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INSIDE

Pitt's Cory J. Rodgers Is Named 2012 Rhodes Scholarship Winner

By Patricia Lomando White

Cory J. Rodgers—who has been studying for a University of Pittsburgh Honors College and Kenneth P. Dietrich School of Arts and Sciences BPhil degree in Africana studies and the history and philosophy of science and for a Dietrich School BS degree in biological sciences with a minor in chemistry—has been named a 2012 Rhodes Scholarship winner.

Rodgers is the seventh winner of the prestigious Rhodes Scholarship to have received a Pitt undergraduate education, the fourth in the past seven years. There are only 14 universities or colleges in the United States who have claimed the award at least four times in the last seven years. Pitt is one of only two public institutions to have done so; the other 12 are private schools.

Rodgers is a first-generation university student from Somerset, Pa. In 2011, he was Pitt's inaugural recipient of the 2011 Samuel Huntington Public Service Award. He is spending this year in Tanzania on a project that assists people living with HIV and AIDS. As a Rhodes Scholar at the University of Oxford, Rodgers will seek to incorporate anthropological, cross-cultural, and human rights frameworks into an interdisciplinary approach to designing participatory health programs. He will pursue the MSc in medical anthropology during his first year and the MSc in migration studies during his second year. His goal is to be a medical practitioner working among people affected by displacement, urbanization, and cultural pluralism.

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Rhodes Scholarships, the oldest of the international study awards available to U.S. students, provide two or three years of study at the University of Oxford in England.

"The coveted Rhodes Scholarship is one of the highest honors available to young adults who successfully combine intellectual excellence, positive character, effective leadership, and a genuine concern for others," said Pitt Chancellor Mark A. Nordenberg. "This prestigious award publicly recognizes individuals who have built an existing record of high achievement and impact and who are judged to have exceptional potential for future service to humankind. The entire University of Pittsburgh community congratulates Cory for earning this very special form of recognition and for further strengthening Pitt's rich legacy of student success."

"Cory Rodgers has the extraordinary curiosity and drive that characterize the finest undergraduate students at the University of Pittsburgh," said Pitt Honors College Dean Edward Stricker. "He has sought opportunities, both at Pitt and abroad, in which he could explore disease modeling, administration of palliative care, and health policy, and his graduate work in medical anthropology at Oxford will further that education. The Rhodes Scholarship is recognition of his commitment to academic excellence and leadership in his journey to become an outstanding physician and global health practitioner."

Cory J. Rodgers

Rodgers is in Dar es Salaam, Tanzania, working on an urban agricultural project for people with HIV/AIDS in the low-income Manzese area. He and two HIV support groups are using innovative farming techniques, raising free-range chickens, and managing water resources to improve the groups' capacity to generate a sustainable source of food and income. The project utilizes participatory design techniques to involve group members at all stages of project research, planning, and implementation.

In 2010, Rodgers conducted a research project through Karagwe Development and

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"Brain Food": Eating Fish Cuts Risk of Developing Alzheimer's, Pitt Study Finds

By Megan Grote Quatrini

People who eat baked or broiled fish on a weekly basis may be improving their brain health and reducing their risk of developing Mild Cognitive Impairment (MCI) and Alzheimer's disease, according to a University of Pittsburgh School of Medicine study that was presented Nov. 30 at the Radiological Society of North America annual meeting in Chicago.

"This is the first study to establish a direct relationship between fish consumption, brain structure, and Alzheimer's risk," said Cyrus Raji, the study's lead author, a researcher at the University of Pittsburgh School of Medicine and an internal medicine resident at UPMC Mercy. "The results showed that people who consumed baked or broiled fish at least one time per week had better preservation of gray-matter volume on MRI in brain areas at risk for Alzheimer's disease."

Alzheimer's disease is an incurable, progressive brain disease that slowly destroys memory and cognitive skills. According to the National Institute on Aging, as many as 5.1 million Americans may have Alzheimer's disease. People with MCI often develop Alzheimer's.

For the study, the researchers selected 260 cognitively normal individuals from the Cardiovascular Health Study. Information on fish consumption was gathered using the National Cancer Institute Food Frequency Questionnaire. There were 163 patients who consumed fish on a weekly basis and the majority ate fish one to four times per week. Each patient underwent 3-D volumetric MRI of the brain. Voxel-based morphometry, a brain mapping technique that measures gray-matter volume, was used to model the relationship between weekly fish consumption at baseline and brain structure 10 years later. The data were then analyzed to determine whether gray-matter volume preservation associated with fish consumption reduced the risk for Alzheimer's disease. The study controlled for age, gender, education, race, obesity, physical activity, and the presence or absence of apolipoprotein E4 (ApoE4), a gene that increases the risk of developing Alzheimer's.

Brain volume is crucial to brain health. When it remains higher, brain health is being maintained. Decreases in gray matter indicate that brain cells are shrinking.

The findings show that the consumption of baked or broiled fish on a weekly basis was positively associated with gray matter volumes in several areas of the brain. Greater hippocampal, posterior cingulated, and orbital frontal cortex volumes in relation to fish consumption reduced fivefold the risk for a five-year decline to Alzheimer's or MCI. MCI is thought to be a precursor form of Alzheimer's in which memory loss is present but to a lesser extent.

"Consuming baked or broiled fish promotes stronger neurons in the brain's gray matter by making them larger and healthier," Raji noted. "This simple lifestyle choice increases the brain's resistance to Alzheimer's disease and lowers risk for the disorder."

The results also demonstrated increased levels of cognition in people who ate fish.

"Working memory, which allows people to focus on tasks and commit information to short-term memory, is one of the most important cognitive domains," Raji said. "Working memory is destroyed by Alzheimer's disease. We found higher levels of working memory in people who ate baked or broiled fish on a weekly basis."

The researchers noted, however, that eating fried fish did not increase gray-matter volume or protect against cognitive decline.

Funding for the study was provided by the National Institute on Aging.

Pitt Inducts 16 New Members Into Its Brackenridge Circle

By Lynn Shea

The University of Pittsburgh welcomed 16 new members to the Brackenridge Circle—a giving society comprising individuals and couples whose planned gifts and pledges to the University total $1 million or more—during a Nov. 16 awards ceremony in the Hall of Sculpture at the Carnegie Museum of Art.

The new inductees joined the 2010 inaugural group of 112 living and deceased donors who qualified for inclusion in the Brackenridge Circle. With the addition of this year's honorees, the combined planned gift commitments of the 75 living members of the Brackenridge Circle will total more than $99 million for the University.

Planned gifts are made by individuals who have included the University in their estate plans through bequests, by naming the University as a beneficiary in a life insurance policy, or by establishing charitable trusts and gift annuities.

Sam Zacharias (A&S '64), a University trustee and chair of the board's Institutional Advancement Committee, told the group, "Private support from people like you, at all levels, is changing lives and is certainly helping to continue Pitt's legacy of excellence in education and research."

The Brackenridge Circle was named for Pitt founder Hugh Henry Brackenridge, who secured Commonwealth financial support for the establishment of the Pittsburgh Academy, which became the University of Pittsburgh.

The new Brackenridge Circle inductees were honored individually during the evening and were each given a mantle clock symbolizing the perpetuity of their extraordinary contributions to Pitt.

Clyde B. Jones III, Pitt vice chancellor for health sciences development, and Albert J. Novak Jr., Pitt vice chancellor for institutional advancement, expressed their gratitude to the inductees for all that they have done for the University.

In his closing remarks, Novak said, "This recognition dinner is a way for us to express our thanks to you. Your generosity will ensure there will be financial support for our students and their everyday needs; research dollars to encourage breakthroughs in science and technology; and funding available to recruit and retain outstanding faculty."

The following inductees were honored at the event.

- Paul R. Bridges (A&S '58, ENGR '59) and Ann T. Bridges
- James T. Cain (ENGR '65, '67G & '70G), Pitt professor emeritus in the Swanson School of Engineering, and Jacquelyn S. Cain (SIS '75G)
- The late William S. Dietrich II (A&S '80G, '84G)
- Deborah Jeanne Gillotti (A&S '77) and Joseph P. Gillotti
- Richard S. Johnson
- Joseph C. Lang, Jr. (KGSB '45, A&S '49G, '51G) and the late Martha P. Lang (KGSB '45, SIS '67G)
- The late Edgar L. Levenson (A&S '43)

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Scholars&Stewards

Pitt Trustee John Pelusi Cares Deeply About Student-Athletes' Lives On and Off the Field

He and his wife, Cathy, commit $1.5 million to Life Skills Program for Pitt players

CHARLES LECLAIRE

Cathy and John Pelusi

By Lynn Shea

University of Pittsburgh alumnus John Pelusi values the solid foundation for life that Pitt helped him build during his college days in the classroom and on the football field.

He remembers vividly the thrill of the Pitt Panthers winning an NCAA national football championship in 1976 when he was the starting center for the team. And he recalls the intellectual discipline required to obtain his two degrees from Pitt: a BA from the Kenneth P. Dietrich School of Arts and Sciences in 1977 and an MPA degree in public management and policy from the Graduate School of Public and International Affairs in 1979.

Now a devoted family man and a successful businessman, Pelusi hasn't forgotten the encouragement, support, and mentoring he received along the way, especially during his Pitt undergraduate and graduate years. In honor of all of those life-affirming gifts, Pelusi and his wife, Cathy, have made a commitment of $1.5 million to support the Cathy and John Pelusi Family Life Skills Program. The program helps develop and prepare Pitt student-athletes for success off the field, providing instruction in career development, life financial skills, leadership and character development, and community development.

"This is our way of continuing the proud tradition of alumni supporters helping student-athletes succeed during their playing years and beyond," Pelusi said. "We are thrilled that the life skills program enables the University to provide comprehensive services through a team of dedicated Pitt staff who advise Panther student-athletes."

Pelusi is the executive managing director and managing member of Holliday Fenoglio Fowler, L.P. (HFF), a leading commercial real estate and capital market services provider, and CEO and vice chair of HFF, Incorporated, a New York Stock Exchange public holding company for HFF. He has served on the Pitt Board of Trustees for 15 years, received Pitt's Varsity Letter Club Award of Distinction in 2005, was named a University of Pittsburgh Legacy Laureate in 2007, and also serves as a University of Pittsburgh Trustee for the University of Pittsburgh Medical Center (UPMC). He and Cathy Pelusi, who is an active community volunteer, are also members of the Cathedral of Learning Society—a recognition society for donors who have made lifetime contributions to the University of $1 million or more.

"The Pelusis are wonderful people," commented Penny Semaia, the Pitt assistant athletic director who manages the Pelusi Family Life Skills Program coordinating team. "They share great ideas and resources with us, and they are so passionate about developing character and supporting the community."

Semaia said student-athletes need to balance their studies with demanding athletic schedules. The time required for workouts, practices, competitions, and travel often means that student-athletes must limit other activities, such as job opportunities and participating in other campus programs. They are also in the spotlight and therefore bear the responsibility of representing the University.

The Pelusis have a special interest in the community service aspect of the life-skills program, believing that changing people's lives for the better today allows those individuals to change others' lives for the better in the future.

John Pelusi recalled that former Pitt football coach John Majors insisted that football players spend time visiting Children's Hospital. "Because of that, I learned early on how my trials and tribulations paled in comparison to those of others," said Pelusi.

Pelusi said Majors was one of the best teachers he had. It is not surprising that Majors and his wife, Mary Lynn, were among several individuals whom the Pelusis have chosen to honor through gifts to the life skills program.

Other gifts have been made in honor of John's parents, John and Jean Anne Pelusi, Sr.; Chancellor Mark Nordenberg and his wife, Nikki Nordenberg; Frances and Charles "Corky" Cost; Ryta and Sam Sciullo; Jacqueline and Pitt men's basketball coach Jamie Dixon; and the 1976 national championship Panther football team.

The Pelusis have also acknowledged their own four children with a gift to the program, recognizing daughters Jamie, Jacquie, and Jodie and their son, John. John and Jamie are both recent graduates of Pitt and both were student-athletes—Jamie (SOC WK '06) was the goalkeeper for the women's soccer team, and John (CBA '09, KGSB '11) was a member of the Panther football team.

16 New Brackenridge Circle Members

Brackenridge Circle dinner in Carnegie Museum of Art's Hall of Sculpture

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The following individuals who were unable to attend the event, as well as two anonymous donors, also were inducted into the Brackenridge Circle: Kevin Corcoran (SOC WK '80G, '80G) and Frank and Daphna Lederman.

For more information on planned giving at Pitt, or to make a gift, visit www.giveto.pitt.edu or call 1-800-817-8943.

Rodgers Named Rhodes Scholar

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Relief Services (KADERES) to identify the barriers created by HIV and AIDS, interviewing those affected, getting their perspectives, and capturing their experiences. KADERES plans to use Rodgers' report in planning for its microfinancing programs, which provide loans to local peasants and small-holder farmers, funding for area clinics, and building projects.

Rodgers' 2010 research experience in Tanzania included study in Swahili, cultural immersion, and service learning. In 2009, he also studied at the National University of Mongolia in Ulaabaatar, Mongolia, through a Pitt Honors College program.

As a Pitt undergraduate laboratory researcher in chemistry, Rodgers also took time to volunteer. Through the Pitt program "Keep It Real," he tutored a Somali-Bantu refugee family; he also served as a hospice volunteer, assisting in daily patient care, and worked with Habitat for Humanity through Pitt's Alternative Spring Break program. Rodgers also served in UPMC Patient Transport.

Among Rodgers' many honors are a University Honors College Scholarship, a Chancellor's Undergraduate Research Fellowship, a Brackenridge Undergraduate Fellowship from Pitt's Honors College, the Helen Pool Rush Award from Pitt's Nationality Rooms Summer Study Abroad Scholarship Program, a Foundation for Asia Pacific Education Scholarship, the Sigma Phi Epsilon Balanced Man Scholarship Award, and election to membership in Phi Beta Kappa.

This year's Rhodes U.S. winners—32 students from 18 institutions of higher learning—came from a pool of 210 interviewees from 99 colleges and universities. Those chosen will enter the University of Oxford next October.

Rhodes Scholarships are the legacy of British colonial pioneer, statesman, and philanthropist Cecil J. Rhodes, who died in 1902. Although intellectual distinction is a necessary requirement for selection as a Rhodes Scholar, it is not sufficient. The selection process seeks excellence in qualities of mind and of person, which, in combination, offer the promise of effective service to the world in the decades ahead. Thus, winners are chosen on the basis of high academic achievement, personal integrity, leadership potential, and physical vigor, among other attributes.

The value of the Rhodes Scholarship varies depending upon the academic field, the degree (bachelor's, master's, doctoral), and the Oxford college chosen. The Rhodes Trust pays all college and university fees, provides a stipend to cover necessary expenses while in residence at Oxford as well as during vacations, and transportation to and from England.

Pitt's other six Rhodes Scholars are David Frederick (1983), who graduated from Pitt's Kenneth P. Dietrich School of Arts and Sciences in 1983; Donna Roberts (1987), who graduated from the Dietrich School in 1985; Nathan Urban (1991), who received an undergraduate degree in 1991 and graduate degrees in 1996 and 1998 from the Dietrich School; Justin Chalker (2006), who graduated from the Dietrich School in 2006; Daniel Armanios (2007), who graduated from the Dietrich School and the Swanson School of Engineering in 2007; and Eleanor Ott (2010), who graduated from the Dietrich School in 2009.

Focus on Healthy Aging

Pitt clinicians, educators, and researchers link forces to break new ground through the Aging Institute

Spotlight on **Research**

By Tricia Pil and Daniel Bates

Forty years ago, a 65-year-old American had only a 14 percent chance of reaching the age of 90. Today, thanks to healthier lifestyles, better medical treatments, and wide-ranging geriatric research, that person's chances have doubled to almost 30 percent. And that eye-opening statistic certainly is not lost on Allegheny County, Pa., which includes the City of Pittsburgh. With nearly 205,000 residents above the age of 65, Allegheny County boasts the second-oldest population in the United States.

A healthcare challenge, indeed, for the region—but an absolute boon for the University of Pittsburgh and its collaborative, multidisciplinary teams of geriatric researchers. These teams have worked with the region's unique demographic population to develop and grow a diverse and world-renowned aging research program at Pitt.

"Given Pittsburgh's demographic, what we do here matters to the rest of the nation, whether in basic, clinical, social and economic sciences, or in the development of new models of care for older adults and their caregivers," says Charles "Chip" Reynolds III, director of the Aging Institute of the University of Pittsburgh and the University of Pittsburgh Medical Center (UPMC) Senior Services and a professor of geriatric psychiatry and behavioral and community health sciences at Pitt. "Pittsburgh will be a microcosm for the rest of the nation in 15 to 20 years. Our opportunity to serve as a pacesetter and innovator in aging science and clinical programs—and in new methods to take them to scale—is second to none."

The University launched the Aging Institute in 2000 largely to address this burgeoning demographic and the attendant complexity of health-care issues. Since then, the institute has grown in scope and renown and is said to provide one of the nation's largest and most diverse portfolios of aging-related research and one of the most extensive geriatric and gerontological education programs in the country. In addition, the institute's multidisciplinary network of comprehensive clinical care is also one of the nation's largest.

In fiscal year 2010 alone, the University received more than $79 million in aging-related research funding from the National Institutes of Health (NIH) to study cellular aging mechanisms, cell death and recovery, prevention and treatment of balance and mobility disorders, mood disorders, health services research, degenerative diseases such as osteoporosis and Alzheimer's, and even bioethics.

"The Aging Institute has helped to nurture, link, and leverage research expertise across the University," says Neil Resnick, Pitt's Thomas Detre Professor of Medicine and chief of the UPMC Division of Geriatric Medicine and Gerontology, as well as a founder and former director of the Aging Institute.

Even before the institute's creation, Pitt had begun laying its foundation for aging research with the establishment of two National Institutes of Health (NIH)-funded centers of excellence in aging research: the Alzheimer Disease Research Center and the Intervention Research Center for Late Life Mood Disorders. Other researchers were developing a major research program on sleep, circadian rhythms, and aging. Still others had launched what became known as the Cardiovascular Health Study and the Health, Aging, and Body Composition (Health ABC) Study. To date, thousands of older adults from the Pittsburgh region have participated in those and other ongoing studies.

MARK D. MILLER

Charles "Chip" F. Reynolds III is director of the Aging Institute of the University of Pittsburgh and the University of Pittsburgh Medical Center (UPMC) Senior Services. He is also the UPMC Endowed Professor in Geriatric Psychiatry in Pitt's School of Medicine, a professor of behavioral and community health science in Pitt's Graduate School of Public Health, and director of Pitt's Intervention Research Center for Late Life Mood Disorders. Reynolds has become an internationally recognized expert on depression prevention and treatment in older adults.

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—Charles "Chip" Reynolds III

"These are just a few of the outstanding examples that characterize the longstanding tradition of excellence in NIH-sponsored aging research at Pitt," says Reynolds, who also is director of Pitt's Intervention Research Center for Late Life Mood Disorders. "The rich and diverse research base we cultivated throughout the late 1980s and 1990s naturally lent itself to the establishment of a formal Aging Institute."

Since 2000, institute-affiliated researchers have established at least 21 aging research-related centers of excellence at Pitt, focusing on everything from Alzheimer's disease, bioethics, chronic disorders, integrative medicine, and epidemiology to geriatric medicine and psychiatry, rehabilitation technology, health-equity research, patient care, and social and urban research. The research programs spinning out of those centers have proven broad and diverse.

A study-rich demographic

Pittsburgh's aging demographic has served Lewis Kuller and other Pitt researchers well over the years. Kuller, Distinguished University Professor Emeritus of Epidemiology, is known for his establishment of the Healthy Women's Study, the first and longest study of women from pre- to post-menopause. He also continues to direct the Pittsburgh site of the multicenter Cardiovascular Health Study (CHS)—which has been at Pitt since 1988 and is following about 6,000 people ages 65 and older until their deaths. For more than 40 years, Kuller has been studying risk factors in people with heart disease and diabetes and in menopausal women, as well as investigating the prevention of cancer and cancer's risk factors.

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Kuller also has championed the use of non-invasive technologies to predict, for instance, the prevalence of disease in populations over time. He was among the first to use bone density measurements to study osteoporosis; carotid artery ultrasound to measure vascular disease risk; and brain imaging to explore dementia epidemiology.

Aging's new challenge: longer lives, but shorter memories

Kuller says that some of his most recent research suggests that the landscape of aging and disease has begun to change rapidly because of healthier lifestyles. But that raises "an interesting new problem now," he says. "We

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Focus on Healthy Aging

Pitt clinicians, educators, and researchers link forces to break new ground through the Aging Institute

Now that we have a generation of people living into their 80s and 90s, the most worrisome thing to them is the loss of cogntive ability. The CHS Cognition Study, one of the nation's largest studies on dementia, identifies risk factors and brain changes that might predict dementia before its onset.

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have gotten so good at treating and preventing cardiovascular disease that we now have a generation of people living into their 80s and 90s, and the most worrisome thing to them is losing cognitive ability. Loss of physical function may be depressing and unpleasant, but there is nothing worse than finding out that you can't remember or can't understand something someone said."

Such findings have motivated Kuller to delve more deeply into cognitive research, in collaboration with Oscar Lopez, professor of neurology in Pitt's School of Medicine and director of Pitt's Alzheimer Disease Research Center. As part of that endeavor, Kuller over the past 20 years has been leading the CHS Cognition Study, one of the nation's largest prospective dementia studies, which uses magnetic resonance imaging (MRI) to identify risk factors and brain changes that might predict the onset of dementia long before it manifests itself in patients.

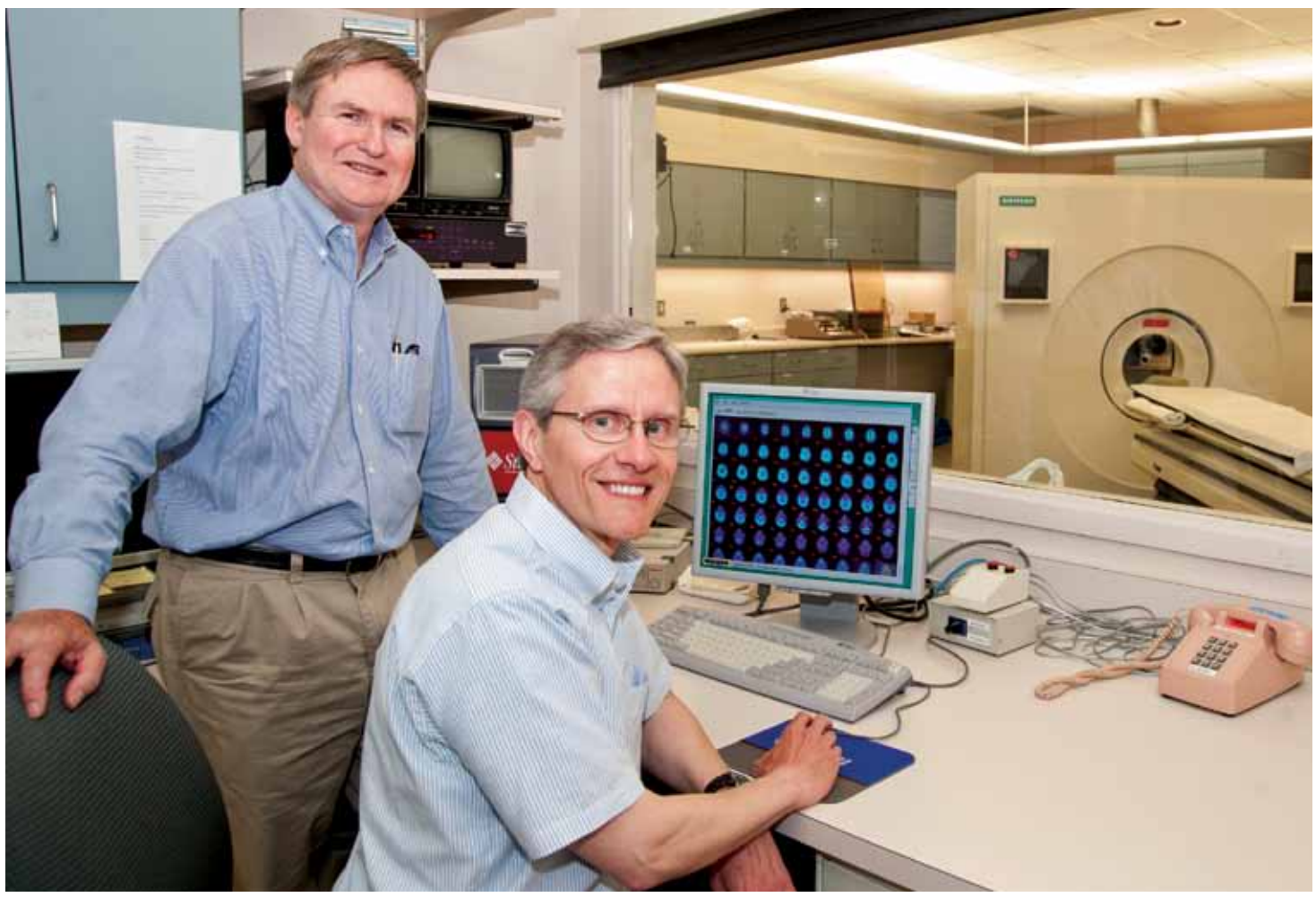
Among the rising research stars emerging from Kuller's CHS Cognition Study is Cyrus Raji, a newly minted MD/PhD graduate of Pitt's School of Medicine. In November 2010, at the annual meeting of the Radiological Association of North America, Raji and his colleagues presented findings from the 20-year study, which included 426 elderly adults, linking increased physical activity to greater brain volume and reduced risk for cognitive impairment.

Specifically, cognitively impaired individuals, the study showed, need to walk at least 58 city blocks—approximately five miles—a week to maintain brain volume and significantly reduce their risk for cognitive decline. Healthy adults, the study concluded, should walk at least 72 city blocks—or six miles—a week.

Alzheimer's and Pittsburgh Compound-B

Professors William Klunk and Chester Mathis have developed their own way to predict and diagnose the early onset of Alzheimer's disease: They have pioneered a radioactive imaging agent, which they call Pittsburgh Compound-B, that has gained international attention because it now allows doctors to diagnose Alzheimer's early in a patient rather than postmortem. Pittsburgh Compound-B helps doctors using a positron-emission tomography imaging scan to spot beta-amyloid deposits in the brain—a telltale sign of Alzheimer's. The scanning process can be done early in a person's development of Alzheimer's and then used to monitor the disease's progression.

As a result of their efforts, Klunk, a professor of psychiatry in Pitt's School of Medicine, and Mathis, a professor of radiology in the medical school, earned the American Academy of Neurology's Potamkin Prize (known as the "Nobel Prize for Neurology"). Meanwhile, GE Healthcare licensed their innovation from the University and has adapted it; the company is currently running Phase III clinical trials of the product.



MARY JANE BENY/CIDDE

Chester A. Mathis (standing), professor of radiology and director of the PET (positron emission tomography) facility in the Pitt School of Medicine's Department of Radiology, and William E. Klunk, Pitt professor of psychiatry and codirector of Pitt's Alzheimer's Disease Research Center, developed Pittsburgh Compound B, perhaps the most significant diagnostic advance in Alzheimer's research today. When used with a PET imaging scan, Pittsburgh Compound-B can help doctors spot a type of brain deposit that is a telltale sign of Alzheimer's. The discovery could lead to earlier diagnosis of the disease and the possible development of prevention strategies. Mathis and Klunk received the 2008 American Academy of Neurology's Potamkin Prize (known as the "Nobel Prize for Neurology") for their work on developing Pittsburgh Compound-B.

Professors William Klunk and Chester Mathis have developed their own way to predict and diagnose the early onset of Alzheimer's disease: They have pioneered a radioactive imaging agent, which they call Pittsburgh Compound-B, that has gained international attention because it now allows doctors to diagnose Alzheimer's early in a patient rather than postmortem.

Aging more gracefully

Since 1996, Anne Newman, a professor and chair in the Pitt Graduate School of Public Health's Department of Epidemiology, has led another large aging-related study, called the Health ABC Study. It's a longitudinal investigation of 1,500 older adults nationwide that assesses the relationship between aging-related physical changes and functional decline. Ultimately, her research promotes the benefits of healthy aging, finding that cardiovascular fitness, a healthy body composition, and regular physical activity help maintain a person's physical and cognitive health and function in old age. So far, she has parlayed her work

JIM BURKE/CIDDE

Anne Newman, a professor and chair in the Pitt Graduate School of Public Health's Department of Epidemiology, interviews a potential participant for a new study. Since 1996, Newman has led the Health ABC Study, which is a longitudinal investigation of 1,500 older adults nationwide that assesses the relationship between aging-related physical changes and functional decline. She is also the principal investigator of the Cardiovascular Health Study-All Stars Study, the Long Life Family Study, and the LIFE Study. She has parlayed her work into more than 300 scientific journal articles on aging health and longevity.

Spotlight on **Research**

Newman's work promotes the benefits of healthy aging, finding that cardiovascular fitness, a healthy body composition, and regular physical activity help maintain a person's physical and cognitive health and function in old age.

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"When we first started doing our work, many older people were not taking care of themselves," explains Newman, who is a colleague of Kuller. "They didn't expect to live past 70, so they figured a healthy lifestyle wasn't worth the effort. This too-late, too-much-trouble attitude was pervasive throughout the older population."

Newman, of course, challenged those beliefs and the results were transformational. "Our work found that this same group of people stood to gain the most from preventive health services because, contrary to popular belief, older people's bodies are remarkably responsive," she says. "Research has shown that even 90-year-olds with severely atrophied muscle mass can improve their strength by 100 percent."

In a 2010 *Journal of Aging and Health* article, Newman and her colleagues, including Kuller, published a report on one of their most recent studies, titled "The 10 Keys to Healthy Aging." The study examined the effectiveness of a comprehensive, low-cost prevention program in improving adherence to preventive health care goals and overall health for older adults. At the end of the 12-month study, Newman says, the participants had achieved significant health improvements, including lower cholesterol levels, improved control of high blood pressure, better blood-glucose control in diabetics, and higher rates of colon cancer screening.

Plasticity and the aging brain

Another professor of epidemiology, Caterina Rosano, has been undertaking her own longitudinal population studies. She uses highly sophisticated neuroimaging methods to better understand the relationship between the aging brain and cognitive and physical function. "There's something mysterious about older adults," Rosano muses. "Why do some adults live longer and better, surviving against all odds?"

In a pilot study, which she published in 2010 in the *Journal of Gerontology*, Rosano reported that seniors older than 70 years who committed to physical activity over a two-year period— defined as walking at least 150 minutes a week—took cognitive tests faster, made fewer errors, and showed higher brain activation on MRI brain scans than those who remained sedentary. However, in another study examining data from the MRI scans and pen-and-pencil tests of 6,000 aging adults, she found that an estimated 20 percent of participants scored poorly on brain MRI scan measures but extremely well on the cognitive tests.

"One-fifth of the people we look at completely escape any sort of prediction, and this is what is fantastic to me," Rosano says. "These people function and move around very well, but their brain MRIs don't look good, and we don't understand why."

The effects of skeletal health

Also taking a toll on the aging population's health and quality of life are degenerative bone diseases that can leave sufferers fragile and at greater risk of injury. Jane Cauley, a professor of epidemiology, has spent 25 years studying skeletal health in aging adults and researching ways to prevent fractures in older men and postmenopausal women. Cauley serves as the principal investigator for the Pittsburgh arm of the Study of Osteoporotic Fractures (SOF), a multicenter study funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases.

Jane Cauley (seated), a Pitt professor of epidemiology, has spent 25 years studying skeletal health in aging adults and researching ways to prevent fractures in older men and postmenopausal women. She serves as the principal investigator for the Pittsburgh arm of the Study of Osteoporotic Fractures, a multicenter study funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases. Cauley also leads the Osteoporotic Fractures in Men study in Pittsburgh, a multicenter, observational study of nearly 6,000 men to determine risk factors for osteoporosis, fractures, and prostate cancer in older men. At the time of this photo, Yahtyng Sheu (left) and Francesca Amati (right) were postdoctoral researchers at Pitt, working on a project titled "Epidemiological Study of Bone Marrow Fat and Osteoporosis." Sheu is now an assistant professor of epidemiology at Pitt; Amati is an assistant professor of physiology at the University of Lausanne in Switzerland.

Since 1986, SOF has followed a cohort of more than 10,000 women ages 65 or older to determine what factors lead to the development of degenerative bone diseases such as osteoporosis that increase the risk of bone fractures. Among SOF's major findings to date: Although women who experience accelerated bone loss are more likely to sustain debilitating fractures, a subset of older women actually maintains bone mineral density for up to 15 years, suggesting that bone loss is not an inevitable consequence of aging. The National Institute on Aging recently extended SOF for an additional 25 years of follow-up research.

Cauley also leads the Osteoporotic Fractures in Men study in Pittsburgh, a multicenter, observational study of nearly 6,000 men to determine risk factors for osteoporosis, fractures, and prostate cancer in older men. So far, the study, which began in 1999, has determined that risk factors such as smoking, insulin therapy, and even height can affect different bones.

When older people fall

Of course, osteoporosis and other degenerative bone diseases can contribute significantly to other serious problems in older adults—in particular, falling, which can lead to broken bones and long-term debilitation. But as Stephanie Studenski, a professor of geriatric medicine who has built her research career around the issue of falling, notes, this health threat often stems from several issues.

"Falls are a serious problem and a leading cause of accidental death, disability, and institutionalization in older people," Studenski says. "Most people who fall, though, fall because they have several conditions that affect their ability to stay upright and have good balance."

Studenski, an expert on mobility, balance disorders, and falls in older adults, serves as director of Pitt's Claude D. Pepper Center, a National Institute on Aging-funded center of excellence. She currently leads a group of more than 50 researchers from across Pitt's schools of the health sciences who have similar expertise.

Aging and incontinence

As part of his own aging research, Neil Resnick works to dispel myths, unravel causes, and devise new treatments for one of the most common syndromes affecting older adults—incontinence. Historically, he says, research on incontinence has been focused solely on the lower urinary tract. But after discovering the age- and disease-related changes that occur in the bladder, as well as identifying a previously unknown cause of geriatric incontinence, Resnick says he found that this approach was too narrow.

His research has shown that incontinence results not only from lower urinary tract dysfunction but also from the body's inability to compensate for it—problems that occur even with relatively normal bladder function. His studies further demonstrate that, contrary to popular belief, incontinence in older adults is not part of normal aging or dementia—and a broad diagnostic and therapeutic approach focused on compensatory mechanisms leads to superior results not just for incontinence, but for other geriatric conditions as well.

Resnick says these findings have helped to inform his work with Medicare and the World Health Organization to devise a now widely applied approach to geriatric incontinence that minimizes the need for invasive testing and highly specialized consultative expertise. That is, Resnick's team now is exploring the brain's role in incontinence.

Continued on page 6

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Neil Resnick is Pitt's Thomas Detre Professor of Medicine and chief of the UPMC Division of Geriatric Medicine and Gerontology, as well as a founder and former director of the Aging Institute. As part of his own aging research, Resnick works to dispel myths, unravel causes, and devise new treatments for incontinence, one of the most common syndromes affecting older adults. In addition, he's now investigating ways to transform hospital processes to make acute care more effective, efficient, and safer for older adults.

Focus on Healthy Aging

Pitt clinicians, educators, and researchers link forces to break new ground through the Aging Institute

Spotlight on **Research**

Continued from page 5

Destigmatizing depression

Recognizing that depression in older adults is an increasingly common problem, particularly among hospitalized patients, Aging Institute Director Reynolds has become an internationally recognized expert on the topic. In short, Reynolds urges older adults and their caregivers to support a less stigmatizing approach to depression.

"We use medications to relieve depression symptoms and psychotherapy to help get and keep people well," he explains. "Because late-life depression is a chronic, recurring condition, just like hypertension, chronic obstructive pulmonary disease, or diabetes, it's important that patients and family caregivers take a long-term view. We can't cure depression, but we can manage it very successfully to the point that people can be symptom-free and stay that way for long periods of time."

Among Reynolds' depression research projects is his team's study of potential interventions for medically frail older adults at high risk for full-fledged clinical depression. Reynolds and his research team, with support from the University's Clinical and Translational Science Institute (CTSI), also recently recruited subjects for a study looking at the effectiveness of teaching at-risk older adults problem-solving skills and improved dietary practices to prevent depression.

The preliminary results are so promising, Reynolds says, that the study has been extended further into old age and to underserved minority populations. In fact, the National Institute of Mental Health recently awarded funding to his team to establish a five-year "center of excellence" focusing on late-life depression prevention. Reynolds serves as principal investigator and director of the new center.

Chronic care considerations

Ultimately, age and a host of debilitating health problems do catch up with some older adults, leaving them to suffer for long periods with chronic illness. As such, Resnick has teamed up with Edmund Ricci, a professor of behavioral and community health sciences and associate director of the Aging Institute, to tackle what he considers one of the toughest problems in health care today: caring for the chronically and severely ill older adult. Out of their research has emerged the Acute Care and Transitions Program, an innovative care model designed to focus on a complex systems approach to geriatric care.

"On any given day, hundreds of elderly patients are admitted to UPMC hospitals who are considered to be at high risk for hospital readmission, frequent emergency room visits, or both," Resnick explains. "Many of these patients have chronic diseases like congestive heart failure or chronic obstructive pulmonary disease that are associated with multiple symptoms—shortness of breath, weakness, palpitations, poor appetite, incontinence, just to name a few. Often these symptoms are not adequately addressed while the patients are in the hospital, and they end up slipping through the cracks at discharge."

Adds Ricci: "You really need a full baseline assessment [of such aging patients], including caregiver capacity, financial resources, and the home environment. You also need to include the assessments of multiple specialists. As the current system works, it is very difficult to get all of the specialists to communicate, even with the implementation of electronic medical records. Too often, 911 becomes the patient's default case manager."

Late-life depression is a chronic disease just like hypertension, COPD, or diabetes says Aging Institute Director Reynolds, and it's important to take a long-term view. We can't cure depression, he says, but we can manage it very successfully.

Caregiver Stress

On the other side of the issue of chronic illness are the patients' personal caregivers, whether spouses or other family or friends, who experience their own quiet suffering. Richard Schulz, professor of psychiatry and director of the University Center for Social and Urban Research (UCSUR), has been researching the connections between mind and body and between caregiver and patient for more than a decade. Schulz, who also is associate director of the Aging Institute, has earned his place among the nation's top experts on the social behavior and health largely because of his UCSUR-based research team's study of the impact of illness and disability in late life on people and their partners.

One such study, led by Schulz and published in 2009 in the *American Journal of Geriatric Psychiatry*, focused on the prevalence and incidence of depression and cardiovascular disease (CVD) in the spouses of people suffering from illness. Among the 1,330 older married couples in the study, husbands whose wives reported high levels of suffering were nearly twice as likely to have CVD and depression as compared to those whose wives did not report suffering.

In another laboratory-based study, Schulz and a team of collaborators from across Pitt's academic disciplines explored the physiological pathways by which exposure to a loved one's suffering leads to CVD.

Palliative care and communication

Palliative care, perhaps the most difficult issue along the aging spectrum, often conjures up disturbing thoughts of "giving up," end-of-life hospice, withdrawal of life-saving measures, and death, says Robert Arnold, the Leo H. Criep Professor of Patient Care in the Department of Medicine. But he suggests that one of the most pressing shortcomings around such care—and an area in need of improvement—is effective communication.

"Palliative care is about enhancing communication among providers, patients and supporting suffering caregivers and families," Arnold explains. "Traditionally, palliative care is offered only as an inpatient consult service. However, we are starting to recognize the need to provide palliative care support services in the outpatient setting, too—in nursing homes and communities—so that patients, their caregivers, and their physicians can all be on the same page with respect to understanding what the patients' goals are, which may be very different from the physicians."

Arnold, who has focused most of his career on improving the communication skills of physicians dealing with patients' end-of-life issues, actively trains oncologists and internal medicine physicians across the country to engage more effectively in difficult conversations with patients, such as how to share bad news, explain advance directives, and discuss informed consent.

"The problem is that doctors often learn these communication skills two-thirds of the way through their careers by trial and error," Arnold says. "We're trying to develop research projects to see if we can help doctors earlier in their careers learn the skills they need to have these conversations with patients."

JOE KAPELEWSKI/CIDDE

Richard Schulz, a Pitt professor of psychiatry and director of the University Center for Social and Urban Research (UCSUR), has been researching the connections between mind and body and between caregiver and patient for more than two decades. Schulz, who also is associate director of the Aging Institute, has earned his place among the nation's top experts on social behavior and health because of his UCSUR-based research team's study of the impact of illness and disability in late life on patients and their families.

Taken together, the growing aging population, the complexities of aging-related health care, and the politics affecting it, provide ample directive for Pitt researchers to continue to make aging research an internationally recognized academic and clinical priority at the University of Pittsburgh.

As a result of his recent research efforts, Arnold and a nationwide team of expert faculty researchers have developed what they call the Oncotalk Communication Skills Toolkit, an online toolbox of teaching resources for medical educators teaching ethics and communication. He received funding for the project from the National Cancer Institute.

The politics of aging

Given the fast-growing population of aging adults in the United States, it should come as no surprise that this demographic and its associated health issues have become a serious political target, particularly with regard to health-care reform. As Julie Donohue, a professor in the Pitt Graduate School of Public Health's Department of Health Policy and Management, can attest, national health-care policy changes can affect medical treatment profoundly for older adults suffering from chronic illnesses. She is conducting research on the effects of recent changes in health-care policy on medication access and spending among older adults with depression and other chronic medical conditions.

In January 2006, for instance, a new drug benefit plan from Medicare, known as Part D, expanded access to beneficiaries who previously had limited or no prescription drug coverage. Donohue's early studies, she says, indicate that Part D not only has reduced out-of-pocket drug expenditures, but also has increased medication use. However, until recently, no breakdown by clinical condition, such as depression, had been performed.

As part of her study, Donohue says she analyzed medical and pharmacy insurance claims data throughout Western Pennsylvania over a four-year period from more than 30,000 Medicare beneficiaries with a diagnosis of depression. Her outcome measures included the initiation of antidepressant therapy, duration of therapy, and adequate adherence before and after implementation of Part D. Her results, published in the *American Journal of Geriatric Psychiatry*, found that Medicare Part D was associated with improvement in antidepressant use and adherence by depressed older adults who previously had no or limited drug coverage.

Taken together, the growing aging population, the complexities of aging-related health care, and the politics affecting it, provide ample directive for Pitt researchers to continue to make aging research an internationally recognized academic and clinical priority at the University of Pittsburgh.

"Aging in this country and worldwide is the monumental issue of our generation," Resnick says. "It is a vast and unprecedented challenge to us all. Together as physicians, scientists, basic researchers, and policymakers, we can devise solutions that none of us could do alone. In fact, imagination is our only limit."

Happenings

Pitt Men's Glee Club Holiday Concert, First Baptist Church of Pittsburgh, December 10

Concerts

Yo-Yo Ma with the PSO, world-renowned cellist with conductor Manfred Honeck performing Dvořák's Cello Concerto, 7:30 p.m. **Dec. 6,** Heinz Hall, 600 Penn Ave., Downtown, Pittsburgh Symphony Orchestra, 412-392-4900, www.pittsburghsymphony.org.

Turtle Island Quartet with Mike Marshall in ***Solstice Celebration,*** 7:30 p.m. **Dec. 6,** Carnegie Music Hall, 4400 Forbes Ave., Oakland, Pittsburgh Chamber Music Society, 412-624-4129, www.pittsburghchambermusic.org.

University of Pittsburgh Symphony Orchestra, free performance featuring works by Dvořák, Bach, Prokofiev, and others, 8 p.m., **Dec. 7,** Bellefield Hall Auditorium, Pitt Department of Music, 412-624-4125, www.music.pitt.edu.

Take 6, a cappella harmony-rich arrangements of Christmas tunes, 7 and 9:30 p.m. **Dec. 9,** Manchester Craftsmen's Guild, 1815 Metropolitan St., Manchester, 412-323-4000, www.mcgjazz.org.

Heinz Chapel Choir Holiday Concerts, 8 p.m. **Dec. 9** and 3 p.m. **Dec. 11,** Heinz Chapel, Pitt Department of Music's Music at Pitt 2011-12, 412-624-4125, www.music.pitt.edu.

Men's Glee Club Holiday Concert, 8 p.m. **Dec. 10,** First Baptist Church of Pittsburgh, 159 N. Bellefield Ave., Oakland, Pitt Department of Music's Music at Pitt 2011-12, 412-624-4125, www.music.pitt.edu.

Catfish Keith, blues singer, songwriter, and bottleneck slide guitarist, 7:30 p.m. **Dec. 10,** Carnegie Lecture Hall, Calliope Acoustic Master Series, Calliope: The Pittsburgh Folk Music Society, 412-361-1915, www.calliopehouse.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Celtic Woman: A Christmas Celebration with the PSO, celebrated Irish entertainers perform beloved holiday songs, 7:30 p.m. **Dec. 11,** Heinz Hall, 600 Penn Ave., Downtown, Pittsburgh Symphony Orchestra, 412-392-4900, www.pittsburghsymphony.org.

B.E. Taylor Christmas Concert, nationally recognized recording and performing artist, 7:30 p.m. **Dec. 12** and **13,** Heinz Hall, 600 Penn Ave., Downtown, Pittsburgh Symphony Orchestra, 412-392-4900, www.pittsburghsymphony.org.

Highmark Holiday Pops with Marvin, featuring conductor Marvin Hamlisch, several vocalists, and the Mendelssohn Choir of Pittsburgh, **Dec. 15-18,** Heinz Hall, 600 Penn Ave., Downtown, PNC Pittsburgh Symphony Pops! 412-392-4900, www.pittsburghsymphony.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Pittsburgh Jazz Orchestra: Holiday Performance, holiday classics receive a jazz makeover, 6 p.m. **Dec. 18,** August Wilson Center, 980 Liberty Ave., Downtown, August Wilson Center for African American Culture, www.augustwilsoncenter.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Yo-Yo Ma with the PSO, Heinz Hall, December 6

Exhibitions

University Art Gallery, *The Imprint of War: Responses in Print*, **through Dec. 5,** exhibition showcasing artwork by war-inspired artists Jacques Callot, Nicolas Naughton, and Sandow Birk, sponsored by students in Pitt's Museum Studies Seminar course, Frick Fine Arts Building, 650 Schenley Dr., Oakland, 412-648-2400.

The Frick Art & Historical Center, *Fabergé: The Hodges Family Collection,* more than 100 objects made by Russian artist-jeweler Peter Carl Fabergé, goldsmith and jeweler to the Russian court, **through Jan. 15,** 7227 Reynolds St., Point Breeze, 412-371-0600, www.thefrickpittsburgh.org.

Carnegie Museum of Art, *Palladio and His Legacy: A Transatlantic Journey*, **through Dec. 31;** *Teenie Harris, Photographer: An American Story*, **through April 7;** *Picturing the City: Downtown Pittsburgh, 2007-2010,* **through March 2;** 4400 Forbes Ave., Oakland, 412-622-3131, www.cmoa.org.

The Warhol, *Fifteen Minutes: Homage to Andy Warhol*, **through Jan. 8;** *I Just Want to Watch: Warhol's Film, Video, and Television*, **ongoing,** 117 Sandusky St., North Side, 412-237-8300, www.warhol.org.

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., Oakland, 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.

TEENIE HARRIS ARCHIVE © 2006 CARNEGIE MUSEUM OF ART, PITTSBURGH

Teenie Harris, Photographer: An American Story, Carnegie Museum of Art through April 7

Lectures/Seminars/Readings

"The Imperative of Integration: Race and Education," Elizabeth Anderson, John Rawls Collegiate Professor of Philosophy and Women's Studies and Arthur F. Thurnau Professor, University of Michigan, noon **Dec. 9,** 20th floor, Cathedral of Learning, Pitt's Center on Race and Social Problems' Fall 2011 Speaker Series sponsored by Buchanan Ingersoll & Rooney PC, 412-624-7382, www.crsp.pitt.edu.

Madeleine Albright, lecture by former U.S. Secretary of State (1997-2001), 7:30 p.m. **Dec. 12,** Carnegie Music Hall, 4400 Forbes Ave., Oakland, The Drue Heinz Lectures; the event will coincide with opening night of the *Read My Pins* exhibition of Albright's personal jewelry collection of more than 200 pins connected to her diplomatic career, on display in the Wertz Gallery of Carnegie Museum of Natural History's Hillman Hall, 412-622-8866, www.pittsburghlectures.org.

"Entropy, Entanglement and Utility," Jos Uffink, professor, Department of Philosophy, University of Minnesota, 3:30 p.m. **Dec. 9,** free, 817R Cathedral of Learning, Pitt Center for Philosophy of Science's Annual Lecture Series 2011-12, 412-624-1052, www.pitt.edu/~pittcntr..

Miscellaneous

"Preparing Fellowship Proposals," Michael Zigmond, Pitt professor of neurology, psychiatry, and behavioral and community health sciences, noon-1:30 p.m. **Dec. 6,** bring lunch, beverages provided, 5100-A South Starzl Biomedical Science Tower, Pitt Survival Skills and Ethics Program's Grants Over Lunch, www.skillsandethics.org.

Anthropology in the Era of Globalization: Ethnography, Ethnology, and Comparative Analysis, daylong conference marking 50 years of anthropological research, teaching, and graduate training at Pitt, 9 a.m.-6 p.m. followed by 6-9 p.m. reception **Dec. 9,** keynote address by Sidney Mintz, Johns Hopkins University anthropology professor, events held at Posvar Hall and Frick Fine Arts Building, Kenneth P. Dietrich School of Arts and Sciences' Department of Anthropology, Pitt Center for Latin American Studies, Pitt World History Center, full schedule available at www.anthropology.pitt.edu, 412-648-7530.

"Beyond the Postdoc: Preparing for Employment," Gonzalo Torres, Pitt professor of neurobiology, noon-1:30 p.m. **Dec. 13,** bring lunch, beverages provided, 5100-A South Starzl Biomedical Science Tower, Pitt Survival Skills and Ethics Program's Grants over Lunch, www.skillsandethics.org.

Opera/Theater/Dance

Mask of Moriarty by Hugh Leonard, Sherlock Holmes and the faithful Dr. Watson come up against their most dastardly malefactor, **Dec. 1-17,** Charity Randall Theatre within Stephen Foster Memorial, Pittsburgh Irish and Classical Theatre, www.picttheatre.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Red, 2010 Tony Award-wining Best Play about artist Mark Rothko, **through Dec. 11,** O'Reilly Theater, 621 Penn Ave., Downtown, Pittsburgh Public Theater, 412-316-1600, www.ppt.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Fat Beckett by Gab Cody in collaboration with Rita Reis, a sly female response to Samuel Beckett's men who wait, **through Dec. 18,** The Old School House, 4830 Hatfield St., Lawrenceville, Quantum Theatre, 412-362-1713, www.quantumtheatre.com, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

The Nutcracker, ballet danced to Tchaikovsky's musical score, **Dec. 2-23,** Benedum Center, 237 7th St., Downtown, Pittsburgh Ballet Theatre, www.pbt.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

The Second City in *Laugh Out Loud,* America's famed comedy troupe in an evening of sketch comedy and improvisation, **Jan. 5-7,** O'Reilly Theater, 621 Penn Ave., Downtown, Pittsburgh Public Theater, www.ppt.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

A Musical Christmas Carol, join Scrooge, Bob Cratchit, Tiny Tim, and a host of colorful characters in this holiday presentation, **Dec. 8-23,** Byham Theater, 101 Sixth St., Downtown, Pittsburgh CLO, 412-281-2822, www.pittsburghclo.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Piper's Noel, performed by the Renaissance wind ensemble *Ciaramella*, celebrating shepherds and the Christmas music they inspired, 8 p.m. **Dec. 11,** Synod Hall, 125 N. Craig St., Oakland, Renaissance & Baroque Society of Pittsburgh, 412-361-2048, www.rbsp.org, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Memphis, new Broadway musical whose dances and songs are wedded to a tale of fame and forbidden love, **Dec. 27-Jan. 1,** Heinz Hall, 600 Penn Ave., Downtown, PNC Broadway Across America, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Defending the Caveman, Broadway comedy that tackles contemporary feminism and masculine sensitivity, **through Jan. 8,** CLO Cabaret, 655 Penn Ave., Downtown, Pittsburgh CLO Cabaret, 412-325-6766, www.pittsburghclo.org/cabaret, PITT ARTS Cheap Seats Program, 412-624-4498, www.pittarts.pitt.edu.

Pitt PhD Dissertation Defenses

Jing Ji, Graduate School of Public Health's Department of Environmental and Occupational Health, 3 p.m. **Dec. 5,** "Neuronal Survival After Traumatic Brain Injury: Cardiolipin, A Critical Target," 3rd-floor conference room, Bridgeside Point, 100 Technology Drive, Hazelwood.

Jorge Zavaleta Balarezo, Dietrich School of Arts and Sciences' Department of Hispanic Languages and Literatures, noon **Dec. 7,** "Hacia un Cuarto Cine: Violencia, Marginalidad, Memoria y Nuevos Escenarios Globales en Ventiún Películas Latinoamericanas," 1528 Cathedral of Learning.

Amy M. Furda, School of Medicine's Molecular Pharmacology Graduate Program, 2 p.m. **Dec. 8,** "The Role of mtDNA Damage in Mitochondrial Dysfunction," 1395 Starzl Biomedical Science Tower.

Anupma Jha, School of Medicine's Cell Biology and Molecular Physiology Graduate Program, 2 p.m. **Dec. 8,** "Clathrin-Mediated Endocytosis of Yolk Protein in *Drosophila* Oocyte," M3901 Children's Hospital.

Matthew Fagerburg, School of Medicine's Molecular Biophysics and Structural Biology Graduate Program, 2 p.m. **Dec. 9,** "Single-Molecule Insights Into PcrA-Driven Disruption of RecA-Filaments," 1018 Biomedical Science Tower 3.

Jonathan D. Steckbeck, School of Medicine's Biochemistry and Molecular Genetics Graduate Program, 10 a.m. **Dec. 15,** "Experimental Determination of the Topology of the HIV-1 gp41 C-Terminal Tail During the Viral Life Cycle," 6014 Biomedical Science Tower 3.

Rakshita Charan, School of Medicine's Biochemistry and Molecular Genetics Graduate Program, 11 a.m. **Dec. 15,** "Deubiquitinating Enzyme A20 and Its Role in NF-kappaB Regulation: Implications for Treatment of Duchenne Muscular Dystrophy," 1595 Starzl Biomedical Science Tower.

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Newsmakers

PITT LRDC CONFERENCE

JEFF FLOTTA

Courtney Cazden, professor emerita of education in the Harvard Graduate School of Education, addresses more than 120 researchers and scholars from U.S. and international universities who attended a Sept. 23-25 education conference at Pitt. Titled "Socializing Intelligence Through Academic Talk and Dialogue," the conference was convened and hosted by Pitt's Lauren B. Resnick, University Professor of Psychology and Cognitive Science, senior scientist and project director in Pitt's Learning Research and Development Center (LRDC), and former LRDC director. Research presented during the conference solidified evidence for the growing theory of dialogic interaction and its effect on disciplinary knowledge, transfer, and academic language development, as well as other skills.

PITT AND WUHAN UNIVERSITY

JIM BURKE/CIDDE

Pitt Chancellor Mark A. Nordenberg (left) and Wuhan University President Li Xiaohong signed a student-exchange agreement during their Nov. 16 visit in Nordenberg's Cathedral of Learning office. Under terms of the accord, select Wuhan students can participate in a 3+2 program within the Pitt Swanson School of Engineering's Department of Mechanical Engineering and Materials Science. These select students will complete three years at Wuhan University and then finish their senior year and master's degree at Pitt. Instrumental in achieving this agreement were Gerald D. Holder, Pitt's U.S. Steel Dean of Engineering and a professor of chemical and petroleum engineering; Lawrence Feick, director of Pitt's University Center for International Studies; Larry J. Shuman, senior associate dean for academic affairs and a professor of industrial engineering; and Minking K. Chyu, Leighton and Mary Orr Chair Professor and Chair, Department of Mechanical Engineering and Materials Science.

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PUBLICATION NOTICE The next edition of *Pitt Chronicle* will be published Jan. 9. 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.