

## BUILDING MOMENTUM: PENN RECEIVES FUNDING FOR CENTER ON PARKINSON'S

Many are familiar with the hallmark physical symptoms of Parkinson's disease – the tremors and difficulties with movement. What may be unfamiliar are the neuropsychiatric impairments that accompany the brain degeneration wrought as Parkinson's progresses.

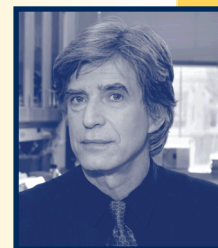
Beginning June 15th, the new Morris K. Udall Parkinson's Disease Research Center of Excellence at the Penn School of Medicine will focus on just that: revealing the mechanisms of brain degeneration in Parkinson's patients, especially the underlying cognitive impairments that result. Designated by the National Institute of Neurological Disorders and Stroke (NINDS), the Penn Udall Center joins only 13 other institutions across the country in focusing energies and research efforts on discerning more about this progressive movement disorder.

Parkinson's disease is a movement disorder which develops when a group of cells in an area of the brain called the substantia nigra begin to malfunction and die; these cells are responsible for the production of dopamine, a neurotransmitter that sends information to the parts of the brain that control movement and coordination. As the dopamine-producing cells die and the level of dopamine in the brain decreases, messages from the brain telling the body how and when to move are slowed more and more, rendering the person unable to initiate and control movement normally.

"The NINDS funding will enable Penn to build on our existing Parkinson's efforts as well as recruit new faculty to the research program," explains Penn Udall Center Director, John Q. Trojanowski, MD, PhD, who will coordinate the overall operations of the Center and carry out neuropathology and genetics research. "The Penn Udall Center will unite the talents and research efforts across the University, bringing researchers together from the Center for Neurodegenerative Disease Research, the

*Continued on page 3*

## Message from the Director



John Q. Trojanowski, MD, PhD

*It has been a busy but exceptional Spring here at the IOA. This year's Sylvan M. Cohen Annual Retreat with Poster Session on Aging brought Dr. Rosemary Stevens back to Penn and gave us all a chance to reflect on the necessity of collaboration in the future of aging research and care for older adults. The Poster Session afforded excellent opportunities for new faculty and researchers to get together and talk - and drew high praise from Dr. Stevens.*

*Again this year, we received a large response to our call for proposals for the IOA Pilot Research Grants; this wealth of 'possibles' made the job of our selection com-*

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Photos by Mark Garvin



*IOA in Action (from left to right): Neville Strumpf prepares with fellow Penn Presenters, David Casarett and Stacen Keating at the 2007 Sylvan M. Cohen Annual Retreat. Josh Du-naief, Dean Joan Hendricks and Virginia Lee are all involved in Exploring Human-Animal Connections.*



*News from the 2007 Sylvan M. Cohen Annual Retreat - page 8*

**Director**

John Q. Trojanowski, MD, PhD

**Deputy Director**

Kathryn Jedrzewski, PhD

**MISSION:**

The mission of the Institute on Aging (IOA) at the University of Pennsylvania is to improve the health of older adults by increasing the quality and quantity of clinical and basic research as well as educational programs focusing on normal aging and age-related diseases at the University of Pennsylvania School of Medicine and across the entire Penn campus.

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## EXPLORING AND MAKING HUMAN-ANIMAL CONNECTIONS

On March 8, 2007, the IOA and the Penn School of Veterinary Medicine presented a full-day symposium to discuss areas where current aging research using animal models at the Penn School of Medicine and the School of Veterinary Medicine intersects, where future research may continue through joint investigative efforts, and what the implications are for the study of aging and aging-related diseases for humans and animals as a result. Faculty from both schools presented their animal models research in certain key areas,

with a corresponding colleague offering introductions and moderating discussion. Topics covered included *Longevity, Nutrition and Diabetes, Immunology, Cardiovascular Health, Osteoporosis, Obesity, and Retinitis*.



The symposium closed with a roundtable discussion among the day's speakers, presenters, and senior researchers in aging from Penn. Dennis Lawler, DVM, from Nestlé Purina PetCare, guided the discussion, offering insight from his extensive research on the influence of body weight and nutrition on canine health issues.

To keep the momentum from the symposium going and to encourage research discussion, attendees were invited to submit joint, collaborative proposals for a project using animal models of aging for a \$5,000 seed grant, offered by the Penn School of Medicine and the Penn School of Veterinary Medicine. After receiving submissions, two proposals stood out and were both funded. Dr. Kurt Hankenson, School of Veterinary Medicine, and Dr. Bob Pignolo, School of Medicine, received a seed grant for their proposal "In vivo analysis of bone formation by aged bone-marrow stromal cells." Dr. Brad Johnson, School of Medicine, and Dr. Sam Long, School of Veterinary Medicine, also received a seed grant for their proposal "Investigation of telomere biology and its relationship to aging in dogs."



The IOA also set aside a 2008 Pilot Research Grant which has been awarded to a joint School of Medicine-School of Veterinary Medicine project led by Dr. Olena Jacenko from the School of Veterinary Medicine. (See page 4.) For a complete list of the day's presenters, visit [www.med.upenn.edu/aging/AnimalModelsofAgingexplain2007.shtml](http://www.med.upenn.edu/aging/AnimalModelsofAgingexplain2007.shtml).



Photos by Mark Carvin

## UDALL CENTER OF EXCELLENCE IN PARKINSON'S RESEARCH COMES TO PENN

*Continued from front cover*

Institute on Aging, the Parkinson's Disease and Movement Disorders Center at Pennsylvania Hospital, and PADRECC, the Parkinson's Disease Research, Education and Clinical Center at the Philadelphia VA Medical Center. The impact the additional resources the Udall Center designation will have in terms of advancing what we as smaller units within Penn have been doing with regards to Parkinson's is tremendous and is eclipsed only by the ability to gather under one coordinated roof the many talented researchers and clinicians we have here who have been working so aggressively and with such dedication on Parkinson's," continues Dr. Trojanowski. Penn is now one of only nine universities with both a Udall Center and an Alzheimer's Disease Core Center.

Modeled similarly to the Alzheimer's Disease Centers, the Udall Centers are comprised of 4 cores: Administrative, Clinical and Educational, Neuropathological and Genetic, and Data and Biostatistics. Howard Hurtig, MD, will lead the Clinical and Educational Core and its two initiatives to identify potential bio- and genetic markers of Parkinson's-related neurodegeneration in patients and to conduct educational efforts for physicians and the lay community. Drs. John Trojanowski and Vivian Van Deerlin will guide the pathological and genetics efforts of the Neuropathological and Genetic Core, with Dr. Sharon Xie managing the Data and Biostatistics Core.

In addition to these cores, there are four projects. In two of the projects, Drs. Andrew Siderowf and Murray Grossman will be working to define the precise nature and neural basis of cognitive impairments in Parkinson's patients through evaluation and imaging studies. Studies will be led by Drs. Virginia Lee and Benoit Giasson to learn more about the nature of these cognitive impairments using mouse models, including an examination of the role of protein aggregation and the links between  $\alpha$ -synuclein inclusions and synucleinopathies.

More information on the Penn Udall Center and its team will be available in the coming months. A new website for the Center is under development currently and will provide more information on the Center's research activities, studies, and findings. To connect with the new Penn Udall Center website when it is up and running, visit the IOA website at [www.med.upenn.edu/aging](http://www.med.upenn.edu/aging) and look for the link.

For those interested in learning more about Penn's fellow Udall Centers, visit the NINDS website at [www.ninds.nih.gov/funding/research/parkinsonsweb/udall\\_centers/index.htm](http://www.ninds.nih.gov/funding/research/parkinsonsweb/udall_centers/index.htm). Additional information on Parkinson's disease can be found at the National Parkinson Foundation website at [www.parkinson.org](http://www.parkinson.org) and at the Michael J. Fox Foundation for Parkinson's Research at [www.michaeljfox.org](http://www.michaeljfox.org).

*Continued from front cover*

## *M*essage from the Director

*mittee that much more challenging. I thank each of our committee members for their time and their hours of review and analysis. We have awarded eight IOA Pilot Research Grants, totaling \$400,000, to what we all feel are promising new pilot studies in different areas of aging. We extend our thanks again to the generous support of The Bingham Trust which has allowed us to double the size and scope of the IOA Pilot Research Grant program.*

*Coupled with this promising pilot research, which is provided in detail beginning on page 4, our front page article formally shares with all of you Penn's designation by the National Institute of Neurological Disorders and Stroke (NINDS) as a new Udall Center of Excellence in Parkinson's disease research. Please join me in congratulating our new Udall Center team on this news.*

*I invite you to read through the newsletter to see who is coming to campus as part of the 2007-2008 Visiting Scholars Series and to learn more about the goings-on in aging and aging research across Penn – be it in the lab or in the clinic.*

*Lastly, I hope you will all join us and 'save the date' for the inaugural Vincent J. Cristofalo, PhD Memorial Lectureship which will be held on November 27th. Best wishes for the summer,*



## PROMISING NEW RESEARCH FUNDED: IOA AWARDS \$400,000 IN PILOT GRANTS FOR 2008

The IOA Pilot Research Grant Program is designed to support new faculty entering the field of aging, to assist Penn faculty in obtaining critical, preliminary data which serve as the basis for grant applications to agencies funding aging research, and to stimulate multi-disciplinary projects that focus the diverse expertise at Penn toward aging research. Through this, the IOA fosters the exploration of new directions in the field of aging on a broader scale. With the generous support of The Bingham Trust, the Pilot Research Grant Program awarded eight pilot grants to investigators and research projects in the School of Medicine, the School of Nursing, and the School of Veterinary Medicine for 2008.



**AARON D. GITLER, PHD**  
*School of Medicine, Department of Cell and Developmental Biology*  
"A Yeast TDP-43-opathy Model"

our population continues to age. These diseases, referred to collectively as protein misfolding disorders, include truly disastrous neurodegenerative diseases such as Alzheimer's, Parkinson's, Amyotrophic Lateral Sclerosis (Lou Gehrig's Disease) and the Frontotemporal Dementias. It is hypothesized that identifying and characterizing the specific disease proteins associated with these disorders will provide insight into the causes of these diseases and will aid in the development of biomarkers and therapeutic strategies. Recently, a misfolded form of a protein called TDP-43 was identified as potentially playing a major role in both ALS and a subset of the Frontotemporal Dementias. The goal of this Pilot is to study TDP-43, identifying and characterizing both its normal function as well as the cellular consequences of its misfolding. We are proposing a unique approach to this problem, using yeast cells to study TDP-43 - the same yeast cells that bakers and brewers use to make bread and beer. Since protein folding is a universal challenge to all cells, from simple yeast to complicated neurons in our brain, we believe that the lessons we learn about how TDP-43 functions in yeast cells will be directly relevant to how it functions in human cells.

Protein folding is critically important for all of life. Not surprisingly, problems in protein folding are the root cause of many of the most devastating diseases, which represent a major challenge as



**OLENA JACENKO, PHD**  
*School of Veterinary Medicine, Division of Biochemistry*  
"Hypomorphic Perlecan Mice: A Model for Osteoarthritis and Osteonecrosis"

Numerous people are born each year with skeletal defects and many more acquire degenerative skeletal disease with age. Greater than 50% of the U.S. population 65 years or older are estimated to suffer from osteoarthritis (OA); another common degenerative joint disease is osteonecrosis (ON), a severe and debilitating form of OA resulting in bone destruction. With an increasing aged population, the impact of these conditions compounds over time as chronic pain limits activity and affects life quality of millions. To date, precise disease mechanisms underlying OA and ON remain poorly defined. Treatment options are also limited due to ineffective ability of joint tissue (articular cartilage) to regenerate, combined with a lack of suitable animal models to test therapeutic interventions. The goal of this proposal is to establish our genetically engineered mice that express low levels of perlecan, a molecule that is vital for skeletal development, as models for OA and ON. These mice model an inherited human skeletal disease (Schwartz-Jampel Syndrome) and exhibit acute OA and ON by 4 weeks after birth. We propose to elucidate molecular, biochemical, and biomechanical mechanisms of degenerative skeletal disease in these mice. Our ultimate goal is to use these mice for in vivo testing of therapies and preventative strategies for these conditions.



**JESSE M. PINES, MD, MBA, MSCE**  
*School of Medicine, Department of Emergency Medicine*  
"The Impact of Emergency Department (ED) Crowding, ED Waiting Times, ED Length of Stay, and Hospital Occupancy on Survival for Older Adults"

Emergency department (ED) crowding is a nationwide crisis and is reported to be a major issue in greater than 90% of US EDs. Primary concerns with ED crowding are the potential for poor quality of

care and the negative impact on patient care outcomes. Older adults may be the group at highest risk for poorer quality care and negative outcomes during times of ED crowding as they frequently receive their care in EDs when they experience acute unexpected illnesses, frequently require extensive diagnostic testing and hospital admission, and often require more resources and care coordination. When an ED has a high workload state of crowding and care demands exceed supply of both personnel and physical space, older adults may suffer because of delays in diagnosis, in critical treatments, and inpatient plans of care, as well as reduced capacity of the ED to evaluate new patients. Preliminary studies have demonstrated that ED crowding is linked to poorer quality of care for pneumonia, but no studies have demonstrated an association between ED crowding and mortality outcomes for older adults. This study aims to test the impact of ED crowding measures at the level of the individual patient (ED waiting room time and ED length of stay) and of the hospital (ED crowding and hospital occupancy) on risk-adjusted inpatient and 30-day and 60-day mortality for almost 11,000 older adults (65 and older) admitted to two inner-city hospitals in Philadelphia (HUP and Penn Presbyterian) over 3 years. We hypothesize that risk-adjusted survival for older adults will be poorer at high levels of hospital occupancy and ED crowding and that these effects may be mitigated by a patient-level exposure to prolonged ED waiting room time and ED length of stay. As government regulators address hospital performance measures and pay-for-performance, understanding which ED crowding factors impact outcomes for older adults may inform planning and quality improvement.



**BARBARA RIEGEL, DNSC, RN, CS, FAAN**  
*School of Nursing*  
**"Symptom Recognition in Elders with Heart Failure"**

Aging is associated with various sensory changes. Vision, hearing and perhaps taste become blunted as we age. We suspect that elders also may experience some decrements

in the ability to detect symptoms such as shortness of breath, a common symptom of heart failure. Persons with heart failure need to monitor their early symptoms so that they can act on them before they get out of control. Thus, the ability to detect symptoms such as shortness of breath is important for self-care. This study aims to test the hypothesis that the ability to detect shortness of breath is poorer in elders than in younger patients with heart failure. We will compare two groups, those younger than age 65 and those 65 or older. We will stimulate shortness of breath using a 6-minute walk test; following the stimulus, the ability to detect shortness of breath will be compared to gold standard ratings of each person's shortness of breath provided by trained research assistants. Accuracy of ratings - congruence between patient and research assistant ratings of shortness of breath - will be compared in older and younger heart failure patients. A secondary aim is to assess symptom interpretation by interview in a subset of older and younger patients to determine the meaning attributed to symptoms when they occur. This study will be conducted in Melbourne, Australia where Dr. Riegel will be doing a Fulbright scholarship early in 2008.



**KATHRYN SCHMITZ, PhD, MPH**  
*School of Medicine, Department of Biostatistics and Epidemiology*  
**"Does Adjuvant Breast Cancer Treatment Accelerate Aging Associated Functional Decline?: A Pilot Study"**

There have been many exercise intervention studies conducted in breast cancer survivors that have shown that exercise can improve strength and aerobic fitness and quality of life. However, there has been variability in the effectiveness of these interventions and many reasons to believe that exercise studies have yet to show their maximal impact. Studies to date have included ALL breast cancer survivors, rather than targeting the subset of women who need an exercise intervention the most. Also, interventions may not have targeted the specific causes of strength and fitness declines experienced by some as a result of treatment. This pilot seeks to better understand the characteristics of women at greatest risk for reduced strength and fitness with breast cancer treatment and the specific causes of reduced strength and fitness due to treatment. The study will recruit women just after breast cancer surgery and have them complete a set of surveys and in-person assessments, to be repeated at the end of their treatment or 6-9 months later if surgery is their only treatment. Most women experience no clinically relevant changes in strength and fitness as a result of treatment; studies have shown there is a subset of women for whom treatment results in a significant and clinically meaningful decline in strength and fitness larger than would be expected based on living for the same period of time without having had cancer treatment. The goal of this research is to identify the pre-existing, diagnostic, and treatment-related characteristics associated with these declines (needing intervention to restore fitness after treatment) and the body systems associated with these declines (should interventions focus on building strength, aerobic fitness, flexibility, balance, or some combination?).

*Continued on page 14*

## NEWS FROM THE CENTERS: SLEEP DISORDERS CLINIC FOR SENIORS

To sleep, perchance to dream. Some studies suggest that 20-40% of older adults suffer from some type of sleep disorder. There is no question that sleep is important and that a lack of sleep can have an impact on one's physical and mental health and abilities. The Sleep Disorders Clinic for Seniors (SDCS) is a special part of the Ralston-Penn Center Geriatric Medicine Practice. SDCS specializes in the sleep problems of older adults, including sleep apnea, insomnia and restless legs syndrome. The 'classic symptoms' seen in middle-aged populations may not necessarily be present in older adults, creating unique diagnostic and treatment challenges. Insomnia, for example, is often caused by other medical conditions such as congestive heart failure or chronic obstructive pulmonary disorder (COPD) in the elderly, whereas it is often due to psychological problems, like stress, in younger patients. Other conditions, such as sleep apnea or periodic limb movements like restless legs, occur at a much greater frequency in older adults.

Operating with the SDCS, the Geriatric Sleep Research lab, run by Dr. Nalaka Gooneratne, is dedicated to improving the sleep quality of seniors through research, education and clinical care. Research focuses on attitudes toward sleep disorders, insomnia and the role that circadian rhythm changes play, sleep apnea, sleep and fall risk, the role of melatonin in treating insomnia, and studies on excessive daytime sleepiness among older adults. Participating in research is invaluable in helping clinician-researchers like Dr. Gooneratne learn more about the nature and causes of sleep disorders and what courses of treatment may work best. To make an appointment at the Sleep Disorders Clinic for Seniors, please call 215-662-2746. To learn more about ongoing sleep disorder clinical trials, contact 215- 573-7246 or 215-573-3429.

## MAKING METHODOLOGIES COMMUNITY-COMPATIBLE: TRANSLATIONAL RESEARCH

### The Healthy Brain Initiative and Using MRI to Detect MCI

Moving information from the laboratory to the clinic and American homes, lives, and doctor's offices is the ultimate goal of research. Here are two instances, with Penn connections, where efforts are underway to translate research and findings into practice.

#### The Healthy Brain Initiative: A National Public Health Roadmap to Maintaining Cognitive Health

With the growing segment of older adults in the population and the rising numbers of those touched by cognitive impairment, Congress authorized funding in 2005 for the Centers for Disease Control and Prevention (CDC) to address cognitive health with a focus on lifestyle issues. The CDC formed a partnership with the Alzheimer's Association and is working closely with the National Institute on Aging, the Administration on Aging, and other public and private sector organizations on a Healthy Brain Initiative. As part of this, a Public Health Research Working Group met in May 2006 to review research in public health prevention related to brain health and discuss specific recommendations for addressing risk and protective factors for promoting cognitive health. The experts focused on vascular risk factors and physical activity because of their association with cognitive outcomes and provided a basis for developing strategic public health recommendations to take what we have learned in the lab and turn it into real-world practice to improve the health of Americans.

Research suggests the following factors may be associated with the maintenance of cognitive health: 1) preventing or controlling high blood pressure, cholesterol, diabetes, overweight, and obesity; 2) preventing or stopping smoking, and 3) being physically active. "All the things that we know are bad for your heart turn out to be bad for your brain," explains Marilyn S. Albert, PhD, Johns Hopkins University School of Medicine, and a member of the Prevention Research Workgroup, of which the IOA's Deputy Director, Dr. Kathryn Jedrziwski was a contributing member.

The report proposes a "Roadmap to Maintaining Cognitive Health." The Roadmap clearly sets out areas for action and 'next steps' needed to amass additional supportive evidence so as to provide and establish the effectiveness of interventions targeted to vascular risk factors, and thus cognitive health, and to advance the translation of what we already know into useful guidelines for the average American, as well as to determine the long-term outcomes and nature of the recommendations. For more information on the Healthy Brain Initiative and the "Roadmap to Maintaining Cognitive Health," visit [www.med.upenn.edu/aging](http://www.med.upenn.edu/aging).

#### Using MRI to Detect MCI

It's the type of news Alzheimer's and neurodegenerative researchers and clinicians - and patients and their families - have been hoping to hear. Dr. Christos Davatzikos, Chief of the Biomedical Image Analysis Section



in Penn's Department of Radiology, his colleagues here at Penn, Yong Fan, Xiaoying Wu, and Dinggang Shen, and Dr. Susan Resnick at the National Institute on Aging employed new MRI techniques to peer into the brain and study tissue composition and structure. MCI or mild cognitive impairment is a condition in which patients suffer mild memory problems and is often an early symptom of Alzheimer's disease (AD).

In the first-of-its-kind study, researchers pieced together a picture of patients' brains by combining and analyzing MRI images, noting density and volume of different tissues as well as spatial distribution. Based on this, patterns associated with MCI were observed. Researchers were not only able to select with 100% accuracy those patients in the study with cognitive impairment from those with normal cognitive function; they were also able to predict with 90% accuracy those patients with increasing onset of MCI. Scans used were the latest taken of the patients and did not include prior longitudinal images.

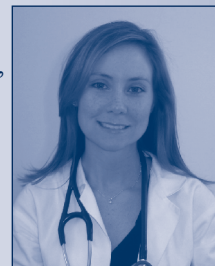
Prior to this study, MRI images have not been predictive in terms of confirming MCI or AD because the techniques being used relied on measurement of volumes of specific brain regions or computational neuroanatomy, which relies on group analysis for examining overall differences between individuals with and without MCI or AD pathology. Dr. Davatzikos and his colleagues developed a new technique which uses a computer-based high-dimensional image analysis and pattern classification method that examines the spatial patterns of brain atrophy in their entirety instead of performing regional evaluations. This technique offers the sensitivity and specificity for individual patient diagnosis. Importantly, the patterns of structural change in the brain can be measured even before cognitive decline brings the individuals in to the clinic for assessment and evaluation. Also, the spatial pattern that allowed the researchers to accurately detect individuals with MCI involved several structures known to be implicated in Alzheimer's. The results of the study are in press in *Neurobiology of Aging* and are currently available online.

## news in geriatric psychiatry



Dr. Steven E. Arnold, Professor of Psychiatry and Neurology and a clinician and researcher at the Penn Alzheimer's Disease Center and Penn Memory Center, has been appointed Director of the Geriatric Psychiatry Program in the Department of Psychiatry. We'll feature Dr. Arnold, also an IOA Fellow, and more information on geriatric psychiatry in the Fall IOA newsletter.

## FROM GERIATRICS FELLOW TO CLINICIAN: KATHLEEN WALSH, DO



Kathleen Walsh, DO, is joining the Division of Geriatric Medicine as an Assistant Professor of Medicine. Dr. Walsh just completed her clinical fellowship in geriatric medicine here at Penn after a residency in internal medicine at Temple University Hospital. A native of Wilkes-Barre, she is a graduate of the Philadelphia College of Osteopathic Medicine and is board certified in internal medicine and geriatric medicine. With interests in both primary care geriatric medicine and cognitive disorders, Dr. Walsh will be seeing patients at the Ralston-Penn Center Geriatric Medicine Practice and at the Penn Memory Center, located in Ralston House, as well as attending at the ACE Unit at Penn Presbyterian Hospital. See page 9 for Dr. Walsh's winning poster at the recent IOA Poster Session.

## ADVOCACY WORKS: FUNDING RESTORED

Thanks to advocacy and support of concerned citizens and organizations working with older adults, federal funding for geriatrics education was in fact restored by the House and Senate and was approved by President Bush. Geriatrics was the only Title VII program eliminated in the 2006 federal budget that was restored for the 2007 budget. Contacting legislators played a critical part in this hardwon success.

The Delaware Valley Geriatric Education Center, located here at Penn, has submitted its proposal for renewed funding for its many educational and fellowship efforts and is awaiting word on whether it will receive funding. Encourage your U.S. Representative (visit [www.house.gov](http://www.house.gov)) and your U.S. Senators (visit [www.senate.gov](http://www.senate.gov)) to continue to support federal funding for geriatrics.



VINCENT J.  
CRISTOFALO, PhD  
MEMORIAL LECTURESHIP

NOVEMBER 27, 2007

*Mark your calendar for the Inaugural Vincent J. Cristofalo, PhD Memorial Lectureship and reception, to be held:*

**November 27, 2007  
3:30-6:00pm  
Biomedical Research Bldg 2/3  
Auditorium  
421 Curie Boulevard  
University of Pennsylvania**

*This endowed Lectureship will serve as an annual tribute to Dr. Vincent Cristofalo, an expert in cellular aging, a cherished mentor, and the founder of the Center for the Study of Aging, now the Institute on Aging.*

*The author of "Why We Age" and an unconventional researcher in comparative biogerontology, Dr. Steven Austad, Professor, Department of Cellular and Structural Biology at the Sam and Ann Barshop Institute for Longevity and Aging Studies at the University of Texas Health Science Center at San Antonio, will serve as the Inaugural Cristofalo Lecturer.*

*A colleague of Dr. Cristofalo's, Dr. Austad has expanded the focus of aging research to include animals in the wild that tend to live longer than conventional wisdom would predict. His research seeks to identify the underlying cellular and molecular mechanisms that account for species differences in aging.*

Visit [www.med.upenn.edu/aging](http://www.med.upenn.edu/aging) for more details.

THE 2007 SYLVAN M. COHEN ANNUAL RETREAT  
WITH POSTER SESSION ON AGING:  
CONVERGENCE OF MEDICINE AND NURSING

Dean Arthur Rubenstein, Penn School of Medicine, opened the afternoon's retreat and lectures in Houston Hall with a warm welcome to attendees, speakers, and Mrs. Alma Cohen, who continues to generously support the day's activities in memory of her husband and founding chair of the IOA's External Advisory Board, Sylvan M. Cohen.



Stepping to the podium to serve as the day's Sylvan M. Cohen Visiting Scholar, Dr. Rosemary A. Stevens, the DeWitt Wallace Distinguished Scholar in the Social Medicine and Public Policy Program of the Department of Psychiatry at Cornell's Weill Medical College and Professor Emerita here at Penn, eschewed Powerpoint to talk with the audience about "The First Quarter." Dr. Stevens' offered an historian's perspective on the past century's development of medical specialization, the growth and importance of geriatrics, and the future and need for collaboration between medicine and nursing as the sheer number and complex medical needs of the aging increase in this the 'first quarter' of the 21<sup>st</sup> century.



Serving as Penn Presenters, Dr. Neville Strumpf, Edith Clemmer Steinbright Professor in Gerontology and Director of the Center for Gerontologic Nursing Science, Dr. Stacen Keating, Post Doctoral Fellow at the Center for Health Outcomes and Policy Research (CHOPR), and Dr. David Casarett, Assistant Professor of Medicine in the Division of Geriatric Medicine and Staff Physician and Medical Director of the Palliative Care Service at the Philadelphia VA Medical Center collectively presented "Nursing and Medicine Collaboration in End-of-Life Research," offering an overview of the research by the RAND/Hartford Interdisciplinary Geriatric Health Care Research Center, a look at the nature of collaborative efforts, and a discussion of interdisciplinary collaboration in geriatrics and palliative care.

Following the lectures, attendees moved to the Hall of Flags for the Poster Session on Aging. Over 60 posters were on display in basic science, clinical research, and education/other programs. Penn faculty, staff, students,







and researchers in aging were joined by colleagues from area community groups and colleges/universities. Judges circulated throughout the room, viewing each poster and speaking with presenters, ultimately nominating the following poster presenters for awards:

### Basic Science

First Prize: *HDAC6 rescues neurodegeneration and provides an essential link between autophagy and the ubiquitin-proteasome system*, presented by Uday Pandey, School of Medicine, Department of Neurology.

Second Prize: *Isoprostane increases A levels and promotes Alzheimer's disease pathology through thromboxane receptor activation*, presented by Diana Shineman, School of Medicine, Center for Neurodegenerative Disease Research.

### Clinical Research

First Prize: *Depression, diabetes, and death: A randomized controlled trial of a depression treatment program for older adults based in primary care (PROSPECT)*, presented by Hillary R. Bogner, School of Medicine, Department of Family Medicine and Community Health.



Second Prize: *Outcomes after acquired lower extremity amputation: Does the intensity of rehabilitation services matter?*, presented by Margaret G. Stineman, Janet Prvu-Bettger, and

Jibby E. Kurichi, School of Medicine, Department of Physical Medicine and Rehabilitation.

### Education/Other Programs

First Prize: *Newly Diagnosed AIDS in an Elderly Man with a Rash*, presented by Kathleen Walsh, School of Medicine, Department of Medicine, Division of Geriatric Medicine.

Second Prize: *Aging "Gracefully": The Industrial and Social Construction of the 50+ Woman*, presented by Nadine Gabbadon, Annenberg School for Communication.

Streaming video of the speaker presentations and a sampling from the poster session can be found at [www.med.upenn.edu/aging/Retreat2007.html](http://www.med.upenn.edu/aging/Retreat2007.html). You will need Real Player to view the video segments.

Photos by Mark Garvin



## IOA VISITING SCHOLARS SERIES 2007-2008

The IOA Visiting Scholars Series is dedicated to bringing national leaders in aging research, policy, and clinical care to Penn.

Sessions promote interdisciplinary discussion and debate. The Series is free and open to the public. Registration is requested; faculty, staff, students, and the community are welcome.

Select series lectures are available as podcasts. For information on subscribing to the free podcasts, visit the IOA website at [www.med.upenn.edu/aging](http://www.med.upenn.edu/aging) and click on the iPod graphic.

### Thursday, October 25, 2007

Vincent Mor, MD, PhD  
Professor and Chair, Department of Community Health  
Brown University School of Medicine  
"Measuring the impact of state policy changes on nursing home quality"  
Venue and Time: TBA

### Wednesday, November 7, 2007

Evan C. Hadley, MD  
Director, Geriatrics and Clinical Gerontology Program  
National Institute on Aging  
"Opportunities for translational aging research" (wt)  
Venue and Time: TBA

### Thursday, January 31, 2008

L. Gregory Pawlson, MD, MPH  
Executive Vice President  
National Committee for Quality Assurance (NCQA)  
Lecture, Venue and Time: TBA

### Spring, 2008

Nick Bostrom, PhD  
Director, Future of Humanity Institute  
Faculty of Philosophy & James Martin 21st Century School  
Oxford University  
Lecture, Venue and Time: TBA

For more information, visit [www.med.upenn.edu/aging](http://www.med.upenn.edu/aging), or contact us at [aging@mail.med.upenn.edu](mailto:aging@mail.med.upenn.edu) or 215-898-3163.

## AWARDS AND HONORS

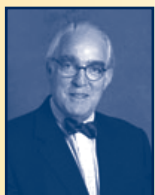
## AAAS Fellow: Dr. Daldal



Dr. M. Fevzi Daldal, Professor of Biology in the School of Arts & Sciences, was named one of three Fellows of the American Association for

the Advancement of Science (AAAS) from Penn. Dr. Daldal was named for his “distinguished contributions to the field of molecule microbiology and biochemical genetics, particularly structure, functions, regulation, and biogenesis of cytochromes and membrane cytochrome complexes.” AAAS, dedicated to advancing science around the world by serving as an educator, leader, spokesperson and professional association, publishes the journal *Science* and spearheads programs that raise the bar of understanding for science worldwide

## Michaelson and Lifetime Achievement Awards: Dr. Fine



Dr. Stuart Fine, Professor and Chair of the Department of Ophthalmology and Director of the Scheie Eye Institute, received the 9<sup>th</sup> Michaelson Award and

delivered the Michaelson Lecture at the 9<sup>th</sup> Michaelson Symposium. Named for Isaac Michaelson, MD, the first Professor and Chair of Ophthalmology at Hebrew University and Director of the Ophthalmology Residency at Hadassah Medical Center in Jerusalem, the award and event are offered as a tribute to Michaelson's contributions to ophthalmology and vision science worldwide. Dr. Fine was also one of six recipients of the Lifetime Achievement Honor Award from the American Academy of Ophthalmology (AAO) for his contributions to the Academy and to the ophthalmology profession. AAO is the world's largest association of eye physicians and surgeons with more than 27,000 members.

*Continued on page 11*

## FELLOWS IN THE SPOTLIGHT

## A CONVERSATION WITH DR. LI-SAN WANG

*The IOA Fellows program brings together researchers, clinicians, and educators with varied interests and remarkable achievements in the field of aging. There are two levels of fellowship. The IOA Fellows are University of Pennsylvania faculty, representing the 12 schools within the University. Associate Fellows represent Penn staff, as well as colleagues from other U.S. institutions, who have demonstrated a keen interest in aging-related research, education, or services. The IOA is honored to include nationally-recognized members of Penn's faculty, such as Li-San Wang, PhD, in the Fellows program.*

## Li-San Wang, PhD



*Assistant Professor of Pathology and Laboratory Medicine, School of Medicine*

The research success in trying to unravel the mysteries of neurodegenerative diseases has created a vast amount of data, genomic, molecular and cellular biology data, generated by the high-throughput techniques being used. Stepping in to help sift through and conduct analysis is the IOA's fourth joint faculty recruit, Dr. Li-San Wang.

Dr. Wang joined the faculty in the Department of Pathology and Laboratory Medicine this January and became an IOA Fellow shortly thereafter. His journey to Penn began with his undergraduate studies in electrical engineering at the National Taiwan University, where he received his BS and MS degrees. After completing his military service in the Republic of China (Taiwan) Army where he attained the rank of Second Lieutenant, Dr. Wang traveled to the University of Texas at Austin to pursue his MS and PhD in computer science, under his advisor, Tandy Warnow.

Arriving at Penn soon after, Dr. Wang served as a post-doctoral fellow in the Department of Biology and at the Abramson Cancer Institute, first as part of an NIH training grant on cancer and immunopathobiology with Dr. Mark Greene and then an NIH training grant on bioinformatics, working with Dr. Lyle Ungar. Here he worked on disease-related bioinformatic research, computational methods for microarray analysis and systems biology, and computational phylogenetics. He has published a number of papers and has been active in giving talks and conference presentations on genome rearrangement phylogeny. In addition to his computational and genomic skills, Dr. Wang is fluent in Mandarin Chinese, English, and Taiwanese. He also is the proud father and expert babysitter of Erica and Evelyn Wang. The IOA spoke with Dr. Wang who is new to aging research.

**IOA: What is the field of bioinformatics? Can you tell us more about how bioinformatics can assist in aging research?**

LW: The terms “bioinformatics” and “computational biology” are often used interchangeably to denote the use of computers to solve biological



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## AWARDS AND HONORS

and biomedical research problems. Bioinformatics usually refers to the application of technology, such as databases and visualization; computational biology emphasizes the hypothesis-driven research. However, they are rapidly evolving and exchanging ideas, making it hard to separate the two. I consider a substantial portion of my research the development of new experimental tools -- more powerful algorithms that allow us to handle larger and more complex data and more sensitive algorithms that lead to more subtle signals. After all, computational biology is quite similar to other biological research: we make observations based on the analysis, formulate new hypotheses, and devise the next computational step accordingly. I believe, as does Dr. Trojanowski and others, that bioinformatics/computational biology can be very beneficial for aging research. Standard tools like algorithms for genomic sequence analysis and cross-species conservation help us identify functional motifs, and analyses of complex microarray experiments help us build models of gene regulation and interaction. Moreover, bioinformatics enables us to design various ways to combine these tools and perform large-scale integrative analyses using distinct experimental methods and data from the literature and biological databases.

**IOA: What interests you in aging research? What led you to move to aging and neurodegenerative diseases (ND)?**

LW: We have a world-class research community on aging and ND here at Penn. From the bioinformatics/computational biology perspective, aging is a less explored field, and I am very excited about the possibilities. Aging is a complex dynamic process and a fundamental biological research question. My exposure to a traditional molecular biology research environment, at Professor Yongwon Choi's osteoimmunology lab, and my training at Professor Junhyong Kim's lab at the Department of Biology, were invaluable in showing me how important it is in computational biology to be able to evaluate the significance from the biological side. I am interested in the interaction of aging with other biomedical phenomena such as the interplay between aging and various diseases such as cancer, Alzheimer's disease, and other neurodegenerative diseases. Currently, I am collaborating with Dr. Brad Johnson (also an IOA fellow) on novel computational predictions of G-quadruplexes (see pilot information on page 14), and I also have collaborations with other cancer researchers from Wistar (Carlo Maley) and CHOP (Carolyn Felix). Diseases all look the same from a pure computational point of view, but being able to utilize the biomedical knowledge for the particular disease in a bioinformatic study is what transforms a good study into an exceptional one. Complex aging-related diseases like Alzheimer's and other NDs provide good opportunities for this synergy to make a difference.

**IOA: As a new faculty recruit, what led you to become an IOA Fellow?**

LW: When I was offered the faculty position, two mentors suggested I join the IOA and participate in the activities. I truly enjoy being part of this community, with the diversity of the participants' research interests, collegiality, and many opportunities for collaboration and support. These are all very helpful for a junior faculty member like me.

### "Red Dress Award": Dr. Kumanyika



Dr. Shiriki Kumanyika, Professor of Epidemiology and Biostatistics, Associate Dean for Health Promotion and Disease Prevention, and Founding Director of the Graduate Program in Public Health Studies, was awarded the "Red Dress Award" from *Woman's Day* magazine for her work promoting heart health to the public, particularly the African-American community. "Red Dress Awards" recognize and honor the foremost experts and organizations making a difference in the fight against heart disease in women.

### American Academy of Nursing: Dr. Bowles



Dr. Kathryn Bowles, Associate Professor of Nursing, has been accepted as a Fellow in the American Academy of Nursing (AAN). The AAN is comprised of 1,500 qualified and savvy nurse leaders who are literally at the top of their profession, having accomplished extraordinary milestones in their nursing careers.

### Director of MIRECC: Dr. Oslin



Dr. David Oslin, Associate Professor of Psychiatry, has been appointed the new Director of the Mental Illness, Research, Education and Clinical Center (MIRECC) of the VA's Stars & Stripes Network. MIRECC, a VA Center of Excellence located at the Philadelphia VA Medical Center, will focus on improving the treatment of veterans with psychiatric disorders and comorbid substance abuse and/or medical disorders.

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## AWARDS AND HONORS

### Martin Mid-Career Award: Dr. Klein



Dr. Peter S. Klein, Associate Professor of Medicine, Division of Hematology/Oncology, was awarded the Julie Martin Mid-Career

Award in Aging Research from AFAR (American Federation for Aging Research) and sponsored by the Ellison Medical Foundation. The award is given to outstanding mid-career scientists who propose novel directions of high importance to biological gerontology.

### Associate Professor and Deputy Director for CCEB Graduate Training: Dr. Lautenbach



Dr. Ebbing Lautenbach will be promoted to Associate Professor of Epidemiology and Associate Professor of Medicine in the Infectious Diseases

Division, effective July 1st. Dr. Lautenbach has also been named Deputy Director of Graduate Training Programs in Epidemiology.

### Fulbright Senior Scholar Award and Lowery DSO Faculty Award: Dr. Riegel



Dr. Barbara Riegel, Associate Professor of Nursing, has been awarded a Fulbright Senior Scholar Award. These awards are available to U.S. citizens

in a range of academic fields who are scholars of established reputation working in an academic institution who intend to teach or undertake research. Dr. Riegel, also a recipient of an IOA 2008 Pilot Research Grant, provides national and international leadership in clinical research in heart failure among elders. She is widely known for her studies of heart failure self-care and disease management and is currently Editor of *The*

## MEET THE BOARD

*The Institute on Aging External Advisory Board is comprised of dynamic and dedicated individuals from all walks of life who share a common goal - to improve the quality of life for older adults. Meeting several times a year, this body of informed, hands-on volunteer advisers is instrumental in forwarding the mission of the Institute on Aging.*

*The Institute on Aging is honored to include Lena Chow among the External Advisory Board members.*

### Lena Chow, MBA



Ideas need connectors, those people who can help carry an idea from one setting to another and put it into practice, involve the right mix of people, and skillfully adapt as necessary. Coming from a family of doctors, one might say Lena Chow was destined to be connected to medicine and the life sciences – but with her own twist.

After receiving her BS in Chemistry from the University of Hong Kong, Ms. Chow traveled to Penn for graduate studies in biochemistry. Her education in life science well-formed, Ms. Chow chose another path than research or medicine.

Marrying her interest and her life sciences knowledge with a natural gift for communications and an MBA from Santa Clara University, Ms. Chow applied her talents to the healthcare communications field. From this, Lena Chow Advertising, focusing on healthcare, was born. “I embraced healthcare communications, which enabled me to combine my interests in the science of health and in communicating complex ideas to a broad range of audiences in simple terms – with the ultimate goal of helping to improve patient care,” explains Ms. Chow.

Following the acquisition of Lena Chow Advertising by Euro RSCG Worldwide, a global communication network, Ms. Chow began exploring business opportunities in China just as China’s healthcare system started to transition from what was essentially socialized medicine to a market-driven system. In 2004, with a partner, she formed JYT Health or “Jia Yi Tong” which translates to “good medicine everywhere.” China’s healthcare system transition continues today and has resulted in a number of gaps in access and distribution of resources, as well as in efficiency and quality-of-care challenges. The choice of “good medicine everywhere” reflects Ms. Chow’s vision for the strong potential that China’s healthcare system holds and her goal of building a healthcare business in China that not only is a well-run business but that just as importantly contributes to better care for all Chinese patients.

“While our healthcare system in America is hardly perfect, we have learned a lot of hard but good lessons about healthcare delivery that I believe can be applied in China,” says Ms. Chow. “China faces similar healthcare challenges that other countries face: access, resource distribution, efficiency of care and quality of care issues.” However, the sheer size of the population, currently over 1.3 billion people, and the rapid, almost abrupt, transition from a controlled economy to an open, mar-

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ket economy magnify the challenges the Chinese are facing.

Whereas previously the government paid for everyone's healthcare and all clinicians were employed by the government, the private sector now has to assume more and more of the cost and management of healthcare, with an infrastructure that is not necessarily there to support and sustain a completely privatized system. As in the U.S., Japan, and much of Europe, China too is witnessing a boom in the size of its older adult population, the impact of cognitive disorders like Alzheimer's, and the social and financial issues accompanying caring for a growing senior population. Cultural and political issues come into play as well.

Ms. Chow explains that JYT Health was created to help ease that transition and to serve as a health information company that provides physicians and patients with important healthcare information while also enabling pharmaceutical and medical device companies to deliver lifesaving drugs and technologies, more efficiently and cost-effectively, to the patients who need them. In fact, throughout her career in healthcare communication, she has played a role in facilitating partnerships between academic medicine and the pharmaceutical and medical device industries. This has been especially important in China where she now serves on the Ethics Committee of the Chinese Medical Doctor Association. "I hope my perspective about the appropriate involvement of the industry in medicine and medical research will be helpful to the IOA," Ms. Chow shares.

Ms. Chow's interests and connections to the IOA are many. "I've known Virginia Lee since childhood and more recently have been very impressed with the work that she and John Trojanowski have been doing at the IOA. Plus, my daughter and son-in-law are both graduates of Penn School of Medicine and completed their residencies at CHOP and HUP respectively. Being actively involved with the IOA makes every sense to me," relates Ms. Chow. "I've also reached the age when it's easy for me to relate to key age-related health and lifestyle issues that affect older people. Our generation is faring better, thanks to science and the resources we now have to enjoy healthier lifestyles. Both in China and the U.S., I think that one way we can support our elders is to ensure access to the most advanced and effective healthcare options available. Research to understand the physiological and psychological processes of aging will continue to help us live longer and better. As the IOA evolves toward a more global role, I hope to share my experience and perspective about China and perhaps even facilitate collaborations with institutions in China."

In addition to serving on the IOA External Advisory Board, Ms. Chow is a member of the IOA's fundraising committee. Her hope is to work with fellow committee members to explore how best to reach out to the philanthropic communities in China and Hong Kong to assist the IOA in its activities and research efforts.

## 老化

*At the end of 2006, there were 144 million people in China over the age of 60. The 60+ population is increasing at the rate of 5.96 million a year, reaching 248 million by 2020, or 4.2% of the total population, and will peak in 2051 at 437 million or 30% of the total population.*

-- [www.people.com.cn](http://www.people.com.cn)

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## AWARDS AND HONORS

*Journal of Cardiovascular Nursing.* Dr. Riegel was presented with the Barbara Lowery Doctoral Student Organization (DSO) Faculty Award, in recognition of a faculty member who has advanced nursing science through "exemplary and unwavering doctoral student mentorship." Dr. Riegel also served as co-editor on the upcoming textbook, *Cardiac Nursing: A Companion to Braunwald's Heart Disease*, due to be published by Elsevier this summer.

### Jahnigen Award: Dr. Dunaief



Dr. Joshua L. Dunaief, Assistant Professor of Ophthalmology and Clinician-Scientist at the F.M. Kirby Center for Molecular Ophthalmology,

received the Dennis Jahnigen Award from the American Geriatrics Society for studies on the role of iron overload in aging. The Jahnigen Scholars program offers two-year career development awards to support junior faculty in select specialties and is intended to allow individuals to initiate and ultimately sustain a career in research and education in the geriatrics aspects of their discipline.

### Dean's Award: Dr. Hanrahan



Dr. Nancy Hanrahan, Assistant Professor of Nursing, received the Dean's Award for Undergraduate Scholarly Mentorship, given to the faculty

member who has served as an exceptional mentor to undergraduate students in the introduction and participation of undergraduate nursing research. Dr. Hanrahan's mentorship has resulted in the publication, review, or presentation of several student-faculty papers.

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## AWARDS AND HONORS

## R01 Funding: Dr. Pignolo



Dr. Robert Pignolo, Assistant Professor of Medicine, Division of Geriatric Medicine and Director of the Ralston-Penn Clinic for Osteo-

porosis & Related Bone Disorders, received R01 funding from the NIA for his research on "Osteoporosis and osteoblast differentiation in mouse models of accelerated aging. The research seeks to characterize the decreased bone-forming capacity of an established mouse model of accelerated aging and to use the model to test stem cell replacement for amelioration of age-related osteoporosis.

## Assistant Professor: Dr. Pines



Dr. Jesse Pines, Department of Emergency Medicine, will be promoted to Assistant Professor in the Department of Emergency Medicine

on July 1st. Dr. Pines also received the Best Presentation by a Young Investigator at the Society for Academic Emergency Medicine meeting in May, 2007. The presentation was for his study on "The Impact of Emergency Department Crowding on Time to Antibiotics for Patients with Pneumonia."

## Hersh New Investigator Award and Thompson Prize: Dr. Volpp



Dr. Kevin Volpp, Assistant Professor of Medicine and Health Care Systems in the School of Medicine and the Wharton School and Staff

Physician at the Philadelphia VAMC Center for Health Equity Research and Promotion (CHERP), received the Alice S. Hersh New Investigator Award from AcademyHealth for excellence in early

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## PROMISING NEW RESEARCH FUNDED

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## JAMES SHORTER, PHD

School of Medicine, Department of Biochemistry & Biophysics

"Elimination of  $\alpha$ -Synuclein Amyloidogenesis and Proteotoxicity Using Hsp104"

Parkinson's disease (PD) is the most common neurodegenerative movement disorder, afflicting ~1% of individuals over the age of 65. There is no cure for PD. PD results primarily from the selective death of the nerve cells in the brain that produce the neurotransmitter dopamine. Overwhelming evidence implicates a specific protein,  $\alpha$ -synuclein, as a causative agent of PD. In PD,  $\alpha$ -synuclein adopts an aberrant shape, which is not found in healthy individuals. In this IOA pilot, we will investigate how another protein, Hsp104, may antagonize the formation of this aberrantly shaped  $\alpha$ -synuclein and so prevent the onset of PD.



## J. PAUL TAYLOR, MD, PHD

School of Medicine, Department of Neurology

"Histone Deacetylase 6, Autophagy, and Age-Related Neurodegeneration"

Autophagy is a catabolic process for degrading and recycling cytoplasmic constituents in all cells. In the brain, autophagy plays a vital role in protecting against the deleterious consequences of accumulating aged, damaged proteins. In fact, it has been determined that a deficiency in autophagy leads to neurodegeneration. We recently identified histone deacetylase 6 (HDAC6) as a cytoplasmic enzyme essential for misfolded proteins to be degraded by autophagy and hypothesize that HDAC6 plays a vital role in protecting age-related accumulation of misfolded protein in neurons. In this pilot, we will use the model organism *Drosophila melanogaster* to determine whether loss of HDAC6 leads to age-related neurodegeneration and whether HDAC6 is a component of the basic autophagy machinery.



## LI-SAN WANG, PHD

School of Medicine, Department of Pathology and Laboratory Medicine

"The Role of G-Quadruplexes in Senescence through RecQ-Dependent Pathways"

G-quadruplexes (G4s) are stable DNA structures comprising stacks of G-quartets, which themselves comprise four hydrogen-bonded guanines. These structures are abundant in the telomeric regions of humans and many other species and may be crucial for telomere maintenance; recent studies of the human genome showed gene promoter regions have a higher-than-expected G4 forming potential, suggesting a role in gene expression regulation.

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## AWARDS AND HONORS

The human RecQ family includes five DNA helicases which are important for telomere maintenance, and their RQC domains bind to G4 DNA. Deficiency in any one of three RecQ genes leads to a genetic disorder of premature aging or predisposition to cancer, for example Werner syndrome or Bloom syndrome. Thus, interactions of RecQ helicases with telomeric and non-telomeric G4s may play a role in telomere-related processes related to the biology of aging and cancer.

The goal of the project is to study the biological role of G-quadruplexes in gene expression regulated by the human RecQ helicases. First, we will develop new computational methods for predicting which parts of the genome can form G4s. Second, we will compare the gene expression profiles between primary fibroblast cell cultures from patients with the three RecQ associated genetic disorders to identify genes that have altered expression due to perturbation in G4 DNA. These studies should improve understanding of mechanisms underlying age-related diseases and cancer.

## OTHER NEWS:

### Success brings LIFE a new home

LIFE, Living Independently for Elders, the all-inclusive elderly care program directed by Penn School of Nursing faculty with a team of primary care nurses and physicians, physical and occupational therapists, social workers, recreation therapists, clergy, home health aides, dietitians, and drivers, has a new home on Chestnut Street.

Formerly in two locations at 41<sup>st</sup> and Woodland and 39<sup>th</sup> and Market, the new facility at 4508 Chestnut Street can accommodate up to 500 members. Currently serving more than 300 frail, elderly adults from West Philadelphia, including those with Alzheimer's and dementia, LIFE will continue to provide nursing home-level day care, with medical, dental, prescription and personal grooming services as well as meals and social activities that allow the older adults to remain living at home and in their neighborhoods.



For more information about LIFE, visit [www.lifeupenn.org](http://www.lifeupenn.org) or call 215-573-7200.

### Catching Up on Fellows' Research

For more information on recent publications from IOA Fellows and Associate Fellows, visit [www.med.upenn.edu/aging/fellows.shtml](http://www.med.upenn.edu/aging/fellows.shtml).

career work and "exceptional promise for future contributions to health services research." This award has been won by many of the leading figures in U.S. health services research in past years. Dr. Volpp also was awarded the John D. Thompson Prize for Young Investigators from the Association of University Programs in Health Administration (AUPHA) for high-impact early career health services research; Dr. Volpp is the first physician to receive this award. The John D. Thompson Prize for Young Investigators was established to honor John D. Thompson, PhD, a professor of health administration, who set teaching, commitment to learning, collegial relationships, and health services research standards which are without peer.

### Williams Scholar Award: Dr. Werner



Dr. Rachel M. Werner, Assistant Professor of Medicine, Division of General Internal Medicine and Core Investigator with the VA's Center for Health Equity Research and

Promotion (CHERP), received the Best Paper of the Year Award and the inaugural T. Franklin Williams Scholar Award in Geriatrics from the Society for General Internal Medicine (SGIM) at the organization's annual meeting. Dr. Werner received the Best Paper of the Year Award for her paper "Relationship between Medicare's Hospital Compare Performance Measures and Mortality Rates," published in the December 13, 2006 issue of *JAMA*. Dr. Werner's T. Franklin Williams Scholars Award in Geriatrics is a career-development award providing two years of support to junior physician-scientists working in divisions of General Internal Medicine and conducting research that seeks to improve our understanding of important health care problems of older adults or of strategies to improve the care of older adults.

# Aging RESEARCH

ongoing studies

### ***MRI Correlates of Limb Ischemia in Peripheral Vascular Diseases (PVD)***

Peripheral vascular disease (PVD) is a condition in which the arteries that carry blood to the arms and legs become narrowed or clogged. PVD is a very common condition occurring mostly in people older than 50 years and is a leading cause of disability among the elderly, smokers and those with diabetes. The classic symptoms include discomfort or pain when walking, numbness or cold feet. Patients with PVD have a higher risk of heart attack and stroke. PVD results in claudication, gangrene, and amputation when not treated aggressively. More than 90,000 amputations are performed yearly as a result of PVD. It is important to detect the narrowing of the arteries of the leg and foot before damage occurs.



### ***The Neural Basis of Cognition in Healthy Aging***

Are you a healthy adult over 60 interested in helping to learn more about neurodegenerative diseases?

The University of Pennsylvania is currently conducting research examining healthy adults' brain functioning to help us understand compensatory neural strategies as we age. This will allow us to improve diagnostic accuracy and develop treatments for

This study involves the use of magnetic resonance imaging (MRI) to evaluate blood flow in the leg and foot of persons with evidence of early vascular diseases. The purpose of this study is to develop a new and noninvasive technique to help in the early diagnosis and improved treatment for Peripheral vascular diseases (PVD). It will also assist physicians in making decisions regarding the ability of surgery to improve blood flow or the need to remove injured tissue. Participation in this study is voluntary. Eligible volunteers will be compensated for their time and travel. For more information, contact Tope Olufade, MS, MPH, Clinical Research Coordinator, at (215) 662-2440 or [olufadet@uphs.upenn.edu](mailto:olufadet@uphs.upenn.edu).

individuals with neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease.

To be eligible, you must be 60 and older and a native English speaker. You must also be right-handed. This study involves a functional MRI and is completely non-invasive. Compensation is offered for your time and travel. For further information, please contact Vanessa at 215-349-5863.



## INSTITUTE ON AGING

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