Initiative on the Doctorate, work with chemistry professor David Pratt (right).

Re-envisioning the PhD
The Carnegie Initiative on the Doctorate

The importance of doctoral education to the future of the United States cannot be overestimated, according to the Carnegie Foundation for the Advancement of Teaching, an independent policy and research center. In particular, the foundation cites the crucial role that PhD holders play in educating undergraduates and future scholars, creating new knowledge, developing life-saving medical interventions, and shaping social programs and policies.

The University of Pittsburgh is helping to shape how graduate training is done nationally. Pitt's prominence in this area was a factor in its being invited to participate in the foundation's Carnegie Initiative on the Doctorate, a multiyear research and action project aimed at improving doctoral education at American universities.

Initiative leaders decided to examine the best practices in graduate programs to determine changes on a national level. Five units from the University were chosen to participate in the study—more than from any other university.

Recognized as being "stewards of their discipline" were Pitt's departments of chemistry, history, English, and mathematics, and the Center for Neuroscience, all of which provided cutting-edge programs as models.

One of the Carnegie Initiative outcomes identified the "need to create an intellectual community as one of the key approaches to change in doctoral education." Clearly, the rich intellectual community offered through such a multidisciplinary, multischool experience like neuroscience is helping to re-envision the doctorate of the future.

Pitt Names Black History Month Program for K. Leroy Irvis

Continued from Page 1

widow. "The administrators, educators, and especially students of the University have always held a special place in our affections, and we watched with pride as Pitt grew from a regional university to an institution of higher education that enjoys a reputation for excellence and innovation in so many areas on the national and international stage. This recognition of Speaker Irvis serves as a bridge to remind us of our past accomplishments that were achieved by working together as well as an inspirational platform as the University leads us into the 21st century and beyond; much appreciation to the University of Pittsburgh and my personal thanks to Chancellor Nordenberg for establishing the K. Leroy Irvis Black History Month Program."

The inaugural K. Leroy Irvis Black History Month Program event will be the world premiere screening on Feb. 1 of the WQED-produced TV documentary *Fly Boys: Western Pennsylvania's Tuskegee Airmen,* which includes several Tuskegee airmen who are Pitt alumni and has as its sponsors the University, WQED Pittsburgh, the Pittsburgh Foundation, and Alcoa Foundation. The by-invitation event—cohosted by Nordenberg and WQED Pittsburgh President and CEO and Pitt Trustee George L. Miles Jr.—will take place at Soldiers and Sailors Military Museum and Memorial in Oakland.

"The University thought it was most fitting that the inaugural Irvis Black History Month Program be the premiere screening of *Fly Boys* because, among his many other accomplishments, Irvis designed, built, and flew his own elaborate model aircraft, but, owing to his poor eyesight and to his profound regret, was not eligible to be a Tuskegee airman," commented Pitt Vice Chancellor for Public Affairs Robert Hill. "Now, happily, we are able to recognize that aspect of his legacy by attaching his name to this world premiere event."

Irvis grew up in nearby Albany and received the Bachelor of Arts degree, summa cum laude, in history and English and the Master of Arts degree in education from what is today the University of Albany, State University of New York. He began his teaching career in the Baltimore, Md., public schools, interrupting it during World War II to teach aircraft riveting for the war effort.

In 1945, he moved to Pittsburgh to work with the Urban League. While his Pittsburgh life expanded his interests—he worked as a steel chipper for Crucible Steel, served as a news writer for the *Pittsburgh Courier,* and became involved in operating a toy manufacturing company—it also strengthened his abiding commitment to racial justice.

As a young community activist in the Pittsburgh of 1947, Irvis organized the nation's first demonstration against Downtown department stores in response to their discriminatory hiring practices. That determination motivated Irvis throughout his career, which included more than three decades of public service.

At the Pitt School of Law, where he earned his law degree in 1954, he was a member of the *Law Review.* While at Pitt, he was inducted into the Phi Beta Kappa national honorary society. Following graduation from law school, he worked for two judges as the first Black to be clerk of the Court of Common Pleas in Pittsburgh and later was appointed Allegheny County's assistant district attorney, a post he held for six years.

Irvis' political career began in 1958, when he was elected to the Pennsylvania House of Representatives. He served 15 consecutive terms and sponsored more than 1,600 pieces of legislation, including the bills that created the community college system, the Pennsylvania Human Relations Commission, and the Pennsylvania Higher Education Assistance Agency. Irvis sponsored the bill enacted into law in 1966 that created the state-related system of universities, including Pitt, Penn State, Temple, and Lincoln universities.

In 1977, when Irvis was elected the first African American speaker of the Pennsylvania House and the first Black speaker of any state house in the nation since Reconstruction, it was unanimous, by acclamation; the only other Pennsylvania House speaker to have received that honor was Benjamin Franklin. That first term lasted through 1978; in 1979, he became House Democratic leader. Irvis served again as House speaker from 1983 until his retirement in 1988, making him the longest-serving Pennsylvania House speaker in the 20th century. He fought tirelessly for civil rights, health care, consumer protection, prison reform, improvements in housing and education, and government reform. Known for his thunderous oratory, Irvis' extemporaneous speeches became legendary throughout Pennsylvania.

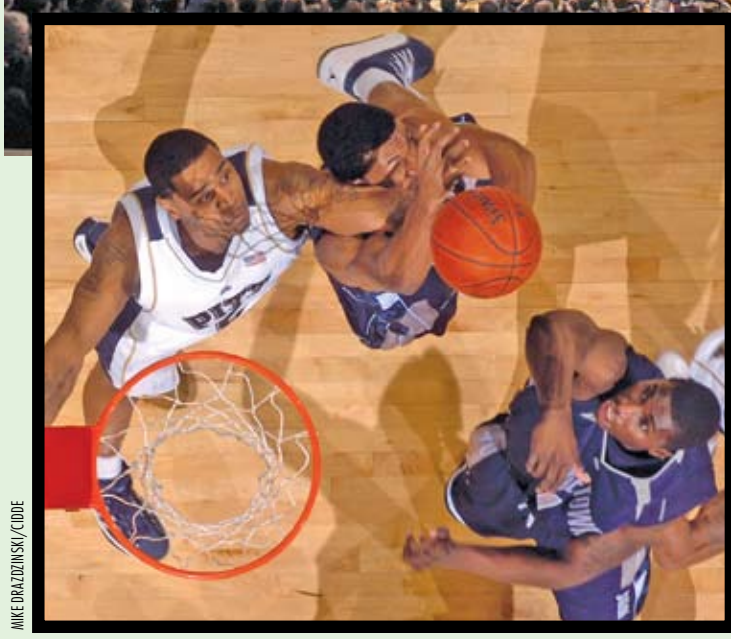
The inaugural K. Leroy Irvis Black History Month Program event will be the world premiere screening on Feb. 1 of the WQED-produced TV documentary *Fly Boys: Western Pennsylvania's Tuskegee Airmen,* which includes several Tuskegee airmen who are Pitt alumni.

As a noted wood sculptor, painter, writer, model airplane designer, and poet, Irvis earned a widespread reputation as a Renaissance man. In addition to Pitt, many organizations honored him for his public service, including the National Association for the Advancement of Colored People, the University of Pennsylvania, and Clarion University of Pennsylvania, and in May 2003, the Commonwealth of Pennsylvania renamed the South Office Building on the Capitol Complex in Harrisburg the Speaker K. Leroy Irvis Office Building.

Irvis died in Pittsburgh on March 16, 2006, at age 89.

Founded in 1787, the University of Pittsburgh can look back on a proud tradition of service to the Black community dating back to the 1820s, when Chancellor Robert Bruce tutored a young lad from Pittsburgh's Hill District. The University's first Black graduate was William Hunter Dammond, who, in 1893, earned a degree in civil engineering with honors. Pitt's modern tradition of Black History Month celebrations, which began with the production and 2004 world premiere screening of *K. Leroy Irvis: The Lion of Pennsylvania,* continued in 2006 with the production of an award-winning exhibition at the Heinz Regional History Center and accompanying book celebrating the 125th anniversary of the area social organization Three Rivers Youth; the 2006 world premiere screening of the WQED documentary *Torchbearers,* for which Pitt was the major sponsor, on the contributions of Pittsburgh civil rights pioneers, many with a Pitt connection; and the 2007 world premiere screening of a video documentary on the Hill District-based Freedom House Ambulance Service, whose Black drivers were trained under CPR pioneer and Pitt School of Medicine visionary Peter Safar.

Pitt Panther Basketball



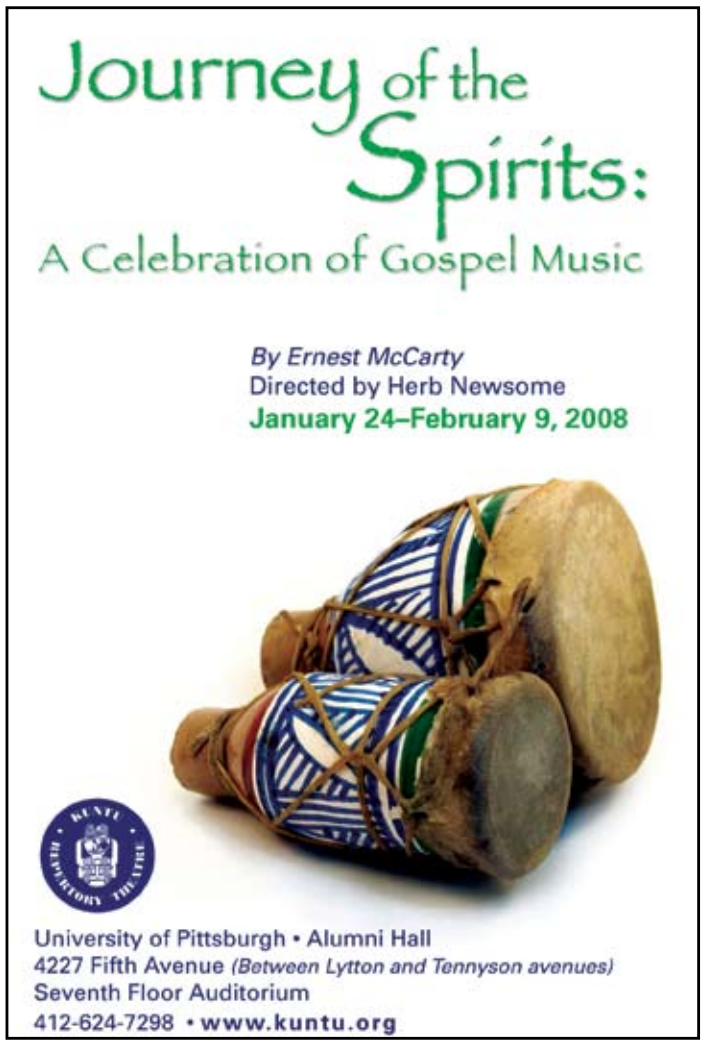
MIKE DRAZDZINSKI/CIDDE

MIKE DRAZDZINSKI/CIDDE

HARRY BLOOMBERG

The Pitt Panthers men's basketball team continues to rack up victories despite injuries that have sidelined several players. After a disappointing conference opener against Villanova on Jan. 6, the Panthers struck back with three consecutive Big East victories, including an 84-70 win against Seton Hall on Jan. 12 and a 69-60 win over Georgetown on Jan. 14. The Georgetown game packed Petersen Events Center (top) and featured fast work by the Panthers, including Tyrell Biggs, a junior forward (above left). In women's basketball, Pitt's Marcedes Walker (above right) has become just the second player in the history of the team to score 1,000 points and tally 1,000 rebounds in a career.

Happenings



Pittsburgh Center for the Arts Gallery, *Poppies & Heroines*, through January 27

Concerts

Harlem Blues and Jazz Band and Gospel Quartet, 7:30 p.m. **Jan. 25,** Bromeley Family Theater, Blaisdell Hall, Pitt-Bradford, 814-362-5113, www.upb.pitt.edu.

Sweeney Todd, **Jan. 29-Feb. 3,** Heinz Hall, 600 Penn Ave., Downtown, Pittsburgh Symphony Orchestra, 412-394-4900, www.pittsburghsymphony.org.

Exhibitions

Pittsburgh Center for the Arts Gallery, *Poppies and Heroines,* **through Jan. 27,** 6300 Fifth Ave., Point Breeze, 412-361-0873, www.pittsburgharts.org.

Olympic Exhibition and Tea House, 3-9 p.m. **Jan. 28,** William Pitt Union Ballroom, part of Chinese Culture Exhibition Month, Pitt Chinese Students and Scholars Association, 412-648-9523.

Carnegie Museum of Art, *On a Grand Scale: The Hall of Architecture at 100,* **through Jan. 27;** *Design to Be Lit,* **through Feb. 10;** *Forum 61: Lowry Burgess,* **through March 23;** *Great British Art: 200 Years of Watercolors, Drawings, and Prints From the Bank of New York Mellon Collection,* **Jan. 26-May 18,** 4400 Forbes Ave., Oakland, 412-441-9786 ext. 224, www.cmoa.org.

Hillman Library, Audubon print, *The American Robin or Migratory Thrush,* **through Jan. 28,** 412-648-7715.

Silver Eye Center for Photography, *Fellowship 2007,* **through Feb. 2,** 1015 E. Carson St., South Side, 412-431-1810, www.silvereye.org.

709 Penn Gallery, *Celebrating Life and Death in West Africa,* **through Feb. 22,** 709 Penn Ave., Downtown, 412-456-6666, www.pgharts.org.

Society for Contemporary Craft, *Nick Cave,* **through Feb. 23,** 2100 Smallman St., Strip District, 412-261-7003, www.contemporarycraft.org.

Phipps Conservatory, *Chihuly at Phipps: Garden and Glass,* **through Feb. 24,** 1 Schenley Park, Oakland, 412-622-6914, www.phipps.conservatory.org.

KOA Art Gallery, *Zig Zag Zig* by Professor Thomas Nawrocki, **Jan. 25-Feb. 29,** Blaisdell Hall, Pitt-Bradford, 814-362-0248, www.upb.pitt.edu.

707 Penn Gallery, *Totally Maybe*, **Jan. 25-March 1,** 707 Penn Ave., Downtown, 412-456-6666, www.pgharts.org.

SPACE Gallery, *Hot Metal,* **Jan.25-March 15,** 812 Liberty Ave., Downtown, 412-325-7723, www.spacepittsburgh.org.

Andy Warhol Museum, *Ron Mueck at the Andy Warhol Museum,* **through March 30;** *Canis Major: Andy Warhol's Cats and Dogs (and Other Party Animals),* **through May 4,** 117 Sandusky St., Northside, 412-237-8300, www.warhol.org.

Manchester Craftsmen's Guild, *One Potter's Touch Affects a Generation of Artists and Their Communities,* Kerr Gallery, **through April 4,** 1815 Metropolitan St., Northside, 412-322-1773, www.manchesterguild.org.

Wood Street Gallery, *Urban Living,* **Jan. 25-April 5,** 601 Wood St., Downtown, 412-471-5605, www.woodstreetgalleries.org.

Mattress Factory, *Gestures: Illustrations of Catastrophe and Remote Times,* **through May 11,** 500 Sampsonia Way, Northside, 412-231-3169, www.mattress.org.

Carnegie Science Center, *Bodies: The Exhibition,* **through May 31,** 1 Allegheny Ave., North Shore, 412-237-3400, www.carnegiesciencecenter.org.

Lectures/Seminars/Readings

"Underdetermination of Scientific Theory Building in String Physics and Philosophy of Science," Richard Dawid, professor of philosophy at the University of Vienna, 12:05 p.m. **Jan. 22,** 817R Cathedral of Learning, Pitt Center for the Philosophy of Science, 412-624-1052, www.pitt.edu/~pittcntr.

"Advocacy in Japan: The Challenge of Development NGOs," Aya Okada, Pitt graduate student in the Graduate School of Public and International Affairs, noon **Jan. 23,** 4217 Posvar Hall, Pitt Global Studies Program, 412-624-2918, www.ucis.pitt.edu.

"An Evening With Cornel West," professor of religion and African American studies at Princeton University, 8:45 p.m. **Jan. 23**, doors open at 8 p.m., William Pitt Union Ballroom, Black Action Society's 2008 Black Week, 412-648-7880, www.pitt.edu/~sorc/bas/.

"Farewell to Rational Actors: Music, Emotion, and Social Movement in Taiwan," Nancy Guy, associate professor of music at the University of California at San Diego, noon **Jan. 24,** 4130 Posvar Hall, Asia Over Lunch Lecture Series, 412-648-7370, www.ucis.pitt.edu.

"The Environmental Impacts and Tradeoffs of Biofuels," Amy Landis, Pitt professor of civil engineering, 4 p.m. **Jan. 24,** 203 Thaw Hall, Pitt Department of Geology and Planetary Science, 412-624-8780, www.geology.pitt.edu.

"Universal Declaration of Human Rights: Does That Include Women, Too?" panel discussion, 6 p.m. **Jan. 24,** 4130 Posvar Hall, Global Issues Lecture Series, 412-624-2918, www.ucis.pitt.edu.

Film Screenings Chinese Culture Exhibition through February 29

"Republic X and the Role of the Audience in Art," Verity Harte, professor of philosophy and classics at Yale University, 3:30 p.m. **Jan. 25,** 244A Cathedral of Learning, Pitt Program in Classics, Philosophy, and Ancient Science, 412-624-4493, www.classics.pitt.edu.

"Flowing Down Taiwan's Tamsui River: Towards an Ecomusicology of the Environmental Imagination," Nancy Guy**,** associate professor of music at the University of California at San Diego, 4 p.m. **Jan. 25,** 132 Music Building, 412-624-4125, www.music.pitt.edu.

George Ella Lyon, author, 10:30 a.m. **Jan. 26,** Carnegie Music Hall, 4400 Forbes Ave., Oakland, Black, White, and Read All Over Series, 412-622-8866, www.pittsburghlectures.org.

Roddy Doyle, author, 7 p.m. **Jan. 28,** Carnegie Music Hall, 4400 Forbes Ave., Oakland, Drue Heinz Lectures, 412-622-8866, www.pittsburghlectures.org.

Miscellaneous

Gallery Crawl in the Cultural District, 5:30 p.m. **Jan. 25,** throughout the Cultural District, Downtown, 412-456-6666, www.pgharts.org.

Film Screenings, 7 p.m., Wednesdays and Fridays, **Jan. 28 through Feb. 29,** Swanson School of Engineering Auditorium, part of Chinese Culture Exhibition Month, Pitt Chinese Students and Scholars Association, film listing at www.pittcasa.net, 412-648-9523.

Opera/Theater/Dance

The Impersario and the Entrepreneurs, 7:30 p.m. **Jan. 22,** Frick Art Museum Auditorium, 7227 Reynolds St., Point Breeze, Opera Theater of Pittsburgh, 412-371-0600, www.frickart.org.

Joseph and the Amazing Technicolor Dreamcoat, **Jan. 24-Feb. 3,** Byham Theater, 101 Sixth St., Downtown, Pittsburgh Musical Theater, 412-539-0900, www.pittsburghmusicals.com.

Journey of the Spirit: A History of Gospel Music by Ernest McCarty, **Jan. 24-Feb. 9,** Kuntu Repertory Theatre, Seventh Floor Auditorium, Alumni Hall, 412-624-7298, www.kuntu.org.

The 13th of Paris by Mat Smart**, Jan. 24-Feb. 17,** City Theatre, 1300 Bingham St., South Side, 412-431-2489, www.citytheatrecompany.org.

Amadeus, **Jan. 24-Feb. 24,** O'Reilly Theater, 621 Penn Ave., Downtown, Pittsburgh Public Theater, 412-316-1600, www.ppt.org.

The Big Bang, **Jan. 24-April 27,** Theater Square Cabaret, 655 Penn Ave., Downtown, CLO Cabaret Theater, 412-281-2822, www.clocabaret.com.

UPJ Dance Ensemble, Jan. 25-26, Pasquerilla Performing Arts Center, Pitt-Johnstown, 814-269-7200, www.upj.pitt.edu.

Flight, **Jan. 26-Feb. 3,** CAPA Theater, 111 9th St., Downtown, Pittsburgh Opera, 412-281-0912, www.pittsburghopera.org.

Disney's The Lion King, **through Feb. 17**, Benedum Center, 719 Liberty Ave., Downtown, PNC Broadway Across America Series, 412-456-6666, www.pgharts.org.

Vagina Monologues by Eve Ensler, **through Feb. 17,** City Theatre, 1300 Bingham St., South Side, 412-431-2489, www.citytheatrecompany.org.

Olympic Exhibition and Tea House William Pitt Union January 28

Pitt PhD Dissertation Defenses

Jaime G. Maldonado-Aviles, Center for Neuroscience, **"**Altered Markers of Tonic Inhibition in the Dorsolateral Prefrontal Cortex of Subjects With Schizophrenia," 10 a.m. **Jan. 28**, Learning Research and Development Center, 2nd floor auditorium.

Samar R. El Khoudary, Department of Epidemiology, "New Therapeutic Option and Insights Into the Impact of Symptom Severity on Quality of Life in Women with Interstitial Cystitis," 2-4 p.m. **Jan. 28,** A523 Graduate School of Public Health.

Dev Chandra, School of Medicine/Molecular Pharmacology, "Extrasynaptic GABA-A Receptors in the Mechanism of Action of Ethanol," 2 p.m. **Jan. 29,** 1395 Biomedical Science Tower.

Jeffrey Jacobson, School of Information Sciences, "Ancient Architecture in Virtual Reality; Does Immersion Really Aid Learning?" 3:30-5:30 p.m. **Jan. 29,** Earth Theater, Carnegie Museum of Natural History, 4400 Forbes Ave., Oakland.

Workshops

Causation Workshop, 9 a.m.-5 p.m. **Jan. 26**, 817R Cathedral of Learning, Center for Philosophy of Science, register at peg1@pitt.edu, 412-624-1052, www.pitt.edu/~pittcntr.

Collections and the Collector, Act 48 teacher workshop, 10 a.m.-3:30 p.m. **Jan. 26,** Lexington Education Center, Frick Art Museum, 7227 Reynolds St., Point Breeze, 412-371-0600, www.frickart.org.

"High-Risk Student Alcohol Use," faculty lunch and learn workshop, noon-1 p.m. **Jan. 29**, William Pitt Union Lower Lounge, free admission for Pitt faculty, lunch provided, registration required, Student Health Service, 412-383-1830.

University of Pittsburgh

PittChronicle

University News and Magazines
University of Pittsburgh
400 Craig Hall
200 South Craig Street
Pittsburgh, PA 15260

Region Not Prepared to Handle Casino Gambling's Social Impact, Pitt Study Finds

By Sharon S. Blake

A report released today by the University of Pittsburgh School of Social Work (SSW) says Allegheny County human service agencies do not have the resources necessary to handle what could be a spike in social problems among people in this region as a result of the new Majestic Star Casino, slated to open in May 2009.

The report, *Raising the Stakes: Assessing Allegheny County's Human Service Response Capacity to the Social Impact of Gambling*, surveyed 137 agencies that dealt with addiction-related issues, including mental health, drug and alcohol, and faith-based organizations. The goal was to see if they offered or were preparing to offer gambling prevention, intervention, and treatment services. Previous studies have linked gambling to mental health disorders, drug or alcohol abuse, harmful family arguments, poor health, job loss, bankruptcy, arrests, and other issues. The report provides a reliable "snapshot" about the preparedness of local agencies.

"We got into this study because most of the public and media discussion were focused on the economic benefits of the new casino and issues such as traffic and parking garages," said Rafael Engel, a professor in SSW and one of the study investigators. "We felt it was important to examine the potential strain that gambling would bring to human service providers." Other study investigators are SSW assistant professor Daniel Rosen and SSW director of continuing education Tracy Soska.

"We got into this study because most of the public and media discussion were focused on the economic benefits of the new casino and issues such as traffic and parking garages. We felt it was important to examine the potential strain that gambling would bring to human service providers."

–Rafael Engel

The report's findings suggest:

• More than 75 percent of the agencies do not screen for or treat problem gambling, nor have they provided such training for staff;

• Most agencies feel problem gambling is not an issue for their organization; and

• Fewer than one-third of the agencies are familiar with any state or other public awareness campaign to promote issues relates to problem gambling, and fewer than 10 percent educate clients on problem gambling.

PUBLICATION NOTICE The next edition of *Pitt Chronicle* will be published Jan. 28. **Items for publication in the newspaper's *Happenings* calendar** (see page 7) **should be received six working days prior to the desired publication date.** *Happenings* items should include the following information: title of the event, name and title of speaker(s), date, time, location, sponsor(s), and a phone number and Web site for additional information. Items may be e-mailed to chron@pitt.edu, faxed to 412-624-4895, or sent by campus mail to 422 Craig Hall. For more information, call 412-624-1033 or e-mail robinet@pitt.edu.