

## Pitt Trustees Approve 2010-11 Budget, Set Tuition Rates, End Salary Freeze

By John Harvith

To meet the educational needs of the University of Pittsburgh's increasingly talented and high-achieving student body, to further advance the University's position as an international center of pioneering research, and to sustain its long-standing tradition of public service initiatives, the Pitt Board of Trustees Budget Committee advanced and the Board's Executive Committee shortly thereafter approved a \$1.889 billion University operating budget for the 2011 fiscal year.

That budget provides for \$6 million in additional funding for financial aid, \$2 million in new academic initiatives, enhanced support for library acquisitions and new student life initiatives, debt service of \$2 million, and significant increases in IT software maintenance payments, utility costs, and health insurance and pension expenses. The budget also includes a 3 percent salary increase pool. The salaries of University faculty and staff were frozen last year.

To support critical investments in the University's mission, to meet rising expenses, and to offset both low yields on fixed-income investments and a flat level of Commonwealth funding, the budget also provides for tuition increases ranging from 2.5 percent for students at the University's four regional campuses, to 3 percent for out-of-state students at the Pittsburgh campus, and to 5.5 percent for in-state students at the Pittsburgh campus. Tuition rates for both in-state and out-of-state students in the School of Dental Medicine also will be held to 2.5 percent. Further, the University leadership felt it was necessary to institute these increases after a year of permanent budget reductions, a salary freeze for all Pitt employees, no increase in tuition at the four regional campuses, and modest tuition increases throughout the rest of the University.

In commenting on the budget, Pitt Chancellor Mark A. Nordenberg said, "The past fiscal year was a year of intense budgetary challenges, which came at the end of what already had been a very difficult decade. Because of pressures on virtually every revenue stream, we were forced to impose a salary freeze and to engage in other significant cost cutting. At the same time, it was a year that brought historic levels of success in both education and research. We continue to attract dramatically larger numbers of applications from more academically accomplished students. And the fact that our research expenditures soared from \$654 million to approximately \$735 million, an increase of more than 12 percent, was incredibly good news—not only for the University, but also for the regional economy, which increasingly depends upon higher education and health care as the principal drivers of local job growth."

Nordenberg continued by noting, "Our three top priorities in structuring this budget were to maintain the high quality of our programs, to provide relief from the current salary freeze for the committed Pitt employees whose efforts have been central to our progress, and to keep tuition increases as moderate as possible. Given both the economic challenges that we continue to face and the market data available to us, we believe that we struck the best possible bal-

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—Chancellor Mark A. Nordenberg

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In commenting further on the approved compensation pool, Nordenberg stated, "Our annual benchmarking of peer institutions confirms that we have been losing ground on the salary front. To recruit and retain the caliber of employees whose work is essential to our continued success in attracting both the best possible students and the highest possible levels of research support required that we make a commitment to end our salary freeze and provide for at least modest salary increases this year. In faculty recruitment and retention, in particular, we compete on a national basis against the country's very best private and public universities. This is a highly competitive market for top talent, even in the current economic environment."

As has been true for many years, the University's single-largest revenue source is research funding, which for FY 2011 is budgeted at \$775.2 million, an increase of considerably more than \$120 million in just two years. "If one compares those research expenditures to the total Commonwealth appropriation of \$185.4 million—which

includes \$7.5 million in federal stimulus money and \$9.53 million of federal Medicare funding—the University attracts nearly \$4.20 in research for every \$1 of appropriation," commented Arthur G. Ramicone, Pitt's vice chancellor for budget and controller. "It is highly unlikely that any other Commonwealth investment provides that rate of return. And if only the Commonwealth dollars—\$168.4 million—in Pitt's appropriation are included, the University attracts \$4.60 in research funding for every \$1 of appropriation."

"Viewed in another way," Ramicone concluded, "the Commonwealth's actual investment in Pitt's appropriation has increased by only \$408,000, or 0.2 percent from Fiscal Year 2000 to Fiscal Year 2011. Inflation since 2000 has been 27 percent. To be clear, we are very grateful for the support that we have received from the Commonwealth, particularly during these very challenging times. However, these flat support numbers, over an extended period of years, do convey some sense of the rather stark budgetary realities that we face."

The University's enviable position in attracting research support is reflected in its high federal research rankings. Based on the most current statistics available, Pitt ranks 5th among all American universities, public or private, in terms of the competitive grants awarded to members of its faculty by the National Institutes of Health. Pitt also ranks among the top 10 universities nationally in total federal science and engineering research and development support.

Among some highlights of recent Pitt accomplishments are the following.

- By frequently used conventions, 36 jobs are generated by every \$1 million in research and development expenditures. Pitt's research expenditures of approximately \$735 million for 2009-10 then, taken alone, supported, directly and indirectly, some 26,500 local jobs. In 2008-09, Pitt's research expenditures totaled \$654 million dollars, then an all-time high. The dramatic single-year surge to approximately \$735 million amounted to an increase of more than 12 percent.

- In terms of its most basic mission, Pitt nearly tripled applications for admission to the undergraduate programs on its Pittsburgh campus in a 15-year period—going from less than 7,800 in 1995 to more than 22,000 this year. And Pitt's students, once enrolled, are performing at the very highest levels. This past year, to give just one highlight, the University claimed its third Rhodes Scholar in the last five years. Since only 32 Rhodes Scholars are selected every year, from the very best students at the very best universities in the country, that really is a noteworthy record—more typical of an elite Ivy League institution than a public university in Pittsburgh.

- Pitt was the nation's top-ranked public university in the 2009 edition of "Saviors of Our Cities: A Survey of Best College and University Civic Partnerships"—reflecting the University's deep commitments to the economic health and general vibrancy of this community.

- During the past decade, University



Marcus Rediker

## Marcus Rediker Named Distinguished Professor Of Atlantic History

By Patricia Lomando White

The University of Pittsburgh has honored award-winning author Marcus Rediker, a professor and chair in Pitt's Department of History, by naming him Distinguished Professor of Atlantic History, effective July 1, 2010.

Pitt Chancellor Mark A. Nordenberg made the appointment upon the recommendation of Pitt Provost and Senior Vice Chancellor James V. Maher. The rank of Distinguished Professor recognizes extraordinary, internationally recognized scholarly attainment in an individual discipline or field.

Rediker's book *The Slave Ship: A Human History* (Viking Penguin, 2007) won the 2008 George Washington Book Prize from the Gilder Lehrman Institute of American History, the C.V. Starr Center at Washington College, and Mount Vernon; the 2008 Merle Curti Award from the Organization of American Historians; and the 2008 James A. Rawley Prize in Atlantic History from the American Historical Association. The book has been translated into Swedish and is currently being translated into Hebrew, Italian, Japanese, Portuguese, and Russian.

Another of Rediker's books, *Villains of All Nations: Atlantic Pirates in the Golden Age* (Beacon Press, 2004), is under option with Lions Gate Entertainment and is in development as a television miniseries. Rediker also is at work on *The Amistad Rebellion: A Sea Story of Slavery and Freedom*, scheduled for publication by Viking Penguin in 2012.

A scholar of early American history and Atlantic history, Rediker joined the University in 1994. Among the courses he teaches are *The Global History of Piracy, Colonial America, Atlantic History: 1500-1800, and Africa and the Atlantic*. He has served as chair of the history department since September 2007 and will complete his term in that position at the end of this month.

Rediker also is the author of *Between the Devil and the Deep Blue Sea: Merchant Seamen, Pirates, and the Anglo-American Maritime World, 1700-1750* (Cambridge University Press, 1987), which was translated

# University Update

To: Members of the University Community  
From: Mark A. Nordenberg  
Date: July 26, 2010  
Re: Fiscal Year 2011 Budget

The early days of the new fiscal year brought some welcome news on the “budget front.” Most obviously, our Commonwealth appropriation was approved more than five months earlier than had been the case in the last year. That, of course, eliminated at least one dimension of the uncertainty that had been a significant complication through much of that year.

At least in the comparative sense, the fact that our total appropriation equaled the amount received during this past year also was good news. We might have complained about the lack of an increase in almost any other year. However, these are not normal economic times, and flat funding is markedly better than the levels of support that many state-funded institutions, both here in Pennsylvania and in other places, will receive this year.

In developing the budget that was presented to our Board of Trustees for its review and action on July 16, three key priorities were pursued.

We sought to maintain the high quality of our programs, to provide relief from last year’s salary freeze, and to moderate tuition increases as much as possible. Given the economic challenges that we continue to face and the market data available to us, we believe that the best possible balance was struck.

Of particular importance to everyone who worked on this budget—and of special interest to the committed members of our faculty and staff—is the fact that we were able to craft a budget that includes a 3 percent salary increase pool. That is

a clear improvement over the salary freeze that we were forced to impose last year. From what we now know, it also seems most likely that this raise pool will place us in a favorable position competitively—with many other universities still imposing salary freezes, implementing furloughs, or awarding more modest salary increases.

To fund that salary increase pool and to meet growing expenses, it was necessary for us also to provide for tuition increases in the operating budget for the new fiscal year. Though these increases are higher than we would have liked, they do appear to be moderate when measured against the tuition increases approved at other major public universities, some of which were well into double digits. These trends, of course, are not new. Instead, they reflect the steady and ongoing erosion of state support for public higher education, which inevitably shifts higher cost burdens to public university students.

In tendering its recommendations to me, the University Planning and Budgeting Committee (UPBC) was dealing with a proposed budget that included a 2.5 percent salary increase pool. Under those circum-

stances, the UPBC recommended that the pool be allocated so that “1.5 percent goes to maintenance of salary and 1 percent to merit/market/equity.” The Committee further recommended that “if you can add more funds to the salary increase pool . . . those funds [should] be used to increase the pool for maintenance of salaries beyond the 1.5 percent of the current recommendation.” These UPBC recommendations were supported unanimously by the Senate Budget Policies Committee.

It is my intention to accept these recommendations. Therefore, the 3 percent salary increase pool built into the budget for this fiscal year will be distributed as follows: 2 percent for salary maintenance for all employees whose work performance during the past year has been rated as at least satisfactory and 1 percent for merit, market and equity adjustments to be made at the unit level. For eligible members of the faculty and staff, any increases awarded will be retroactive to July 1 and will first appear in September paychecks.

I should specifically note that it has been our consistent pattern to centrally distribute some portion of the salary increase pool to address market imbalances throughout the University. Given the size of the pool and the fact that salaries were frozen last year, funds will not be held back from that pool for that purpose this year.

However, as the UPBC expressly noted in its report to me, there is a shared expectation that addressing such imbalances will be a part of its recommendations in future years.

It also is important to underscore the fact that the lifting of the salary freeze and adoption of a budget with a salary increase pool does not signal that economic challenges are behind us. Looking at the global economy, some experts believe that, even though a “double dip” recession is unlikely, that possibility is less remote

today than it was just a few months ago. The state budget passed earlier this month is built around \$850 million in federal funding that has not yet been approved and that may not be approved, which would trigger serious problems for the state in the very short term. Locally, neither the Port Authority’s large budget deficit nor the City’s significant pension shortfall have yet been effectively addressed. And the “funding cliff” that is expected to materialize when the federal stimulus program comes to an end now is less than one year away.

Further financial difficulties, then, almost certainly await us. But given all that we faced during the past two years, our record of sustained progress is nothing short of remarkable. There is every reason to believe, then, that we will find ways to maintain our momentum, whatever new challenges may come our way.

I am deeply grateful to each of you for what you have done to keep Pitt moving forward, wish you the very best for the remaining days of summer and look forward to launching the new academic year with you in just a few short weeks.



Mark A. Nordenberg

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# Briefly Noted



## Pitt-Johnstown to Host Aug. 9-13 Retreat for Teens “Aging Out” of Foster Care

Approximately 1,000 children across Pennsylvania “age out” of the foster care system each year, and many of these children face uncertain futures.

An Aug. 9-13 Independent Living Youth Retreat at the University of Pittsburgh at Johnstown is designed to help these young people, ages 16 to 21, transition more smoothly to adulthood.

Sponsored by the Pitt School of Social Work’s Pennsylvania Child Welfare Training Program and the Pennsylvania Department of Public Welfare Office of Children, Youth and Families, the retreat will offer 150 participants from across the state a week of educational sessions, group discussions, and social activities.

“The retreat will provide foster care youth with a college experience in an effort to motivate them to pursue higher education, where they may reach their full potential,” said Helen Cahalane, principal investigator of the child welfare education and research programs in Pitt’s School of Social Work.

The participants will live in residence halls and utilize campus facilities as they set goals, discover their options, and make connections with others. Approximately 60 child welfare workers from across the state also will attend.

A banquet will be held at 6 p.m. Aug. 12 in the Living Learning Center Heritage Hall on the Pitt-Johnstown campus. It will include a keynote address by George Duvall, a motivational speaker, consultant, and comedian who is the training specialist for Berea College’s GEAR UP Program, a federally funded partnership designed to encourage young people from low-income families to consider and prepare early for college. Duvall spent 15 years in foster care and youth facilities.

—Sharon S. Blake

## Leading Expert on Cell-Cycle Control to Present Dickson Prize Lecture at Pitt’s Science2010

Stephen J. Elledge, a leading scientist in the field of cell-cycle control, will present this year’s Dickson Prize in Medicine Lecture at the University of Pittsburgh’s 10th annual science and technology showcase, *Science2010: Transformations*. The lecture will begin at 11 a.m. Oct. 7 in Alumni Hall’s Connelly Ballroom.

Elledge is the Gregor Mendel Professor of Genetics and Medicine at Harvard Medical School

AGRAPTO SANCHEZ

and a Howard Hughes Medical Institute investigator. He is one of the most respected and prolific researchers on cell-cycle regulation and cellular response to genotoxic stress, which are fundamental biological processes related to cell division and genetic damage and repair.

Elledge is one of four prominent scientists who will present plenary lectures during the Oct. 7-8 event. All *Science2010* events are free and open to the public.

The Dickson Prize in Medicine, which is the most prestigious award presented by the University of Pittsburgh School of Medicine, recognizes individuals who have made significant and progressive contributions to the field of medicine. Established in 1969 by the estates of Joseph Z. Dickson and his wife, Agnes Fischer Dickson, the prize consists of a bronze medal and an award of \$50,000.

Complete details about *Science2010* and registration can be found online at [www.science2010.pitt.edu](http://www.science2010.pitt.edu).

—By Kristin Beaver

## PNC Branch to Open in UPMC Presbyterian Hospital

PNC Bank will open a branch in UPMC Presbyterian on Aug. 2. The branch will provide a complete range of financial services, including checking accounts, loans and mortgages, investment services, insurance, and small business banking. It will be located on the second floor of the hospital near the information desk.

Hours will be 7 a.m. to 4 p.m. Mondays through Fridays. There also will be two 24-hour ATMs.

# PittChronicle

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## Behavioral Patterns in Infancy Predict Anxiety Levels Later, Timothy H. Monk-Led Study Says



By Megan Grote Quatrini

Infants with irregular patterns of sleeping, eating, and playing were significantly more likely to experience symptoms of anxiety more than a decade later, according to a study led by University of Pittsburgh School of Medicine researchers, in collaboration with researchers at the University of Wisconsin School of Medicine and Public Health, that is published in the current issue of *Psychiatry Research*.

It is well known that certain psychiatric symptoms, particularly related to depression

and anxiety, are associated with dysfunction of the 24-hour biological clock, also known as the circadian system. In this study, the research teams followed 59 children for 13 years, starting at age 1 month, to determine if the regularity of their daily behaviors in infancy could predict depression and anxiety symptoms when the children were older.

“We found that a baby’s daily routine and sleep patterns at 1 month were predic-

*Continued on page 4*

## Call for Vice Provosts’ Candidates

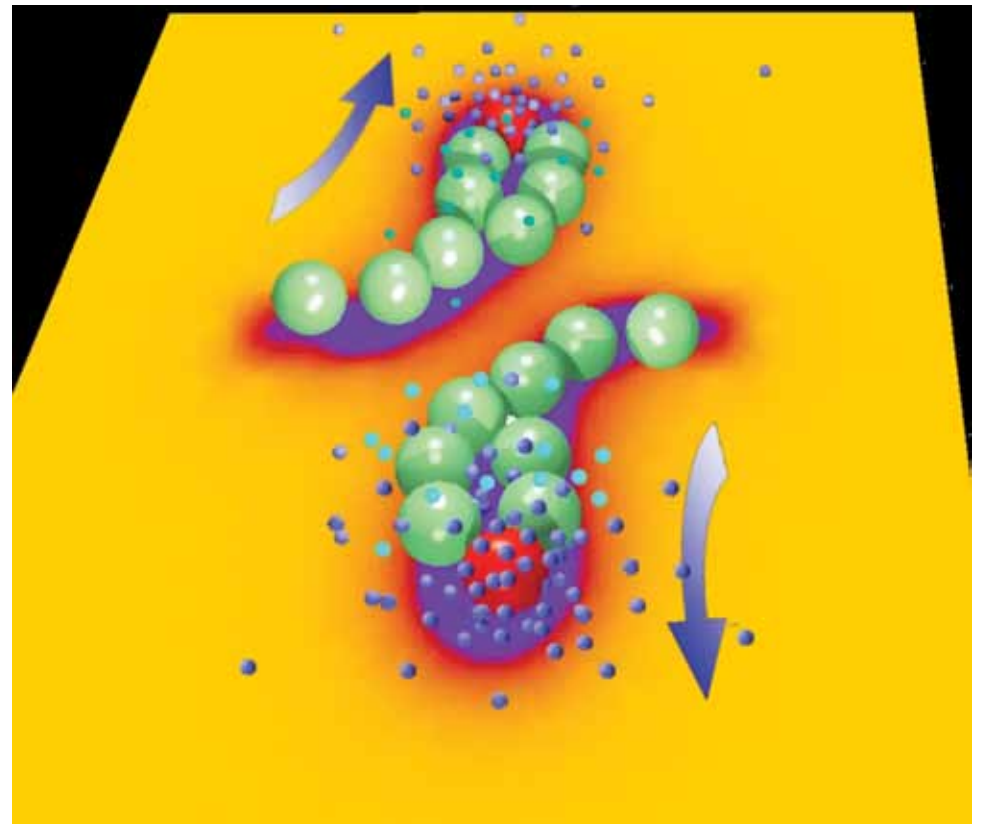
Provost-elect Patricia E. Beeson seeks individuals to serve in three senior staff positions: Vice Provost for Graduate Studies, Vice Provost for Undergraduate Studies, and Vice Provost for Academic Planning and Resources Management. Profiles about the scope of the current positions can be found on the Provost’s Office Web site at [www.provost.pitt.edu/information-on/who-we-are/beeson.html](http://www.provost.pitt.edu/information-on/who-we-are/beeson.html) and [www.provost.pitt.edu/information-on/who-we-are/pack.html](http://www.provost.pitt.edu/information-on/who-we-are/pack.html). Note that the combined Vice Provost for Graduate and Undergraduate Studies position will be restored to a two-person responsibility profile.

Interested candidates must be committed to advancing the academic mission of the institution and to working in a collaborative leadership environment. The Vice Provost for Graduate Studies should be a tenured faculty member active in pursuing Pitt’s graduate education mission. The Vice Provost for Undergraduate Studies should be a tenured faculty member engaged in enriching the undergraduate experience at Pitt. The Vice Provost for Academic Planning and Resources Management should have an earned doctorate and be prepared to lead Pitt’s planning efforts and to serve as the interface between the academic and business functions of the University.

Start dates will be a function of the selected individuals’ availability, and the terms of office will be negotiated.

The process will begin immediately. Those interested in any of the three positions can submit statements of interest to Kit Ayars, senior assistant to the provost, at [kit@pitt.edu](mailto:kit@pitt.edu).

## Pitt Team Designs Artificial Cells That Communicate, Follow Each Other Like Ants



Microcapsules in “snake” formation as competing signaling capsules (shown in red) pull respective lines of target cells in opposite directions.

By Morgan Kelly

Inspired by the social interactions of ants and slime molds, University of Pittsburgh engineers have designed artificial cells capable of self-organizing into independent groups that can communicate and cooperate. Recently reported in the *Proceedings of the National Academy of Sciences (PNAS)*, the research is a significant step toward producing synthetic cells that behave like natural organisms and could perform important, microscale functions in fields ranging from the chemical industry to medicine.

The team presents in the *PNAS* paper computational models that provide a blueprint for developing artificial cells—or microcapsules—that can communicate, move independently, and transport “cargo” such as chemicals needed for reactions. Most importantly, the “biologically inspired” devices function entirely through simple physical and chemical processes, behaving like complex natural organisms but without the complicated internal biochemistry, said corresponding author Anna Balazs, Distinguished Professor of Chemical Engineering in Pitt’s Swanson School of Engineering. The Pitt group’s microcapsules interact by secreting nanoparticles in a way similar to that used by biological cells to communicate and assemble into groups. And with a nod to ants, the cells leave chemical trails as they travel, prompting fellow microcapsules to follow. Balazs worked with lead author German Kolmakov and Victor Yashin, both postdoctoral researchers in Pitt’s Department of Chemical and Petroleum Engineering, who produced the cell models; and with Pitt professor of electrical and computer engineering Steven Levitan, who devised the ant-like trailing ability.

The researchers write that communication hinges on the interaction between microcapsules exchanging two different types of nanoparticles. The “signaling” cell secretes nanoparticles known as agonists that prompt the second “target” microcapsule to emit nanoparticles known as antagonists.

Video of this interaction is available on

Pitt’s Web site at [www.pitt.edu/news2010/CellTalk.wmv](http://www.pitt.edu/news2010/CellTalk.wmv), one of several videos of the artificial cells Pitt has provided. As the signaling cell (right) emits the agonist nanoparticles (shown as blue), the target cell (left) responds with antagonists (shown as red) that stop the first cell from secreting. Once the signaling cell goes dormant, the target cell likewise stops releasing antagonists—which makes the signaling cell start up again. The microcapsules get locked into a cycle that equates to an intercellular conversation, a dialogue humans could control by adjusting the capsules’ permeability and the quantity of nanoparticles they contain.

Locomotion results as the released nanoparticles alter the surface underneath the microcapsules. The cell’s polymer-based walls begin to push on the fluid surrounding the capsule and the fluid pushes back even harder, moving the capsule. At the same time, the nanoparticles from the signaling cell pull it toward the target cells.

Groups of capsules begin to form as the signaling cell rolls along, picking up target cells. In practical use, Balazs said, the signaling cell could transport target cells loaded with cargo; the team’s next step is to control the order in which target cells are collected and dropped off.

The researchers adjusted the particle output of the signaling cell to create various cell formations, some of which are shown in the videos available on Pitt’s Web site. The first clip—available at [www.pitt.edu/news2010/CellAntTrail.wmv](http://www.pitt.edu/news2010/CellAntTrail.wmv)—shows the trailing “ants,” wherein the particle secretions of one microcapsule group are delayed until another group passes by and activates it. The newly awakened cluster then follows the chemical residue left behind by the lead group.

A second film available at [www.pitt.edu/news2010/CellDragon.wmv](http://www.pitt.edu/news2010/CellDragon.wmv) depicts a “dragon” formation comprising two cooperating signaling cells (shown as red) leading a large group of targets. Similar to these are “snakes” made up of competing signaling capsules pulling respective lines of target cells.



Anna Balazs

# New Pittsburgh Courier's Women of Excellence



MARY JANE BENT/CODICE

Fifty African American women from Southwestern Pennsylvania have been named Women of Excellence by the *New Pittsburgh Courier*. The women, selected for making significant contributions to the local community and business world, were honored during a July 14 luncheon at the Westin Convention Center Hotel. Several of the honorees were Pitt alumni, including the following. Front row, from left: Joy Starzl, (SOC WK Certificate of Advanced Studies '97, '97G), Margaret Smith Washington (SOC WK '70G, GSPH '74), Deborah Holland (A&S '74, EDUC '80G), Marlene Gary Hogan (A&S '73), and Kathy Mayle Towns (NURS '77, '80G, KGSB '82). Back row, from left: Joanne Cobb Burley (EDUC '79G), Jeanette Blackston (SIS '76G, EDUC '96G, ), Amelia Michele Joiner (CGS '98), Emma Lucas-Darby (SOC WK '77G, '86G), Sheila Beasley (CGS '87), and Patricia Wade-Johnson (CGS '87).

## Behavioral Patterns in Infancy Predict Anxiety Levels Later, Timothy H. Monk-Led Study Says

Continued from page 3

tive of the amount of anxiety shown more than 10 years later while the child was attending school, but we did not find a significant correlation with depression," said Timothy H. Monk, the lead coauthor of the study, professor of psychiatry, and director of the Human Chronobiology Research Program in the University of Pittsburgh School of Medicine.

To measure lifestyle routines and sleep regularity in babies, the researchers used a diary tool they created called the Baby Social Rhythm Metric (SRM), which parents used to document very young babies' routines a week at a time. In 1990 and 1991, the Baby SRM diary was completed by 59 couples for two consecutive weeks when their infants were 1 month old. The diary tracked baby sleep times, as well as feeding, playing, diaper changing, and receiving comfort.

The researchers suggest that greater regularity in daily activities may increase the predictability of an infant's demands, leading to enhanced parental perception of the baby's cues and increased parental confidence in meeting the infant's needs. They argue that more confident and perceptive parenting, in turn, supports the development of an infant's emotional regulatory capacities. The ability to self-soothe and self-regulate are important emotional regulatory skills.

"Further, cognitive skills, such as directed attention, or the ability to concentrate, also are likely involved in emotion regulation. These attention-directed processes may help to adjust emotional arousal

**"The study supports the potential importance of the circadian system and its development in the life of the child, and possibly suggests a genetic basis that the researchers will explore in future work."**

—Timothy H. Monk

and aid children in managing overt behavior when emotions are less well regulated by other means," noted Linnea R. Burk, clinical assistant professor at the University of Wisconsin and a coauthor of the study. "Children with a well-developed ability to direct attention in a variety of situations likely use less cognitive effort and therefore may have more cognitive resources available to aid in regulatory processes."

The study supports the potential importance of the circadian system and its development in the life of the child and possibly suggests a genetic basis that the researchers will explore in future work. "For many years, experts have believed that regularity in an individual's daily lifestyle might be associated with better mental health," noted Monk. "By being able to follow these children from birth to the ninth grade, we can show that greater regularity, even in very early life, can be associated with less school-age anxiety later on."



Timothy H. Monk

# Pitt Trustees Approve Budget

Continued from page 1

of Pittsburgh graduates claimed, among many other honors, the Nobel Peace Prize, the Nobel Prize in Medicine, the National Medal of Science, the Pulitzer Prize for Fiction, the John Fritz Medal in engineering, the Shaw Prize and Albany Medical Center Prize in medicine, the Grainger Challenge Prize for Sustainability, and the Templeton Prize. Pitt graduates also were elected to such prestigious organizations as the National Academy of Sciences, the Institute of Medicine, the National Academy of Engineering, and the American Academy of Arts and Sciences.

- More than 80 percent of Pitt undergraduates and more than 75 percent of Pitt's entire student body come from Pennsylvania, and 60 percent of Pitt's nearly 270,000 living alumni make their homes in the Commonwealth of Pennsylvania.

- During the past decade, senior Pitt faculty were elected to membership in such prestigious groups as the National Academy of Sciences, Institute of Medicine, American Academy of Arts and Sciences, American Society for Clinical Investigation, American Association for the Advancement of Science, National Academy of Education, American Academy of Nursing, and American Educa-

**In the last 10 years, Pitt faculty members claimed, among many high honors, the National Medal of Science, the Institute of Medicine's Gustav O. Lienhard Award, the Charles S. Mott Prize, the Andrew W. Mellon Foundation Distinguished Achievement Award for exemplary contributions to humanistic studies, the Chauvenet Prize from the Mathematical Association, and the Frederick Douglass Book Prize.**

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In the last decade within Allegheny County:

- \$48.7 billion was earned by more than 70,000 Pitt graduates;
- \$14.3 billion in direct and induced local spending was attributable to the University and its employees, students, and visitors;
- \$11.7 billion in personal income was generated by more than 34,000 Pitt-supported jobs;
- \$1.1 billion in local government revenues were attributable to the presence of the University; and
- The University completed 1,751 capital projects, involving construction expenditures of \$1.142 billion.

## Marcus Rediker Named Distinguished Professor of Atlantic History

Continued from page 1

into French, Greek, Italian, and Korean, and earned the 1988 Merle Curti Award for the best work in American social history and the 1988 John Hope Franklin Prize from the American Studies Association for best interdisciplinary work in American Studies; *Who Built America? Working People and the Nation's Economy, Politics, Culture, and Society*, with Herbert G. Gutman and others (Pantheon Books, 1989); and *The Many-Headed Hydra: Sailors, Slaves, Commoners, and the Hidden History of the Revolutionary Atlantic*, with Peter Linebaugh (Beacon Press, 2000), which was translated into French, German, Italian, Korean, Portu-

guese, and Spanish and won the 2001 International Labor History Book Prize from the International Labor History Association.

**Rediker was named a 2005-06 fellow of both the American Council of Learned Societies and the National Endowment for the Humanities, a 1990-91 Andrew Mellon Fellow at Pitt, and a 1989-90 fellow of the John Simon Guggenheim Memorial Foundation.**

In addition to receiving numerous book awards, Rediker was named a 2005-06 fellow of both the American Council of Learned Societies and the National Endowment for the Humanities, a 1990-91 Andrew Mellon Fellow at Pitt, and a 1989-90 fellow of the John Simon Guggenheim Memorial Foundation.

Rediker attended Vanderbilt University and Virginia Commonwealth University, where he received a BA degree in history in 1976. He earned MA and PhD degrees in history from the University of Pennsylvania, attending from 1976 to 1982.

# PittinBrief

By Morgan Kelly

## Pitt's Swanson School One of Top Two in N. America for Percentage of PhD Degrees Awarded to Women

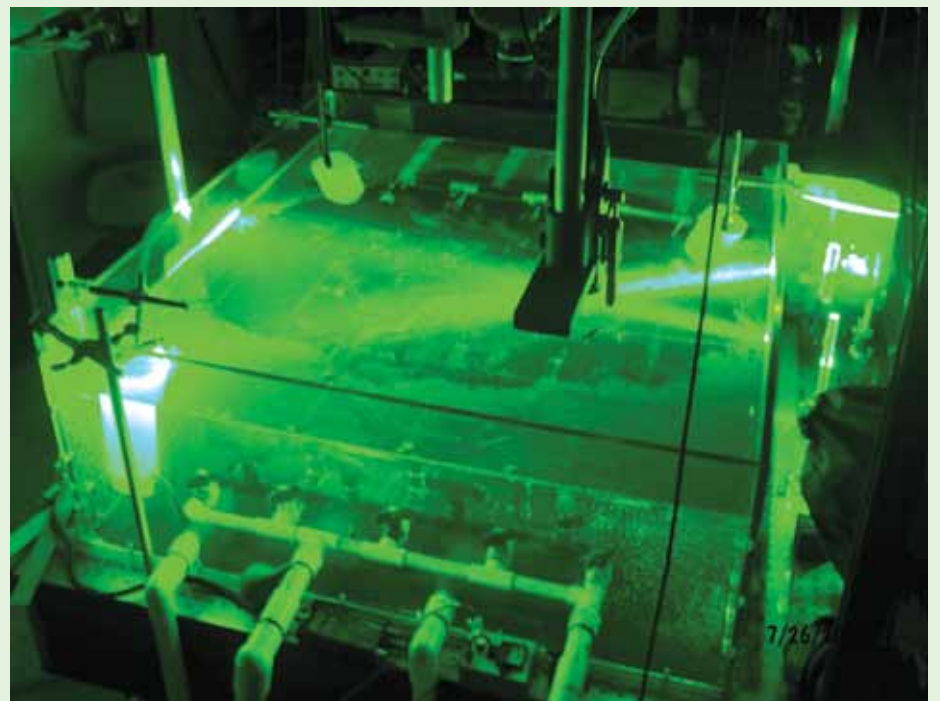
Of the PhD degrees the Swanson School awarded last year, 37.5 percent went to female students

The University of Pittsburgh's Swanson School of Engineering was ranked among the top two in North America by the American Society for Engineering Education (ASEE) for the percentage of doctoral degrees awarded to women in 2009; the Swanson School was positioned just slightly behind the University of Iowa for this metric in ASEE's 2009 *Profiles of Engineering and Engineering Technology Colleges* published in June. The annual publication provides statistics and profiles for all of the more than 400 engineering schools in the United States and Canada.

Of the PhD degrees the Swanson School awarded last year, 37.5 percent

went to female doctoral students, only two percent less than PhD degrees awarded to women at the University of Iowa, according to the report. The ASEE only ranked the 103 institutions that awarded at least 25 PhD degrees last year. Pitt and Iowa ranked higher than the other top 10 universities in this category, which were Yale, Stony Brook, Duke, the University of Oklahoma, Rutgers, Northwestern, Washington University in St. Louis, and the University of Louisville. Northwestern and Washington universities were tied for 8th place.

The report is available on the ASEE Web site at [www.asee.org/publications/profiles](http://www.asee.org/publications/profiles).



## Pitt and University of Illinois Researchers Put Long-Sought Knowledge of Turbulence On Steady Ground; Has Potential for Reducing Friction in Oil Pipelines

Experiments performed at the University of Pittsburgh in partnership with the University of Illinois at Urbana-Champaign have led to a breakthrough in understanding fluid turbulence, the natural drag produced by flowing liquid that can hamper such processes as transporting oil through pipelines, according to a report recently featured on the cover of *Nature Physics*.

Walter Goldberg, a professor emeritus in the Department of Physics and Astronomy in Pitt's School of Arts and Sciences, oversaw the experimental portion of a project that establishes a long-sought link between turbulence and "eddies," microscopic swirls that impede smooth flow. The theoretical work underlying these experiments was conducted at the University of Illinois by Gustavo Gioia, Nigel Goldenfeld, Tuan Tran, Pinaki Chakraborty, and Nicholas Guttenberg. Experimental work also was performed by Hamid Kellay of the University of Bordeaux.

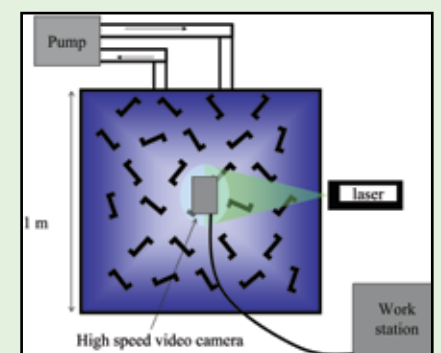
Any fluid that flows along any boundary—such as oil in a pipeline or water in a riverbank—encounters friction. This friction creates turbulence, which causes a lessened efficiency of flow. The team's goal was to study the connection between frictional drag and the irregular motion of turbulent eddies in the flow's interior.

In the experiments, Goldberg and undergraduate and graduate students in his laboratory induced turbulence in a soap film stretched between two wires. By probing the turbulent motion with lasers, they were able to measure the turbulent velocity changes

and the frictional drag created at the two wires. This helped them identify how turbulence in a pipe generates the frictional force on the pipe and also how much force the pipe has on the flowing fluid.

The findings have such practical applications as helping to reduce friction in an oil pipeline, Goldberg said. Turbulence can be quite costly because friction leads to heat loss and a decreased flow rate. Understanding how to minimize energy loss by reducing friction and speeding up the process could lead to a reduced cost for delivering oil.

The next step in the project is to examine how the frictional energy loss depends on the roughness of the boundary's interior wall, Goldberg said. Friction is greater when liquids flow over rough surfaces, a phenomenon the team aims to understand better.





Robert Hill

## Robert Hill Named Communicator of the Year by Pittsburgh Black Media Federation

### Office of Public Affairs Wins 5 PBMF Awards

Robert Hill, vice chancellor for public affairs at the University of Pittsburgh, was selected as Communicator of the Year by the Pittsburgh Black Media Federation (PBMF). The award, announced during the PBMF's annual Robert L. Vann Awards reception on June 10, is given to an individual or organization whose positive actions help disseminate messages of empowerment, community hope, and strength.

In its letter notifying Hill of his award, the PBMF wrote that "the federation has long observed and admired your role as Pitt's chief spokesperson, your founding of the Blue, Gold and Black program, your continued recognition of African Americans connected to the University of Pittsburgh, your support of deserving and in-need Black students at Pitt, and the guidance and support you provide numerous community organizations, including poetry societies and social service nonprofits."

Also, Pitt's Office of Public Affairs won two first-place and two second-place awards, as well as one third-place award during the annual reception held in the William Pitt Union Ballroom.

In the Website Commentary category, Hill and Pitt history professor Laurence Glasco won first place for their commentary titled "Sex Exploitation and Slavery." The

piece was published on a University Library System-produced Web site that takes viewers through a virtual tour of the award-winning Pitt-produced exhibition *Free at Last? Slavery in Pittsburgh in the 18th and 19th Centuries*, which was on display during the 2008-09 academic year at the Senator John Heinz History Center.

In the Magazine Features category, *Pitt Magazine* Senior Editor Ervin Dyer won first place for his article titled "August Wilson's Class Act."

In the category of Newspaper Opinion/Editorials, Robert Hill's opinion piece titled "Pounding on the Doors of Opportunity" won second place. It was published in the *Pittsburgh Post-Gazette*.

In the Print Feature Photography category, Tom Altany's photography for "Abundant Life" in *Pitt Magazine* received second place.

In the Newspaper Series category, the *Pitt Chronicle's* 2009 Black History Month profiles were awarded third place. They were written by Sharon S. Blake, Amanda Leff Ritchie, Anthony M. Moore, and Patricia Lomando White.

The PBMF awards celebrate outstanding achievements in journalism related to the coverage of the African American community of Western Pennsylvania.

## Pitt Chronicle, Pitt Magazine Articles Win Golden Quill Awards

The University of Pittsburgh's Office of Public Affairs won two Golden Quill Awards and was a finalist for six other awards at the annual presentation on May 3 at the Sheraton Hotel, Station Square. The Press Club of Western Pennsylvania's Golden Quill competition recognizes professional excellence in written, photographic, broadcast, and online journalism in Western Pennsylvania.

In the category of Feature/Non-Daily Newspapers, the *Pitt Chronicle's* 2009 Black History Month Series won a Golden Quill Award. The writers of the stories were Sharon S. Blake, Amanda Leff Ritchie, Anthony M. Moore, and Patricia Lomando White.

"I Know These People Now," a *Pitt Chronicle* article by Morgan E. Kelly, was a finalist in the Feature/Non-Daily Newspapers category.

*Pitt Magazine* Senior Editor Ervin Dyer won a Golden Quill for his article "Invisible

Harm." Another *Pitt Magazine* piece by Dyer, "The History of the World ... Really," was a finalist in the Feature/Magazines category.

In the Business/Magazines category, *Pitt Magazine* Senior Editor's Cara Hayden was a finalist for the article "Grow It!"

In the Science/Technology, Non-Daily Newspapers category, Kelly was a finalist for his *Pitt Chronicle* piece, "Humans Related to Orangutans, Not Chimps, Says Study by Schwartz, Buffalo Museum of Science."

In the Cultural/Magazines category, *Pitt Magazine* Editor-in-Chief Cindy Gill was a finalist for the article titled "Drawing Life."

Photographer Harry Gigilio and *Pitt Magazine* Art Director Gary A. Cravener were finalists in the Photo Essay/or Story category for "Phenomenal Women," a photo and profile feature piece on 12 prominent Pitt women, written by the editors of *Pitt Magazine*.

## MEDIA AWARDS EVENING



Members of Pitt's Office of Public Affairs and Pitt History professor Laurence Glasco (far right) gathered for the 2010 Pittsburgh Black Media Federation annual Robert L. Vann Awards. From left, front row: Robert Hill, vice chancellor for public affairs; Jane-Ellen Robinet, *Pitt Chronicle* editor; Linda Schmitmeyer, senior director of news; Patricia Lomando White, senior news representative; Cara Hayden, senior editor, *Pitt Magazine*; and Glasco. From left, back row: Sharon Blake, senior news representative; Ervin Dyer, PBMF president and senior editor, *Pitt Magazine*; Anthony Moore, acting executive assistant to the vice chancellor; and John Harvith, senior associate vice chancellor, University News and Magazines. For details on the awards, see accompanying article on left.

## Barbara Warnick Elected 2010 Fellow Of the Rhetoric Society of America

By Sarah Spiegel

Barbara Warnick, University of Pittsburgh Professor of Communication in Pitt's Department of Communication in the School of Arts and Sciences, has been elected a 2010 Fellow of the Rhetoric Society of America (RSA). This is the first time a Pitt professor has received this honor.

Warnick, who also serves as chair of the department, is one of only five individuals to be named a fellow this year.

Prior to joining the Pitt faculty in 2006, Warnick was a professor of communication and chair of the Department of Speech Communication at the University of Washington in Seattle. Her research focuses on rhetorical theory and criticism.

Warnick is the author of *Fénelon's Letter to the French Academy* (University Press of America, 1984), *Critical Thinking and Communication: The Use of Reason in Argument* with Edward S. Inch (Allyn & Bacon Publishing Company, 1989, 1994, 1998, 2002, 2006), *The Sixth Canon: Belletristic Rhetorical Theory and Its French Antecedents* (University of South Carolina Press, 1993), *Critical Literacy in a Digital Era: Technology, Rhetoric and the Public Interest* (Erlbaum, 2002), and *Rhetoric Online: Persuasion and Politics on the World Wide Web* (Peter Lang, 2007).

Warnick served on the board of the RSA from 2007 to 2009. She also has been a member of and served in various positions in the National Communication Association, the Western States Communication



Barbara Warnick

Association, the International Society for the History of Rhetoric, and the American Society for the History of Rhetoric; she served as the latter organization's president in 1994.

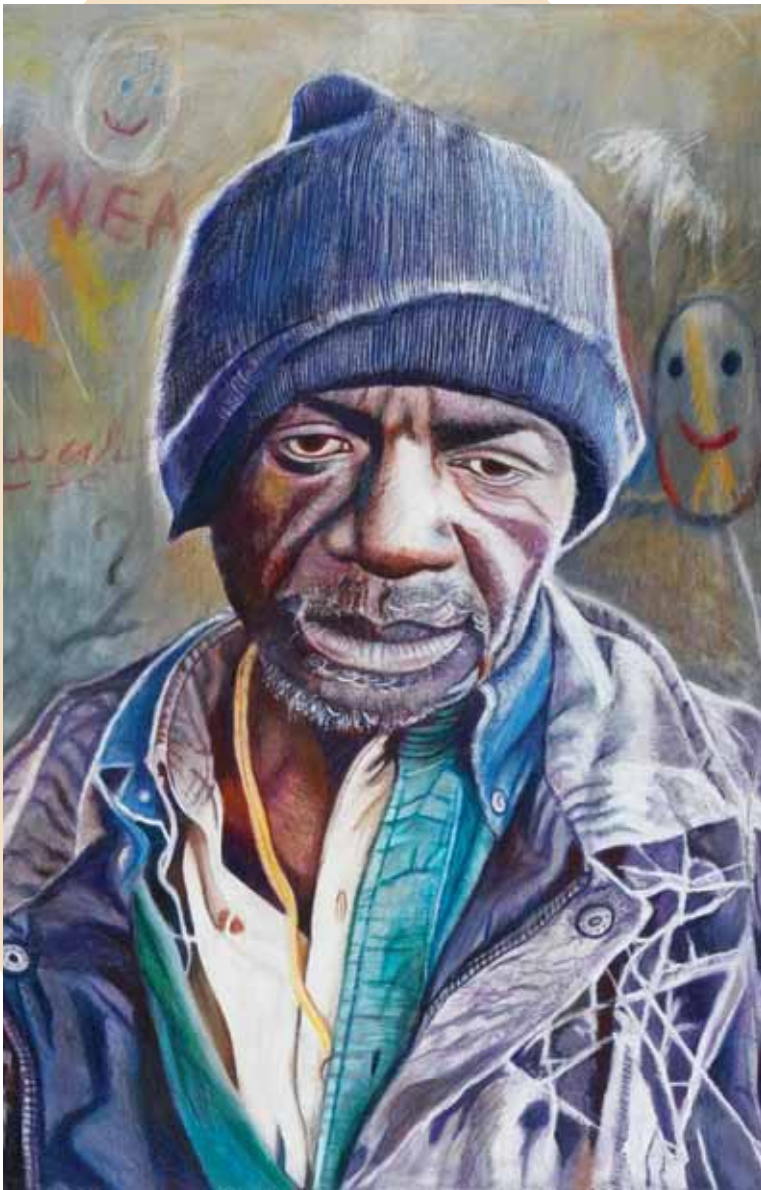
Warnick received a BA from the University of Kentucky in 1968, an MA from Marshall University in 1972, and a PhD from the University of Michigan in 1977.

RSA is an organization of educators in rhetoric dedicated to research in their subject area. Fel-

lows of the RSA are named by the board of directors in recognition of distinguished scholarship, teaching, and service to the field of rhetorical studies. RSA is affiliated with the American Council of Learned Societies.

**Professor and chair in Pitt's Department of Communication, Warnick is one of only five individuals to be named an RSA Fellow this year.**

# Happenings



**Sad Smile,**  
Associated Artists of Pittsburgh 100th Annual Exhibition,  
Carnegie Museum of Art  
through September 19

## Miscellaneous

**Alpen Schuhplattler und Trachten Verein D'Pittsburgh**, Bavarian dance, costume, and traditions, 2 p.m. **Aug. 22**, First Floor Quiet Reading Room, Carnegie Library of Pittsburgh, 4400 Forbes Ave., Oakland, *World Kaleidoscope!* Series, 412-622-3151, www.carnegieli-brary.org.

## Opera/Theater/ Dance

**The Howling Miller**, play based on the novel by Arto Paasilinna, **July 29-Aug. 22**, Frick Environmental Center, 2005 Beechwood Blvd. Squirrel Hill, Quantum Theatre, 412-697-2929. www.quantumtheatre.com, Pitt ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

**Hearing Noise in the Silence: A Celebration of the Life and Theatre of Harold Pinter**, celebration of the Nobel Prize-winning playwright, screenwriter, and actor, **July 30-Aug. 21**, Stephen Foster Memorial, Charity Randall Theatre, 4301 Forbes Ave., Oakland, Pittsburgh Irish & Classical Theatre, 412-561-6000, www.pictheatre.org, Pitt ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

**Hairspray**, musical theater, through **Aug. 1**, Benedum Center, 719 Liberty Ave., Downtown, Pittsburgh CLO, 412-456-6666, www.pgharts.org, Pitt ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

**The Student Prince**, music by Sigmund Romberg, **Aug. 3-8**, Benedum Center, 719 Liberty Ave., Downtown, Pittsburgh CLO, 412-456-6666, www.pittsburghclo.org, Pitt ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

**'S Wonderful: The New Gershwin Musical**, celebration of music and lyrics of George and Ira Gershwin, through **Sept. 5**, Theater Square Cabaret, 655 Penn Ave., Downtown, Pittsburgh CLO Cabaret, 412-456-6666, www.pgharts.org, Pitt ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

**The Phantom of the Opera**, musical theater, **Aug. 25-Sept. 15**, Benedum Center, 719 Liberty Ave., Downtown, PNC Broadway Across America, 412-456-2697, www.broadwayacrossamerica.com, Pitt ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

## Pitt/PhD Dissertation Defenses

**Jin Hui Ko**, Graduate School of Public Health's Department of Biostatistics, "Inference on Median Residual Life Function in Sequentially Randomized Trials," 10 a.m. **July 26**, 109 Parran Hall.

**Folefac Desiré Atem**, Graduate School of Public Health's Department of Biostatistics, "Rationale for Choosing Explicit Correlation Structure in a Multilevel Analysis With Bivariate Outcomes," 10 a.m. **July 28**, 308 Parran Hall.

**Yi-Ting Tzen**, School of Health and Rehabilitation Sciences, "Effectiveness of Local Cooling on Enhancing Tissue Ischemia Tolerance in People With Spinal Cord Injury," 1 p.m. **July 28**, 4060 Forbes Tower.

**Stephanie Shook**, Graduate School of Public Health's Department of Biostatistics, "The Randomized Placebo-Phase Design: Evaluation, Interim Monitoring, and Analysis," noon **July 29**, A622 Crabtree Hall.

**Jing Wang**, School of Nursing, "Social Problem Solving and Adherence to Self-Monitoring in Association With Changes in Weight and Cardiovascular Risk Factors in a Behavioral Weight-Loss Trial," 10 a.m. **July 30**, Room 446, Victoria Building.

**Tanxing Cui**, School of Medicine's Molecular Biophysics and Structural Biology Graduate Program, "Investigations of Structures and Dynamics of Transmembrane Proteins and Implications in the Action of Inhalational Anesthetics," 2 p.m. **July 30**, 1018 Biomedical Science Tower 3.



**The Phantom of the Opera,**  
Benedum Center,  
August 25-September 15

## Concerts

**Pittsburgh New Music Ensemble**, works by David Lang and others, 8 p.m. **July 30 and 31**, City Theatre Main Stage, 1300 Bingham St., South Side, 412-431-2489, www.pnme.org.

**North Suburban Big Band Concert**, featuring music and arrangements by Count Basie, Stan Kenton, and others, 7:30 p.m. **July 31**, St. John's Lutheran Church of Highland, 311 Cumberland Rd., McCandless Township, 412-366-1983, www.nssband.org.

**Brandon Meeks Trio**, jazz, 2 p.m. **Aug. 8**, First Floor Quiet Reading Room, Carnegie Library of Pittsburgh, 4400 Forbes Ave., Oakland, Sunday Afternoon Recital Series, 412-622-3151, www.carnegieli-brary.org.

**Herbie Hancock**, jazz, 7:30 p.m. **Aug. 17**, Heinz Hall, 600 Penn Ave., Downtown, Pittsburgh Symphony Orchestra/BNY Mellon Jazz, 412-392-4900, www.pittsburghsymphony.org, Pitt ARTS Cheap Seats, 412-624-4498, www.pittarts.pitt.edu.

## Exhibitions

**The Mattress Factory**, David Beattie: *Old Light, New Darkness; Nothing Is Impossible*, both through **Aug. 8**, 500 Sampsonia Way, North Side, 412-231-3169, www.mattress.org.

**Frick Art and Historical Center**, *Small But Sublime: Intimate 19th-Century American Landscapes*, through **Sept. 5**, 7227 Reynolds St., Point Breeze, 412-371-0606, www.frickart.org.

**Andy Warhol Museum**, *Twisted Pair: Marcel Duchamp/Andy Warhol*, through **Sept. 6**, 117 Sandusky St., North Side, 412-237-8300, www.warhol.org.

**Carnegie Museum of Art**, *Design Competition: New Cottages at Fallingwater*, through **Aug. 22**; *Associated Artists of Pittsburgh 100th Annual Exhibition*, through **Sept. 19**; *Past Meets Present: Decorative Arts and Design*, ongoing; *Caricature, Satire, and Comedy of Manners: Works on Paper From the 18th Through 20th Centuries*, ongoing; 4400 Forbes Ave., Oakland, 412-622-3131, www.cmoa.org.

**Senator John Heinz History Center**, *Ben Franklin: In Search of a Better World*, ongoing; 1212 Smallman St., Strip District, 412-454-6000, www.heinzhistorycenter.org.



**Herbie Hancock,**  
Heinz Hall,  
August 17

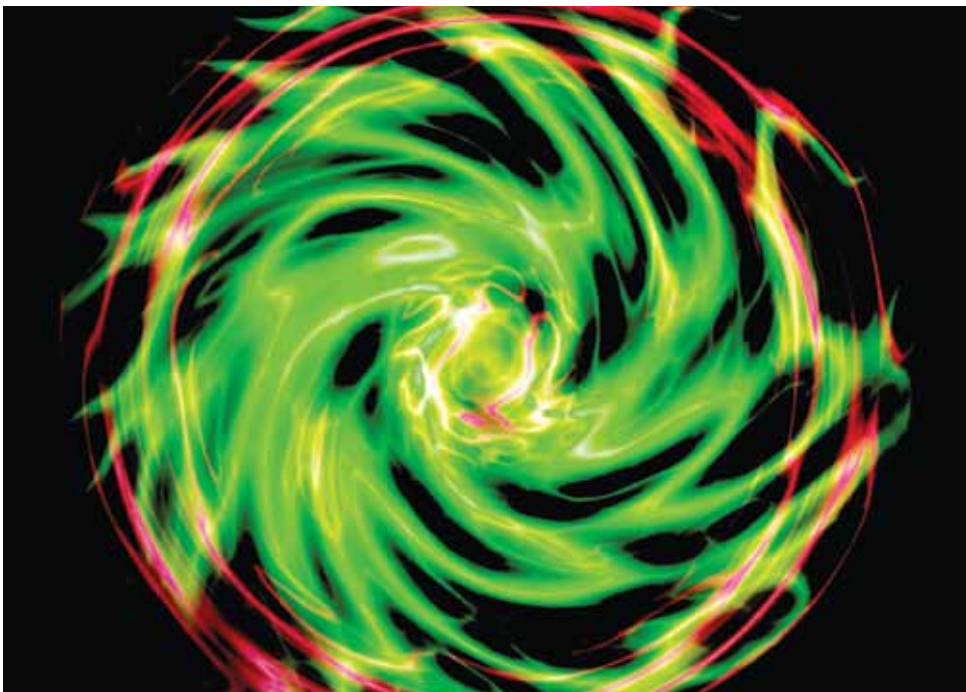


**Past Meets Present:**  
*Decorative Arts and Design,*  
Alisa Mellon Bruce Galleries,  
Carnegie Museum of Art,  
ongoing



Dust Storm Trackers

# Pitt-Based Researchers Devise Technique to Predict Dust Storms With Infrared Satellite



By Morgan Kelly

Researchers based at the University of Pittsburgh have developed a method for predicting dust storms and sandstorms that uses infrared satellite images to determine when conditions are ripe for the destructive phenomena, a technique that could be implemented globally and that the research team used to forecast a 2008 New Mexico dust storm—the area’s largest in decades—two days beforehand.

Thermal and visible images of New Mexico’s White Sands Dune Field captured by NASA’s Earth-orbiting ASTER (Advanced Spaceborne Thermal Emission and Reflectance Radiometer) instrument reliably indicated when soil moisture levels were low enough to result in a dust storm, the team recently reported in the *Journal of Geophysical Research Earth Surface*. Lead author Stephen Scheidt, a research associate

in Pitt’s Department of Geology and Planetary Science; Michael Ramsey, a Pitt professor of geology and planetary science and member of NASA’s ASTER science team; and Nicholas Lancaster of Nevada’s Desert Research Institute further determined that this approach could be expanded into a worldwide system to monitor areas prone to dust storms or to track drought in regions threatened by desertification.

The group analyzed day- and nighttime images of White Sands that ASTER captured between May 2000 and March 2008. Unlike microwave satellite instruments typically used to observe arid regions, ASTER can collect high-resolution data that allow small-scale surface details to be observed in various wavelengths, from visible light to thermal infrared. By studying thermal infrared images of moisture content and albedo—or sunlight reflected by the ground—at White Sands, the team found that the sand became drier and more reflective until it was a mass of loose sediment susceptible to strong winds.

ASTER images from the project available on Pitt’s Web site at [www.pitt.edu/news2010/White\\_Sands\\_slides.pdf](http://www.pitt.edu/news2010/White_Sands_slides.pdf) illustrate the increase in albedo and decrease in soil moisture preceding the 2008 White Sands dust storm. The photographs are from November 2002 to March 12, 2008, two days before the sandstorm.

In the first set of pictures, the bright white area representing albedo has expanded to an area of several kilometers by March 12, 2008. Meanwhile, the corresponding thermal image—as shown in panel 7 of the second image set—shows the driest area (in

red) covering roughly the same area. The third image is of the March 14, 2008, dust storm taken by NASA’s Moderate Resolution Imaging Spectroradiometer with the dust plume emanating from a darkened area that corresponds with the driest areas indicated by ASTER. Wind speed during the storm averaged between 10 and 15 miles per hour with gusts of more than 50 mph, Scheidt noted in the group’s paper.

The researchers plan to build on their work at White Sands by observing arid and semiarid areas with different soil characteristics, particularly albedo, which is uniquely high at White Sands. They also suggested that monitoring desert areas via ASTER can be further validated with field measurements of soil density, moisture, and composition.

**PUBLICATION NOTICE** The next edition of the *Pitt Chronicle* will be published Aug. 24. Items for publication in the newspaper’s *Happenings* calendar (see page 7) should be received at least two weeks before 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](mailto: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](mailto:robinet@pitt.edu).