

Chancellor, Board Chair, Advocates Make Case to Senate Panel: Pitt Needs Adequate Funding to Remain Essential Regional Asset

Advocates Lay Out the Details

University of Pittsburgh Chancellor Mark A. Nordenberg presented the University's case for a restoration of adequate state funding during a Sept. 12 Pennsylvania Senate Appropriations Committee hearing on Pitt's campus. The Chancellor made his remarks (see accompanying article) before a packed audience in Alumni Hall's Connolly Ballroom.

Chancellor Nordenberg then handed the microphone over to an impressive cadre of speakers—a Pitt student, two professors, the University's Board of Trustees chair, a top economic development official, and Carnegie Mellon University President Jared Cohon—who laid out, in no uncertain terms, the University's value as an educational institution and economic development engine.

The Pitt hearing—comprising two panel sessions that lasted a total of nearly four hours—was the second of four hearings that the Senate Appropriations Committee is holding across the state at Pennsylvania's four state-related universities: Pitt, Penn State, Temple, and Lincoln. Penn State's hearing was held Sept. 7; sessions at Temple and Lincoln are scheduled for Oct. 12 and 13, respectively.

The hearings' purpose is to allow Senate committee members to delve more deeply into the funding issues surrounding each of the four state-related universities and to determine—at a time when both public universities and states face extremely tight budgets—how Harrisburg should make the wisest investments in appropriating Pennsylvania taxpayers' funds.

The issue is of particular interest because Pennsylvania's governor, who inherited a \$4 billion deficit when he took office in January 2011, initially announced a proposed budget with 50 percent appropriation cuts for Pitt and the other state-related universities this fiscal year, which began July 1. While Pitt

and the other schools were able, through legislative negotiations, to avoid a significant portion of the proposed cuts, the University is nevertheless operating this fiscal year with a still-massive 22 percent reduction in state funding, requiring difficult budget-cutting decisions, partial salary freezes, and tuition increases. Overall state spending was cut by just 4 percent, making Pitt's cuts both deep and disproportionate.

The six speakers who testified along with Chancellor Nordenberg sought to make it clear to legislators that adequate funding of Pitt is essential to the continuation of the University's high-quality academics and research, as well to the region's economic growth.

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Nordenberg Addresses Crowded Alumni Hall and Speaks About Pitt's Contributions

This is the testimony of University of Pittsburgh Chancellor Mark A. Nordenberg at the Senate Appropriations Committee hearing in the Connolly Ballroom, Alumni Hall, on Sept. 12, 2011.

In just a few months, the University of Pittsburgh will celebrate its 225th birthday. On Feb. 28, 1787, the Pennsylvania legislature breathed life into the institution that would become Pitt by chartering a frontier school then known as the Pittsburgh Academy. But it is another key anniversary, for Pitt and for Pennsylvania, that is even more directly relevant today.

Forty-five years ago, on Aug. 23, 1966, House Bill Number 2—sponsored by Democratic Representative, and later Speaker, K. Leroy Irvis—was signed into law by Republican Governor William Scranton. That bill converted Pitt, which to that point had been a private institution, into a public, state-related university. By then, of course, Pitt had grown from a log-cabin academy into a modern research university and had expanded to include four campuses outside of Pittsburgh—in Johnstown, Bradford, Greensburg, and Titusville.

With demand from a growing college-age population rising dramatically, the state faced the need to provide far higher numbers of reasonably priced university opportunities. It did so by turning to Pitt and Temple, two universities with established reputations and developed physical plants, eliminating the need either to build academic programs or to make the capital investments that “starting from scratch” with new campuses would have required.

The most obvious beneficiaries of Pitt's new public status were the first wave of “baby boomers,” whose tuition obligations were steeply reduced. But another force also drove this legislation—a desire to invest in institutions that would fuel broader community growth. That goal was described in a 1966 resolution of

the Chamber of Commerce of Greater Pittsburgh, which declared:

“We all are familiar with the impetus that outstanding educational complexes have given to cultural and economic growth in other sections of the country. We have similar educational resources in Pittsburgh and wish to maintain and expand them.”

The mission of Pitt, Penn State, and Temple—the state's three public research universities—was best described in a state master plan issued in the mid-1980's, shortly after the creation of the State System of Higher Education. That plan labeled these three universities as the “Commonwealth universities” and described their expected contributions in the following way:

“Together, these institutions offer a broad range of educational programs



Alumni Hall's Connolly Ballroom was packed for the Sept. 12 Senate Appropriations Committee hearing.

and services and carry special responsibilities for research, advanced graduate instruction, and for education in the professions, including law, medicine, engineering, business, and agriculture The scope and quality of their programs and their geographic distribution permit them to serve the needs of the state and nation in the fields of undergraduate, graduate, and first professional education, research, and public service.”

That is a daunting mission. But Pitt now has been delivering on it for 45 years, with its record of impact and accomplishment growing dramatically over time. Let me briefly focus on the three key areas that I mentioned, beginning with education.

Education

In the year before Pitt became a state-related university, its student body included 13,962 in-state residents. This past academic year, 26,457 Pennsylvania students were enrolled in our programs. The total number of Pitt degrees awarded since we became a state-related university is 287,000, a measurable and meaningful return on the state's investment in our University.

Demand for admission to Pitt's programs continues its dramatic climb, as do the records of academic strength presented by enrolled students. This means that we are keeping some of Pennsylvania's very best students at home, increasing the likelihood that they ultimately will live and work and contribute here. It also means that we are attracting outstanding out-of-state students, who ultimately may choose to become Pennsylvanians.

It also is important to note that, even with lagging state support, Pitt has delivered its high-quality programs at tuition rates

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that are far lower than those charged by private university peers and has maintained a significant differential between in-state and out-of-state tuition. Put another way, Pitt has delivered on its end of the agreement making it a state-related university.

Research

Pitt's impact in research may be even more striking. Since becoming state-related, our faculty have attracted a staggering \$10.5 billion in research grants, and the rate of growth has been amazing. In the year

Continued on page 2



Mark A. Nordenberg

MARY JANE BENT/CODE

JIM BURKE/CODE

Chancellor, Board Chair, Advocates Make Case to Senate Panel

Nordenberg Addresses Crowded Alumni Hall and Speaks About Pitt's Contributions



MARY JANE BENT/CIDDE

Addressing Pitt's roles as one of the nation's leading research universities and a driver of regional economic development were (from left) Pitt Chancellor Mark A. Nordenberg; Dennis Yablonsky, CEO of the Allegheny Conference on Community Development; Jared Cohon, president of Carnegie Mellon University; and D. Lansing Taylor, director of the University's Drug Discovery Institute and the Allegheny Foundation Professor in the School of Medicine's Department of Computational and Systems Biology.

Continued from page 1

before Pitt became state-related, its annual research expenditures stood at slightly less than \$23 million. By 1995, they had increased tenfold, to more than \$230 million. This year, they exceeded \$800 million. That means that we now are attracting more than \$5.50 in research funding for every \$1 of our appropriation—a return that probably cannot be matched by any other Commonwealth investment.

Pitt ranks in the top five nationally in funding from the National Institutes of Health and is regularly in the top 10 or 12 universities in total federal research support. These competitively awarded funds fuel pioneering research efforts, but they also have an immediate economic impact. By standard national conventions, every \$1 million in research expenditures supports, directly and indirectly, 36 jobs. Pitt's \$800 million of research expenditures, then, supports nearly 29,000 local jobs.

Pitt has played a lead role in creating virtually all of the region's technology-based economic development initiatives. And just since the beginning of the new century, Pitt research has resulted in the issuance of 373 new patents, the execution of 628 new license or option agreements, and the creation of 67 new companies. Though they seem to have agreed on little else, both President George W. Bush and President Barack Obama placed Pittsburgh in the national and international spotlight as an inspiring example of economic transformation and underscored the importance of university research to that economic rebirth.

Community Development

In fact, what could not have been anticipated when Pitt became state-related is the extent to which the impact of its work would become so central to regional economic development. Particularly as we continue to move through the "jobless recovery" from the "Great Recession," the links between the positive economic forces unleashed by research universities and higher levels of employment have become even more

critical.

Consider the following reports from the U.S. Bureau of Labor Statistics. From March of 2008 to March of 2009, the Pittsburgh metropolitan area lost more than 25,000 jobs: 7,400 manufacturing jobs; 5,300 leisure and hospitality jobs; 5,200 trade, transportation, and utilities jobs; 2,600 professional and business services jobs; 1,700 construction jobs; 1,100 information and 1,100 financial services jobs; and 1,000 government jobs.

The only sector to gain at least 1,000 jobs was education and health services, which added more than five times that many, at 5,400 jobs.

In the most recent assessment period, signs of an improving economy began to emerge. However, the prominence of the "eds and meds" was unchanged. According to the Bureau of Labor Statistics, "In the Pittsburgh metropolitan area, the education and health services supersector gained 5,300 jobs from March 2010 to March 2011, more than any other industry . . . As of March 2011, this supersector was the largest industry in the Pittsburgh area, employing more than one-fifth of the local workforce."

Eroding State Support

What recent history teaches, though, is that even extraordinary returns of this type do not drive state investments. And this is true whether those returns are measured arithmetically, in terms of dollars flowing into the economy, or in more human terms—by lives enhanced through the power of education, or lives improved through the products of research, or lives fulfilled by the opportunity to hold a job and engage in meaningful work.

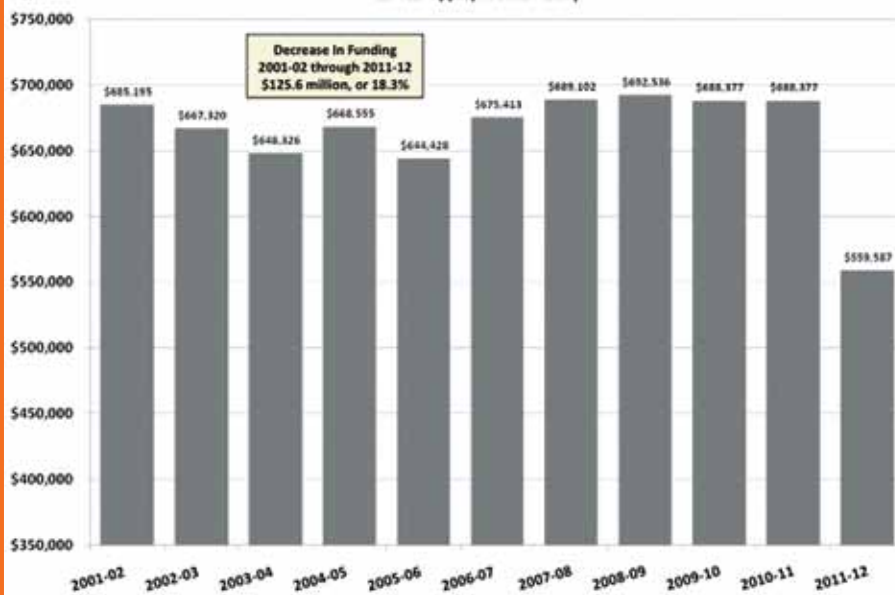
Though a pattern of decline can be traced over an even longer period, the absence of any correlation between delivery on mission and state support became particularly pronounced during the past decade. Our appropriation was cut in six of those 10 years, with the Commonwealth's investment in Pitt's appropriation, excluding federal dollars, standing at \$9.3 million less in the fiscal year just closed, before the truly deep cuts hit, than it was 10 years earlier.

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Commonwealth of Pennsylvania

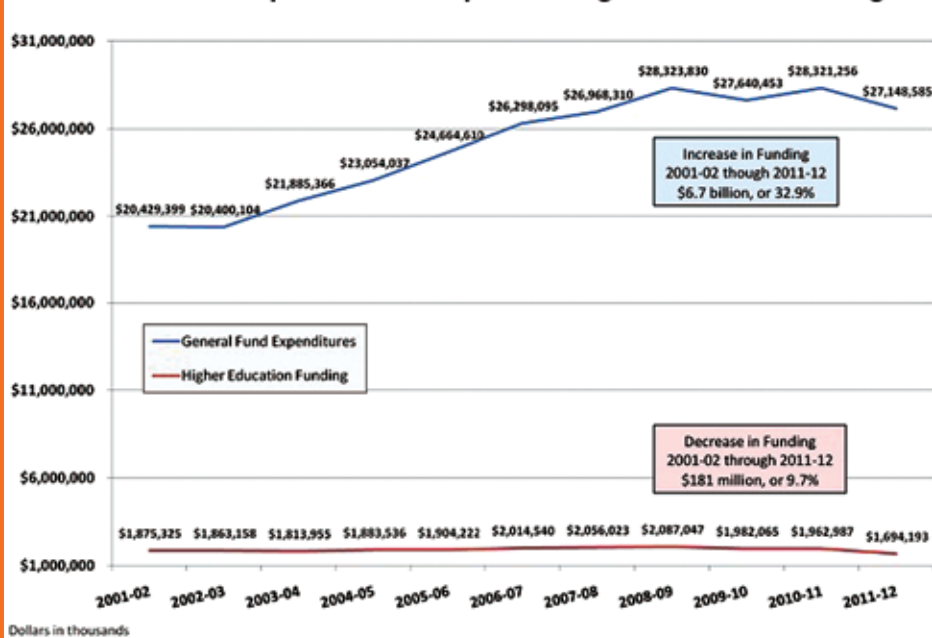
State-Related Universities

10-Year Appropriations History



Commonwealth of Pennsylvania

General Fund Expenditures Compared to Higher Education Funding



During the eight years of the previous administration, inflation rose by more than 20 percent; overall state spending increased by nearly 40 percent; and state support for basic education increased by more than 60 percent; but support for higher education remained flat. In 2008, the most current year for which data are available, Pennsylvania ranked 46th among the 50 states in terms of per capita spending for higher education.

Pennsylvania's per capita investment of \$185.12 stood in stark contrast to the higher levels of funding provided by such neighboring states as Michigan (\$258.28), New Jersey (\$259.73), Delaware (\$278.47), Connecticut (\$295.46), West Virginia (\$309.87), Maryland (\$331.45), and New York (\$331.54). To express that range in a somewhat different way, neighboring New York spent nearly 80 percent more per capita on higher education than Pennsylvania did.

These comparatively lower levels of state funding inevitably translate into dollar disadvantages for individual institutions and the people who depend upon them. Looking at state support as a percentage of total budget for institutions typically ranked with Pitt among the country's top American research universities provides one set of relevant comparisons. Within that group, Berkeley stood at 26 percent, the University of Florida at 32 percent, North Carolina at 22 percent, and Wisconsin at 18 percent. At that time, Pitt was just slightly less than 10 percent, and the only university in that group

ranked below it was Michigan at 7 percent.

And that was before the drastic cuts that came in the state budget for the current fiscal year. The Governor first proposed that Pitt lose 50 percent of its general appropriation and 100 percent of our academic medical

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PUBLISHER Robert Hill
ASSOCIATE PUBLISHER John Harvith
EXECUTIVE EDITOR Linda K. Schmittmeyer
EDITOR Jane-Ellen Robinet
ART DIRECTOR Gary Kohr-Cravener
STAFF WRITERS Sharon S. Blake, John Fedele, Audrey M. Marks, Patricia Lomando White
CONTRIBUTING WRITERS Michael Bury, Karen Hoffmann, Anita Srikameswaran

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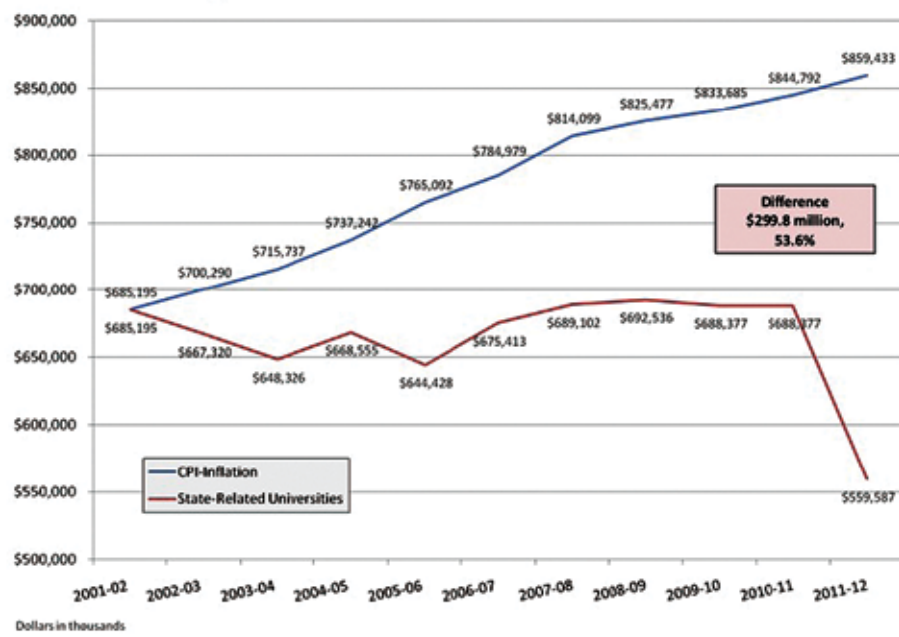
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State Funding for State-Related Universities versus CPI-Inflation



PAINTING THE PICTURE BY NUMBERS

Chart No. 1 (opposite page) shows the 10-year appropriations history, including this fiscal year's precipitous drop, in the Commonwealth's funding of the four state-related universities: Pitt, Penn State, Temple, and Lincoln. While the chart's bars appear relatively flat (excluding this year), it is important to remember that both the Consumer Price Index-Inflation and the state's overall general fund budget increased significantly over those same 10 years. Charts No. 2 and 3 reflect those disparities.

As Pitt has demonstrated on many occasions, when collective sacrifices are required, we stand ready to do our fair share. But the 22 percent reduction in state support that we endured was dramatically disproportionate in a budget that cut overall state spending by 4 percent.

center support. In the end, and with a great deal of help from members of this committee, we improved those numbers, ultimately suffering a 19 percent reduction to our general appropriation and losing 50 percent of our academic medical center support.

Obviously, that is lot better than where we started, but those are hardly numbers to spark a celebration. Instead, Pitt suffered an overall 22 percent cut to its state support, the highest percentage reduction of any of the state-related universities. That left us with a \$70 million budget gap—\$40 million of it tied to cuts in state support and \$30 million tied to unavoidable increases in the cost of doing business.

Dealing with that large gap required a

number of actions:

- Increasing tuition more than we would have liked, given the added burdens it placed on our students, particularly since Penn State and Pitt already are the two most expensive public universities in the country;

- Implementing a salary freeze for many employees for the remainder of this year, with very modest increases to come in the new calendar year—a real concern since, with another recent salary freeze and changes to some of our benefits plans, our comparative compensation position already has deteriorated, and we do compete for talented faculty and staff with the best universities in the country;

- Dramatically reducing our planned

Even more important, though, is what those numbers say about our sense of direction for this state that we call home. Without question, the numbers represent a retreat from the collective commitment to the education of the next generation of Pennsylvanians that was so visibly on display when Pitt was made a state-related university. They represent a dramatic reduction in support for institutions that are among the Commonwealth's most significant generators of new ideas and technologies, even as we move further into a highly competitive century in which success will largely be defined by innovation.

investments in deferred maintenance, even though we have spent the last 15 years contending with what had seemed to be an almost unmanageable backlog and know that postponement often leads to more costly future repairs;

- Cutting back on the investments in academic and student life initiatives that have propelled Pitt to its current level of prominence and also cutting back on such central resources as library acquisitions that not only distinguish a research university but that often also are a resource for the broader community;

- Eliminating some of our established "seed investments" in research that have regularly provided the foundation for promising projects that subsequently attract outside support—for the good of the involved faculty, the University, and the region;

- Assigning additional budget reduction responsibilities to our academic and administrative units, recognizing that those managing at that level will know best how to make cuts while doing the least damage to current programs and future prospects; and

- In direct response to reductions to more focused appropriations, cutting back on special outreach programs that we have conducted for the state, with its support, for many years, including such programs as the special needs clinic in our School of Dental Medicine, services provided by Western Psychiatric Institute and Clinic to teens at risk of suicide and other citizens in need, and our Graduate School of Public Health's statewide training program for public health practitioners. Such programs had been supported by targeted appropriations that were dramatically reduced in the current state budget, even though much of the funding actually came from federal sources.

Moving Forward

This past budget, we were told, was driven by math. Put most simply, there was a huge state budget deficit to close, time was short, and those in charge essentially needed to make cuts wherever they could find the money. But this is a new budget-building year. Hopefully it can be a year in which more careful thought can be given to long-term consequences in charting the paths that we will be traveling together.

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We are grateful for the opportunity to have this early discussion and

look forward to working with you to develop a more promising approach for the future of Pennsylvania and its people.



Addressing the committee on Pitt's role as a provider of high-quality higher education were (from left) Chancellor Nordenberg; Molly Stieber (A&S '13), president of Pitt's Student Government Board; Graham Hatfull, Eberly Family Professor and Howard Hughes Medical Institute Professor; and Stephen Tritch ((ENGR '71, MBA '77), chair of the Pitt Board of Trustees.



Pitt Student Government Board president Molly Stieber stands with Sen. Jake Corman, who chairs the Senate Appropriations Committee. Stieber's eloquent and enthusiastic advocacy for Pitt during her testimony prompted several senators to ask, only half-jokingly, about her post-graduation employment plans.

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Stephen R. Tritch (ENGR '71, MBA '77), chair of Pitt's Board of Trustees and retired Westinghouse chair and CEO, recalled for the committee how Pitt's presence—both as a source of talent and as a research partner—played a role in Westinghouse remaining in the greater Pittsburgh area once it had outgrown its Monroeville location a few years ago. He also lauded the quality of education he received at the University.

"These personal and professional experiences drive my sense of deep concern about the continuing deterioration of Pitt's state appropriation ... This university is an institution of impact," Tritch said in his written remarks.

"... I want to stress, as the Chancellor has, that the University never expected to be exempt from the sacrifices that all must share in these difficult economic times," Tritch added. "However, we also did not expect to be targeted for such a disproportionate share

of the Commonwealth's budget-cutting responsibilities. Looking back at my own circumstances as a college student, I am left with the fear that we seem to be abandoning the next generation of students with high potential who come from families of modest means. And looking back on my experiences as the CEO of an important business that is heavily dependent on well-educated human talent to drive the progress of its business, I worry that we seem to be retreating from support of the very institutions that will help fuel our collective success in the 21st-century economy.

"I know that the members of this committee have been strong supporters of Pitt and Pennsylvania's other research universities. I can only hope that you will make the restoration of their appropriations to more reasonable levels of funding a high priority as you begin building the

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Commonwealth's budget for the next fiscal year and for many years to come," Tritch said.

Joining Tritch in addressing the committee about Pitt's role as a provider of high-quality higher education were Molly Stieber, president of Pitt's Student Government Board; and Graham Hatfull, Eberly Family Professor, Howard Hughes Medical Institute Professor, and former chair of the School of Arts and Sciences' Department of Biological Sciences.

A second panel, which discussed Pitt's roles as one of the nation's leading research

universities and a driver of regional economic development, included Dennis Yablonsky, CEO of the Allegheny Conference on Community Development; Jared Cohon; and D. Lansing Taylor, director of the University's Drug Discovery Institute and the Allegheny Foundation Professor in the School of Medicine's Department of Computational and Systems Biology.

The panelists' comments received favorable responses from Senate committee members.

Advocacy Panelists



"I grew up in Butler, just a bit north of Pittsburgh, and came from a family of modest means. I was able to attend the University of Pittsburgh, the school of my choice, only because of the lower tuition for in-state students that resulted from Pitt's transition to public university status just one year before I enrolled here. ...

This university is an institution of impact. Anyone who has attended Pitt (as I did) or who has had a son or daughter attend Pitt (as I have) or whose life has been touched in some other way by the university—working for Pitt or for one of its many suppliers or spin-off companies; benefitting from its medical research; attending the cultural or athletic events it sponsors; being helped by its community outreach; just living in Oakland, where the University's police protection extends to all; or in countless other ways—almost certainly shares those feelings as we continue to face the possibility of further reductions to our funding.

... I worry that we seem to be retreating from support of the very institutions that will help fuel our collective success in the 21st-century economy."

—Stephen Tritch
(ENGR '71, MBA '77) (Tritch is chair of Pitt's Board of Trustees and the retired chair and CEO of Westinghouse.)



"[M]y high school, Manheim Township, was ranked among [the] top 500 public high schools in the country. Two consecutive valedictorians chose to attend Pitt, as well as numerous students in the top 10 percent of my graduating class. Once I officially decided on Pitt, I joined numerous Facebook groups, including one titled "What schools did you turn down to come to Pitt?" The list included, but was not limited to, Harvard, Yale, Princeton, Brown, the University of Pennsylvania, and Stanford. I can guarantee almost, if not all, of those students were residents of Pennsylvania, opting to choose a terrific university which grants them in-state tuition rather than choosing to acquire enormous debt upon graduating from a private Ivy League university. ...

Please remember, about 80 percent of undergraduates at Pitt are from the state of Pennsylvania. These students, as I have hopefully made you see, are not just Pennsylvania's finest, but the country's finest students."

—Molly Stieber
(Stieber is president of Pitt's Student Government Board.)



"The presence of the University of Pittsburgh, Carnegie Mellon University, and other regional colleges is a major attraction for biotechnology companies to start and to stay in Pittsburgh. ...

A well-educated work force is critical for building technology-based companies and keeping them in Pittsburgh. The University of Pittsburgh has a great reputation in providing the quality education and research experience required to fuel the growing number of companies being founded here in Pittsburgh. ...

The economic future of the Commonwealth of Pennsylvania is tied to the technical developments at the major academic institutions. We must keep this engine running."

—D. Lansing Taylor
(Taylor is director of the Pitt's Drug Discovery Institute and the Allegheny Foundation Professor in the School of Medicine's Department of Computational and Systems Biology.)



"We would not be where we are today—a stable, balanced regional economy, a skilled, qualified workforce, and world-class innovation talent and potential—without the leadership and vision of our universities during some of the most difficult economic times this region had ever seen. ...

The economic impact of the University of Pittsburgh is measurable and can be felt throughout our regional economy. According to the most recent data available, Pitt employees, students visitors, and the University itself made more than \$1.74 billion in expenditures in the local economy in FY 2008.

One of the primary impacts that Pitt has had on our region is educating and preparing our future workforce. A qualified, skilled workforce is critical to the economic growth of businesses already located here and a top requirement for businesses looking to expand and/or relocate here. On average, nearly three-quarters of Pitt graduates live and work in our Commonwealth, with 42 percent of them doing so in the Pittsburgh region. ...

Over the past 15 years, the University of Pittsburgh has become a leader in technology transfer, with more than 2,300 invention disclosures, more than 440 patents received, 685 licenses executed, and 80 start-up companies formed."

—Dennis Yablonsky
(Yablonsky is CEO of the Allegheny Conference on Community Development.)

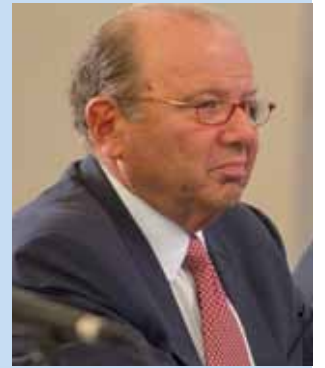


"[T]he relationships between research and undergraduate education ... can—and must—work together to fulfill our core responsibilities. ...

The stronger the [University's] research programs, the higher the quality of undergraduate education. The deeper the involvement of undergraduates in research, the more competitive the research programs are. Investment in each benefits the other. The synergism is perhaps the most powerful force today in higher education. ...

[M]ajor research institutions that succeed in the full integration of their educational and research missions—such as the University of Pittsburgh—gain a key competitive edge, in turn enabling them to attract inquisitive, ambitious, and highly motivated undergraduate students. The impressive gains in the entrance qualifications of Pitt undergraduates over the past few years are a testament to the importance of these strategic priorities."

—Graham Hatfull
(Hatfull is the Eberly Family Professor and Howard Hughes Medical Institute Professor at the University of Pittsburgh.)



"The core message that I hope to leave with you today is that the University of Pittsburgh is a unique resource that provides vital services to Pennsylvania residents. Pennsylvania residents benefit from Pitt's ability to combine undergraduate education in the fields of science and engineering, which are central to Pennsylvania's future, with cutting edge, nationally recognized research. This linkage—a uniquely American dynamic created by the rise of the public research university—essentially connects students to the jobs and industries that will shape the future and play a vital role in the continued resurgence of the Pittsburgh region. The partnership between Pitt and the Commonwealth provides an environment for education that cannot be replicated in any other public university setting. Thus, the direct support provided by the Commonwealth to enhance the ability of Pennsylvania residents to attend Pitt is crucial for ensuring access to economic opportunity in growing industries. It is an investment in Pittsburgh's and Pennsylvania's future growth and prosperity."

—Jared Cohon
(Cohon is president of Carnegie Mellon University.)

PITT ARTS Program Offers Five 'Pitt Nights'

By Sharon S. Blake

PITT ARTS—the University of Pittsburgh program that connects the Pitt community to the city's cultural life through deeply discounted event tickets—has scheduled five Pitt Nights for this academic year.

These outings—open to Pitt faculty, staff, and students—include optional free transportation, a dessert reception, and a chance to meet some of each arts event's key performers. As long as a member of the Pitt community is purchasing the tickets and attending the event, he or she may bring a non-Pitt guest.

The 2011-12 schedule follows.

Pitt Night with the Pittsburgh Symphony Orchestra, Triple Beethoven, 8 p.m. Sept. 30, Heinz Hall, 600 Penn Ave., Downtown

The all-female, Grammy-nominated Eroica Trio makes its BNY Mellon Grand Classics debut performing Beethoven's seldom-programmed Triple Concerto for violin, cello, and piano with the Pittsburgh Symphony and music director Manfred Honeck. Then Honeck and the Orchestra play Beethoven's Symphony No. 3—the *Eroica*. Tickets start at \$15.

Pitt Night with Pittsburgh Opera, La Traviata, 8 p.m. Oct. 21, Benedum Center, 719 Liberty Ave., Downtown

Verdi set the heart-rending story of a suffering, unjustly maligned Parisian courtesan to some of his most beloved music. Tickets start at \$10.

8 p.m. Oct. 28, Pitt Night with Pittsburgh Ballet Theatre, Peter Pan, Benedum Center, 719 Liberty Ave., Downtown

Jorden Morris' choreography is set to music by Britten, Eric Coates, Elgar, and others performed by a live orchestra. This



Peter Pan features “whimsical costumes and magnificent sets that transform J.M. Barrie's classic fantasy into a breathtaking production.” Tickets are \$17 or \$22.

8 p.m. Jan. 28, Pitt Night with Pittsburgh Public Theater, As You Like It, O'Reilly Theater, 621 Penn Ave., Downtown

A rosy glow of enchanted love follows young nobles into the Forest of Arden, where this Shakespeare romantic comedy takes shape. Tickets start at \$17.

7:30 p.m. Feb. 8, Pitt Night with Pittsburgh Cultural Trust, Cedric Watson and Bijou Creole, Byham Theater, 101 Sixth St., Downtown

Cedric Watson is one of the most noted young talents to emerge in Cajun or Creole music. A fiddler, vocalist, accordionist and songwriter, Watson revives old Creole fiddling styles, injected with a healthy dose of his own personality. Tickets start at \$17.

For more information about PITT ARTS, call 412-624-4498.

Pitt Department of Music Hosts "Music on the Edge" Concert Series

By Michael Bury

The University of Pittsburgh's Department of Music is hosting its annual concert series “Music on the Edge,” which is codirected by Eric Moe, a Pitt professor of music, and Matthew Rosenblum, chair of the Department of Music. The series is devoted to contemporary music performed by professional musicians.

The Music on the Edge schedule follows.

Morton Feldman Mini Festival
Nov. 3-4, 8 p.m., Wood Street Galleries, 601 Wood St., Downtown

Pianist Amy Williams, percussionist Jan Williams, flutist Lindsey Goodman, and cellist Jonathan Golove perform with Feldman's *Patterns in a Chromatic Field* for cello and piano (Nov. 3) and *Crippled Symmetry* for flute, piano and percussion (Nov. 4).

LotUS (League of the Unsound Sound)
Jan. 14, 8 p.m., The Andy Warhol Museum, 117 Sandusky St., North Side

This evening of experimental music features a combination of performers, composers, and improvisers.

JACK Quartet
Feb. 25, 8 p.m., The Andy Warhol

Museum, 117 Sandusky St., North Side

JACK Quartet has played to critical acclaim around the globe. “The string quartet may be a 250-year-old contraption, but young, brilliant groups like the JACK Quartet are keeping it thrillingly vital,” *The Washington Post* said. The quartet will also perform *Richter Textures*, a piece by Pitt assistant professor of music Amy Williams.

Firebird Ensemble
Mar. 17, 8 p.m., Bellefield Hall Auditorium

Firebird Ensemble aims to break down preconceptions about new music, to build enthusiasm for new compositions, and to create a unique concert atmosphere. A group of eclectic musicians, Firebird Ensemble will present works by Eric Moe and Lee Hyla.

Bugallo-Williams Piano Duo
Apr. 2, 8 p.m., Bellefield Hall Auditorium

This concert for one piano, four hands, pays tribute to the music of Hungarian composer György Kurtág.

Additional information is available on the “Music on the Edge” Web site, www.music.pitt.edu/mote.



Pitt's Asian Studies Center Presents Fall 2011 'Asia Over Lunch' Lecture Series

By Audrey M. Marks

The University of Pittsburgh's Asian Studies Center will present the Fall 2011 “Asia Over Lunch” brown bag lecture series at noon on Wednesdays, beginning Sept. 21, in 4130 Posvar Hall.

The dates, presenters, and titles of the lectures follow.

Sept. 21 Thomas Rawski, Pitt professor of economics, “China's Economic Boom—Why Didn't It Happen 100 Years Earlier?”

Oct. 5 Kristopher Geda, linguistics graduate student at Pitt, “You Speak Chinese Well For a White/Black Guy! The Effect of Student Ethnicity on Native Speakers' Judgments of Chinese Foreign Language Competency”

Oct. 12 Hiroyuki Good, Japanese bibliographer, Pitt East Asian Library, “An Update on Japanese Studies Resources at the University of Pittsburgh”

Oct. 19 James Cassing, Pitt professor of economics, “Impact Assessment of Free Trade Agreements on Vietnam's Economy”

Oct. 26 Xiuying Zou, public services

librarian, and Haihui Zhang, Chinese bibliographer, Pitt East Asian Library, “An Update on Chinese Studies Resources at the University of Pittsburgh”

Nov. 2 Yi-tze Lee, Pitt PhD candidate in anthropology, “Branding Affective Labor in the Dark Tribe: Organic Farming and Emotional Landscape of Talampo Amis in Eastern Taiwan”

Nov. 9 Balwant Dixit, Pitt professor of pharmacology, “Mental Illness and Substance Abuse in Indian and Maharashtrian Immigrants in North America”

Nov. 16 Meng Ren, Pitt PhD candidate in ethnomusicology, “Why Are the Flowers So Beautiful? Changing Cultural Policies for a United Chinese Identity—A Study of the Hua'er (Flower Song) Tradition in the Northwest of China.”

Asian Studies is part of Pitt's University Center for International Studies. For more information, contact the Asian Studies Center at 412-648-7370 or asia@pitt.edu.

Pitt Library System Simplifies PITTCat+

By Sharon S. Blake

Pitt's University Library System (ULS) has revamped its massive catalog—PITTCat+—to make the system even easier to use. All books, CDs, DVDs, maps, and several million academic articles accessible via ULS can now be searched in one computerized index.

“Prior to this, users would search the library catalog for books, several databases for academic articles, and different databases for newspaper articles,” said Jeff Wisniewski, a ULS Web services librarian. “Resources were scattered in different silos. Now we have a single comprehensive index for all of the content to which the ULS has access,” he said.

Another convenience for students: More items are now available with the full text online.

In addition, there are more ways to refine a standard PITTCat+ search. Users can search just within scholarly publications or only in newspaper articles, for example. Users also can extend their search to items beyond ULS's content to sources identified as useful, but with content that doesn't belong to any particular library.

“Our goal in the ULS is to make searching for information as easy and seamless as possible from as wide an array of sources as we can. We are excited that this new version of PITTCat+ adds journal articles into the search results along with books and other materials,” said Rush Miller, ULS director and Hillman University Librarian.

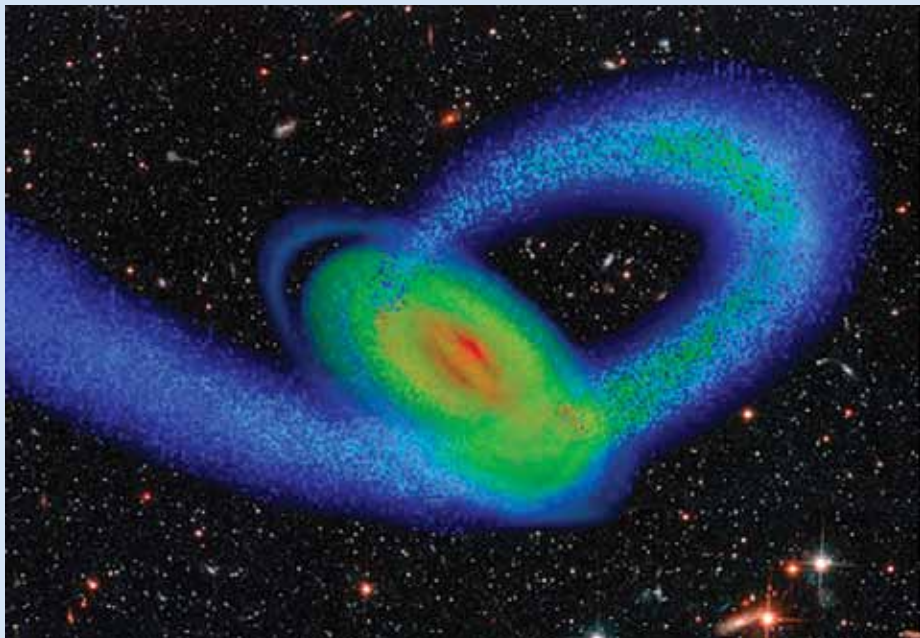
The new system, which will retain the PITTCat+ name, is also available to be downloaded on mobile phones.

The ULS is the 23rd-largest academic library system within the United States. Under the administration of the Hillman University Librarian and ULS director, it includes 20 libraries and collections and holds more than 6.2 million volumes and world-class specialized collections, among them the Archive of Scientific Philosophy and the Archives of Industrial Society, as well as major foreign-language materials from around the world totaling 1.4 million volumes. The ULS offers state-of-the-art facilities and services, with innovative digital library collections and capabilities.

Science & Technology

How the Milky Way Got Its Spiral

Pitt researchers' supercomputer simulation uncovers how a collision with a dwarf galaxy triggered formation of Milky Way's spiral arms



A computer simulation of the Sagittarius Dwarf galaxy (blue stream of stars) impacting our Milky Way galaxy (multicolored disk).

By Karen Hoffmann

The signature spiral arms of the Milky Way galaxy were likely formed by an epic collision between the Milky Way and the Sagittarius Dwarf galaxy, according to a University of Pittsburgh researcher and his collaborators whose findings were published last week in the prestigious British journal *Nature*.

The results of supercomputer simulations by Christopher W. Purcell, postdoctoral research associate in the Department of Physics and Astronomy in Pitt's School of Arts and Sciences, and colleagues were reported in a paper titled "The Sagittarius Impact as an Architect of Spirality and Outer Rings in the Milky Way."

This paper is the first to identify Sagittarius as the architect of spiral structure in our Milky Way: "It presents a new and somewhat unexpected way of thinking about why the galaxy we live in looks the way it does," says Purcell. "Cosmologically speaking, it demonstrates the idea that relatively small impacts like this can have a dramatic impact on the structure of galaxies throughout the universe," he adds.

This idea had been assumed theoretically, but never demonstrated.

Purcell's collaborators include University of California High-Performance AstroComputing Center (UC-HIPACC)-affiliates James S. Bullock, Erik J. Tollerud, and Miguel

Rocha, all at the University of California at Irvine. The fifth coauthor is Sukanya Chakrabarti at Florida Atlantic University.

In the field of cosmology, supercomputer simulations are the only laboratories for scientific experimentation. With supercomputers, astronomers can recreate a small-scale simulation or model of distant, violent events that occurred over billions of years and observe that model in sped-up time in order to make predictions that can be tested by actual observations of the universe.

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Purcell's findings are based on supercomputer simulations he conducted for his PhD at the University of California, Irvine, and in the lab of Pitt professor of physics and astronomy Andrew Zentner.

Interestingly, Purcell's simulations revealed that even more important than the stars of the Sagittarius Dwarf was its halo of invisible "dark matter"—equal in mass to all the stars in the Milky Way.

Visible matter makes up less than five percent of the universe, while nearly a quarter of the universe is made of transparent dark matter. Its existence is felt only through its gravitational influence. It is now

known that every galaxy, including the Sagittarius Dwarf (precollision) and our own Milky Way, resides at the center of a giant halo of dark matter several times larger in radius and many times greater in mass.

"When all the dark matter smacked into the Milky Way, 80 to 90 percent of it was stripped off," Purcell says. That first impact—more than two billion years ago—produced instabilities that were quickly amplified, eventually forming the spiral arms and ring structures in the outskirts of our own galaxy.

In his dissertation, Purcell focused on the question: What effects have the repeated collisions with the Sagittarius Dwarf had on the Milky Way?

Throughout the past few decades, conventional wisdom has been that the Milky Way was relatively unperturbed for the past several million years. Whatever spiral structure exists, these arms were just a result of the Milky Way disc evolving in isolation.

Since the Sagittarius Dwarf was discovered, astronomers have tried to match up debris from that galaxy to what they saw in the universe. In 2003, infrared telescopes and supercomputers that traced the orbital motions of its stars has revealed that the Sagittarius Dwarf had actually collided with the Milky Way twice—once 1.9 billion years ago and again 0.9 billion years ago.

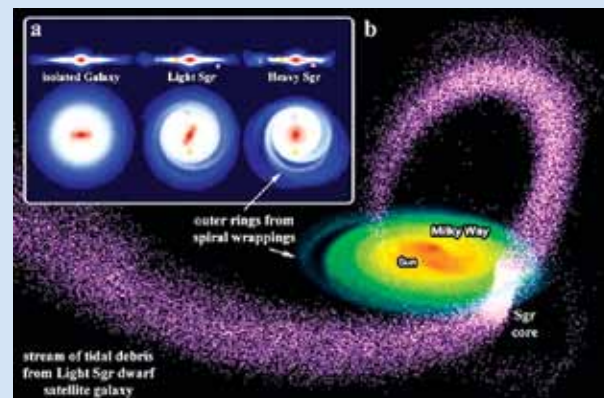
"But what those collisions did to the Milky Way hadn't been simulated at all," says Purcell. "Ours was the first ever to try to do that."

Researchers found that the collision set up instabilities—fluctuations in density of stars—in the flat disk of the rotating Milky Way. Our galaxy rotates faster toward its center than toward its edges, so those instabilities were stretched and sheared, leading to the formation of spiral arms.

The simulations also revealed that the impact gave rise to ring-like structures found at the edges of our galaxy.

The second impact affected the Milky Way less, giving rise to only milder, less dense spiral-creating waves, because the Sagittarius Dwarf had by then lost most of its dark matter mass. Without the dark matter to hold the dwarf galaxy together, its visible stars began to be pulled apart by the Milky Way's huge gravitational field and tidal forces.

"The dominant cosmology in astrophysics is one that's very violent on small scales. Galaxies like the Milky Way are constantly being bombarded by these small dwarf galaxies. It had not been appreciated prior to our work just



Computer simulation showing three scenarios of the impact of the Sagittarius Dwarf galaxy with the Milky Way.

how dramatic those impacts could be on the stellar disc itself," says Purcell. "We expected to find some more subtle signatures of an impact like this—a flare in the outer disc, like bell-bottom jeans. We expected to see some mild morphological changes to the Milky Way. But we did not expect to see a spiral structure begin to emerge as a result of these impacts. That was something we didn't foresee."

Indeed, Purcell and collaborators delayed publication for several months while they made sure they understood why they were seeing these results. "We had to convince ourselves that we weren't crazy," he jokes.

Today, long streamers of stars from the dismembered dwarf galaxy arch over and around the Milky Way, and "right now, billions and billions of dark matter particles from the Sagittarius Dwarf are raining down onto the Earth," said Purcell. "Meantime, the Sun itself is revolving around the center of the Milky Way Galaxy, in a complex and still-evolving system of multiple spiral arms."

We're just a few million years short of a third impact, Purcell says. But how can the researchers tell?

"We can tell when we look toward the center of the Milky Way," says Purcell. "Immediately on the opposite side of us, we can see this blob of stars crashing into the southern face of the disc from beneath. We can measure the velocities of these stars. We know that the dwarf galaxy is just about to smash the disc—in only another 10 million years."

The University of California High-Performance AstroComputing Center (UC-HIPACC), based at the University of California at Santa Cruz, is a consortium of all the University of California campuses, three Department of Energy laboratories (Lawrence Berkeley Laboratory, Lawrence Livermore Laboratory, and Los Alamos National Laboratory), and NASA Ames Research Center.



Christopher W. Purcell

Happenings



Wicked,
Benedum Center,
through October 2

Concerts

Adam and Anthony Live, original *RENT* stars Adam Pascal and Anthony Rapp join forces on the concert stage in a rock/rock evening, 7:30 p.m. **Sept. 22**, Byham Theater, 101 Sixth St., Downtown, www.pgharts.org, PITT ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

Vance Gilbert, American folk singer/songwriter, 7:30 p.m. **Sept. 22**, Pittsburgh Center for the Arts, 6300 Fifth Ave., Shadyside, Calliope Center Stage Series, www.calliopehouse.org, 412-361-1915, PITT ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

Honeck & Mussorgsky's Pictures at an Exhibition, with pianist Rudolf Buchbinder in Gershwin's Concerto in F, **Sept. 23-25**, Heinz Hall, 600 Penn Ave., Downtown, Pittsburgh Symphony Orchestra, BNY Mellon Grand Classics, www.pgharts.org, PITT ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

Beethoven Extravaganza, with Manfred Honeck conducting, and the Grammy-nominated Eroica Trio, **Sept. 30 through Oct. 2**, Heinz Hall, 600 Penn Ave., Downtown, Pittsburgh Symphony Orchestra, BNY Mellon Grand Classics, www.pgharts.org; PITT ARTS Night is Sept. 30; 412-624-4498, www.pittarts.pitt.edu.

Exhibitions

University Art Gallery, *On a Lucky Day a Surprising Balance of Forms and Spaces Will Appear*, through **Oct. 21**, exhibition comprising work of 14 faculty members in Pitt's Department of Studio Arts, Frick Fine Arts Building, 412-648-2430.

Carnegie Museum of Art, *Ragnar Kjartansson: Song*, through **Sept. 24**; *Hand Made: Contemporary Craft in Ceramic, Glass, and Wood*, ongoing; *Past Meets Present: Decorative Arts and Design at Carnegie Museum of Art*, ongoing, 4400 Forbes Ave., Oakland, 412-622-3131, www.cmoa.org.

The Warhol, *I Just Want to Watch: Warhol's Film, Video, and Television*, ongoing, 117 Sandusky St., North Side, 412-237-8300, www.warhol.org.

Heinz History Center, *America's Best Weekly: A Century of The Pittsburgh Courier*, through **Oct. 2**; 1212 Smallman St., Strip District, 412-454-6000, www.heinzhistorycenter.org.



Vance Gilbert,
Pittsburgh Center for the Arts,
September 22

The Hunt Institute for Botanical Documentation, *Botany and History Entwined: Rachel Hunt's Legacy*, rare gems from the original collection of founder Rachel McMasters Miller Hunt (1882-1963), through **Dec. 15**, 5th Floor of Hunt Library, 4909 Frew St., Carnegie Mellon University, 412-268-2434, http://huntbot.andrew.cmu.edu/.

Wood Street Galleries, *Cell Phone Disco*, ongoing, Tito Way, Downtown, 412-456-6666, www.pgharts.org.

Lectures/ Seminars/ Readings

"Disparities in Healthcare for Minorities: Institutional or Personal?" Jeannette South-Paul, Andrew W. Mathieson Professor and chair of Pitt's Department of Family Medicine, noon **Sept. 19**, Pitt School of Social Work Conference Center, 20th floor, Cathedral of Learning, Pitt Center on Race and Social Problems' Buchanan Ingersoll & Rooney PC Fall 2011 Speaker Series, 412-624-7382.

"The Continuing Relevance of Judicial Review for the Preservation of Constitutional Rights," David J. Garrow, Pitt research professor of history and law, noon **Sept. 19**, Barco Law Building's Teplitz Memorial Courtroom, Pitt School of Law's Constitution Day event, www.law.pitt.edu.

"How Can We Be Moral When We Are So Irrational?" Nils-Eric Sahlin, Center for Philosophy of Science Visiting Fellow, professor of philosophy at Lund University, The Netherlands, 12:05 p.m. **Sept. 20**, Pitt Center for Philosophy of Science's Lunchtime Talks, 817R Cathedral of Learning, 412-624-1052, www.pitt.edu/~pittcntr.

"Genes, Genomes, and the Future of Medicine, Richard P. Lifton, chair, Department of Genetics, Yale University School of Medicine, noon **Sept. 22**, Scaife Hall Auditorium 6, Pitt Senior Vice Chancellor's Laureate Lecture Series, 412-383-7382, www.health.pitt.edu.

Miscellaneous

"Library of the Early Mind: A Grown-up Look at the Art of Children's Literature" (Edward J. Delaney, 2010), documentary screened by Pitt's School of Information Sciences, 6 p.m. **Sept. 22**, Carnegie Museum of Art Theater, 4400 Forbes Ave., free and open to the public, reservations required at kis9@pitt.edu.

Opera/Theater/ Dance

Attack Theater, collaborative dance-based performances, noon **Sept. 21**, Nordy's Place, William Pitt Union Lower Level, free lunch, PITT ARTS 9th Annual Artful Wednesdays Series, 412-624-4498, www.pittarts.pitt.edu.

Race by David Mamet, described as an incendiary story about perceptions and realities and the subtle shades between being a victim and being victimized, through **Oct. 1**, Henry Heymann Theatre in Stephen Foster Memorial, Pittsburgh Irish & Classical Theatre, 412-394-3353, www.pitttheatre.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

The Marvelous Wonderettes by Roger Bean, a return to the 1950s and '60s, through **Oct. 2**, Cabaret at Theater Square, 655 Penn Ave., Downtown, 412-281-3973, www.pittsburghclo.org, PITT ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

Wicked, story of the Wicked Witch of the West and Glinda the Good before they came to Oz, through **Oct. 2**, Benedum Center, 719 Liberty Ave.,

Downtown, PNC Broadway Across America-Pittsburgh, 412-456-6666, www.pgharts.org.

Pitt PhD Dissertation Defenses

Maya L. Groner, School of Arts and Sciences' Department of Biologic Sciences, 9 a.m. **Sept. 19**, "Effects of Multiple Stressors on the Dynamics of a Fungal Pathogen Associated With Global Amphibian Declines," A22, Langley Hall.

David A. Bell, Graduate School of Public and International Affairs, 2 p.m. **Sept. 19**, "The Linkage Between Organizational Behavior and Donor Capital Volatility: The Case of Microfinance Capital Flow in Sierra Leone," 3200 Posvar Hall.

Brian A. Primack, School of Medicine's Clinical

and Translational Science Doctoral Program, 10 a.m. **Sept. 23**, "Hookah Tobacco Smoking at U.S. Universities: Personal and Environmental Predictors, Associations With Other Risk Behaviors, and Policy Assessment," 7039 Forbes Tower.



University Art Gallery,
*On a Lucky Day a Surprising
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Will Appear,*
Will Appear,
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Pitt's Center for Latin American Studies to Present "The Americas—In Concert" Oct. 1

Grammy-winning Latin pianist Octavio Brunetti and his band, the Octavio Brunetti Quintet, will be bringing tango to Pittsburgh as part of the fourth annual "The Americas—In Concert."

The Center for Latin American Studies (CLAS) in Pitt's University Center for International Studies will present the free public concert at 7:30 p.m. Oct. 1 in the Richard Rauh Theater in the Hillman Center for Performing Arts at the Shady Side Academy Senior School, 423 Fox Chapel Rd.

Created by tango pianist and arranger Brunetti, the Octavio Brunetti Quintet combines traditional Argentine tango with the style of the Tango Nuevo. The quintet has performed in some of Argentina's best-known venues, including the famous Teatro Colón and Teatro San Martín in Buenos Aires and Teatro San Martín in Córdoba.

"The Americas—In Concert" is a series of annual concerts sponsored by Med Health Services and Pittsburgh Cardiovascular Institute in collaboration with CLAS to promote the development of local and national professional musicians while exposing Pittsburgh's audiences to the musical works of the Americas.

The performance is free, but tickets should be reserved by visiting www.proartstickets.org/events/buy/909/etid:2584.

For more information, visit www.ucis.pitt.edu/clas/events/americas.html or contact CLAS at 412-648-7394.

—By Audrey M. Marks



Daily Dose of Common Antibiotic Makes Acute COPD Episodes Less Frequent, Study Says

By Anita Srikameswaran

A multicenter team that includes researchers from the University of Pittsburgh School of Medicine has found that patients with chronic obstructive pulmonary disease (COPD) had fewer episodes of acute worsening of their lung disease and a better quality of life if they took a daily dose of a commonly used antibiotic. The findings were reported in Aug. 25 issue of the *New England Journal of Medicine*.

Even patients who are treated with standard bronchodilator and steroid inhalers to control COPD symptoms commonly have one or more flare-ups of the disease each year, which means more doctor and hospital visits, lost work days, and reduced lung function, explained Frank Scirba, a professor of medicine in Pitt's School of Medicine and a leader of the local arm of the study.

The study was conducted by the COPD Clinical Research Network and led by Richard K. Albert of the University of Colorado Denver Health Sciences Center. More than 1,100 COPD patients from 17 sites in 12 academic centers participated in the trial. About half of the participants were randomly assigned to take the macrolide antibiotic azithromycin every day for a year, while the rest took a placebo daily for the same time period. The Pitt arm enrolled 91 participants.

The median time to first COPD exacerbation was 266 days in the azithromycin group and 174 days in the placebo group. Also, exacerbations occurred 27 percent less frequently in the azithromycin group. There was a slightly greater likelihood of hearing problems in the azithromycin group, which is a known risk



of prolonged use of the antibiotic, and the presence of antibiotic-resistant organisms was detected in some patients, although the infection rate was not higher.

More research needs to be done to assess the safety of using azithromycin in COPD patients for longer than a year, and

it's not clear what impact that might have on antibiotic resistance, said trial coinvestigator John Reilly, a professor of medicine in Pitt's School of Medicine.

According to National Heart, Lung, and Blood Institute, COPD affects more than 12 million people in the United States and is

Even patients who are treated with standard bronchodilator and steroid inhalers to control COPD symptoms commonly have one or more flare-ups of the disease each year, which means more doctor and hospital visits, lost work days, and reduced lung function.

now the third-leading cause of death in the United States. There currently is no cure, though a combination of drugs and lifestyle changes can help manage the symptoms.

PUBLICATION NOTICE The next edition of *Pitt Chronicle* will be published Sept. 26. Items for publication in the newspaper's *Happenings* calendar (See page 7) should be received at least two weeks prior to the event 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, or sent by campus mail to 422 Craig Hall. For more information, call 412-624-1033 or e-mail robinet@pitt.edu.