Collaboration can yield many results: research discoveries, journal articles, grant applications, and eventually even a change of address. For three decades, Dr. Gerard Schellenberg has built and solidified his reputation in neurogenetics, investigating neurodegenerative disorders, autism, and schizophrenia. It was through his research that the gene Presenilin 2, linked to early- and late-onset familial Alzheimer’s disease (AD), was identified, as was the gene for premature aging or Werner’s syndrome. After a decade of courting, Dr. Schellenberg has relocated his research efforts to Penn. He is now a Professor in Pathology and Laboratory Medicine in the Penn School of Medicine.

Dr. Schellenberg received his PhD in biochemistry from the University of California, Riverside in 1978. He moved to Seattle after graduate school to begin his research career and was a distinguished investigator at the University of Washington and the Veterans Affairs Medical Center in Seattle until earlier this year. What drew him from Seattle?

“I have been collaborating with John Trojanowski and Virginia Lee for years and through them have gotten to know the extremely high quality research environment here at Penn. Also in the past two years, I have begun to collaborate with Hakon Hakonarson at CHOP,” says Dr. Schellenberg. “I came to realize that at Penn, there is a combination of superb faculty, strong support from the School of Medicine, and a strong emphasis on collaboration, making this a great place to do research. The need for a collaborative, supportive environment is particularly important for human disease genetics where multiple disciplines have to come together for the work to be successful.”

Dr. Schellenberg’s research in neurodegenerative diseases has explored the genetics of AD, Guam amyotrophic lateral sclerosis/parkinsonism dementia complex, and progressive supranuclear palsy. In addition to his genetics studies, he works on animal models of tauopathies using both invertebrate and vertebrate model organisms.

Continued on page 2
“Dr. Schellenberg is a world class geneticist, and we are delighted to have him as a colleague here at Penn where he will have a significant impact on improving understanding of the genetic underpinnings of neurodegenerative disorders such as AD, as well as of neuropsychiatric conditions such as schizophrenia and autism,” said Dr. John Trojanowski, co-Director, and Dr. Virginia Lee, Director of the Center for Neurodegenerative Disease Research at Penn.

One of Dr. Schellenberg’s main research efforts here at Penn will involve the special Consortium, funded by the National Institute on Aging, which he has assembled to look at AD. As he explains it best, “Genetic technology and methods have made tremendous advances in the past few years opening up new paths for disease identification. However, these efforts require that large numbers of people with careful diagnoses be used in the studies. I put together a Consortium to assemble large numbers of samples from AD subjects and non-demented elderly controls for these experiments.”

“No one group in the world has enough samples for this type of analyses so cooperation is essential and a Consortium was needed to assemble these samples,” continues Dr. Schellenberg. “I think this work will yield new genetic risk factors for AD. This will mean new insight into the mechanisms of disease initiation and progression. Also, once we have genetic tests that predict who is most likely to develop disease, we can test prevention therapies on those most at risk.” The Consortium and its potential findings meshes well with Penn’s existing and ongoing efforts through the Alzheimer’s Disease Neuroimaging Initiative (ADNI) to pinpoint biomarkers for AD.

Recognition for Dr. Schellenberg’s work has come in the form of a number of prominent awards: the Potamkin Prize for Alzheimer’s Disease Research; a Metropolitan Life Foundation Award for Medical Research, and a National Institute on Aging Merit Award for genomic analysis of AD. He serves on the External Advisory Committee for the National Cell Repository for AD, on the Executive Committee for the Autism Genome Project, on the Medical Advisory Board for the Society of Progressive Supranuclear Palsy, and on the Executive Committee for the Veterans Affairs Dementia Prevention study of Vitamin E and Mementine. He has published close to 200 journal articles in his areas of research.

“Dr. Schellenberg’s recruitment to Penn substantially enhances our outstanding research programs in neurodegenerative and neuropsychiatric diseases,” says Dean Arthur Rubenstein, Penn School of Medicine. “Jerry is an exceptional scientist and a wonderful colleague who will be an important member of our academic community. We are delighted that he has joined us.”
Dr. Schellenberg’s recruitment was a joint recruitment. It has also brought in a second ‘new arrival’ for Penn, Dr. Mary Ersek, who developed and led a program of research focused on pain and palliative care in older adults with an emphasis on residents of nursing homes. Dr. Ersek has been recruited to join the Penn School of Nursing Science faculty. She brings her work on two current projects: a study examining the effectiveness of a pain management algorithm coupled with intensive support and consultation in enhancing the health status of nursing home residents and another ongoing study, funded by the New York Department of Health, which is testing the effectiveness of web-based informatics reports and education in changing clinical practice patterns and enhancing resident outcomes in nursing homes.

Many years ago, Dr. Schellenberg hung up his surfboard and decided to focus on what would become a very successful future in research and not, as he calls it, the royal sport of surfing, a much-loved part of his southern California youth. He suggests that the blue faces and hands of surfers in the water of Seattle may have contributed to his decision somewhat. Even though, according to Dr. Schellenberg, geneticists aren’t fond of ‘environmental factors,’ one can only hope that the fertile soil of Pennsylvania and its much sunnier skies will provide an even more inspirational setting.

FTD FAST-TRACKED FOR DISABILITY BENEFITS

In October, the Commissioner of the Social Security Administration (SSA), Michael Astrue, announced the national rollout of the Compassionate Allowances Initiative to expedite the processing of disability claims for applicants whose medical conditions are so severe that their conditions obviously meet Social Security’s standards. Frontotemporal Dementia (FTD) is one of 50 conditions on the list for expedited approval. Under the new Compassionate Allowance initiative, the wait period to qualify for benefits may be as short as 6-8 days.

Helen-Ann Comstock, founder and chair of the Association for Frontotemporal Dementias (AFTD) applauds the SSA for taking this ‘compassionate and much-needed step’ and acknowledged the efforts from the National Institutes of Health and the National Organization for Rare Disorders for their work to bring about the change in Social Security disability procedures.

For more information and a complete list of the disorders included, go online to www.socialsecurity.gov/compassionateallowance. For information on FTD, visit www.ftd-picks.org.

Message from the Director

Internal Medicine on December 1st. Katrina is our Fellow in the Spotlight on page 10.

This coming semester, the Visiting Scholars Series has a stellar lineup of speakers scheduled, and we cannot forget the 2009 Sylvan M. Cohen Annual Retreat with Poster Session on Aging. To find out which dates to save, circle, and bookmark on your calendar, see pages 6-7-8. I encourage you to visit our website where additional details will be posted as they become available. Lastly, I invite you to join us for a special television date. WHY TV12 will air a new national public television special entitled Alzheimer’s Disease: Facing the Facts on January 22 at 10pm. Our own Carol Edwards, Associate Director of the Education Core at the Penn Alzheimer’s Disease Core Center, served as Executive Producer and co-produced, co-wrote and co-edited the program which features Virginia Lee and me among others. The hour-long program examines the personal and societal implications of the illness, while reviewing the latest research, through profiles of families living with Alzheimer’s and interviews with doctors and researchers. WHY and Penn are planning a preview screening on January 13th. The program will also be carried on other public television stations. Seasons Greetings!
**Dr. Benoit Giasson: Molecular Inhibitors of LRRK2 Enzyme Linked to Parkinson’s Disease**

Studies of Parkinson’s disease (PD) in the past few years have revealed that missense dominant mutations in the leucine-rich repeat kinase 2 (LRRK2) gene are collectively the single most common cause of late-onset PD. The Gly2019Ser mutation in LRRK2 is the most prevalent alteration and is responsible for 2-8% of PD cases in the world - and is the dominant cause of PD in specific populations like North African Arabs and Ashkenazi Jews. PD affects around 1 million Americans and is the most common movement disorder in the world.

The Gly2019Ser mutation in LRRK2 was reported to increase kinase activity by 2-3 fold, which was linked to neuronal cell death. In the study here at Penn, led by Dr. Benoit Giasson, Assistant Professor of Pharmacology and IOA Fellow, and Jason Covy, a doctoral student in Pharmacology, the increase in activity resulting for the Gly2019Ser mutation may be more pronounced along the lines of 10-fold. Thus, the finding supports the approach that molecular inhibition of LRRK2 kinase activity could have therapeutic application. Dr. Giasson and Mr. Covy have also identified several compounds as potent inhibitors of LRRK2 kinase activity.

**Dr. Amita Sehgal: Possible sleep gene identified**

Penn Medicine researchers, led by Dr. Amita Sehgal, may have found the gene that controls sleep in fruit flies. “...Sleep deprivation has serious health consequences and impairs cognitive function. We spend - or should spend - a third of our lives sleeping,” says Amita Sehgal, PhD, Professor of Neuroscience, IOA Fellow and IOA Pilot Research Grant awardee.

While scientists and physicians know what happens if you do not get sufficient sleep at night (six to eight hours), investigators have long been mystified about what controls the actual need for sleep. Dr. Sehgal and her team studied approximately 3,500 fruit flies, which typically sleep 12 hours a day, and found that there were select flies that survived on one to two hours a day or no sleep at all. These fruit flies had a mutation of a gene that Sehgal and her team named Sleepless. They believe the Sleepless gene encodes a protein that affects whether potassium ion channels in the brain stay open or closed. If the channels are open, the brain is connected and working, and the fly is awake. However, when closed, the channel shuts down, and the fly sleeps.

The study found that fruit flies that did not sleep at all had less of the Sleepless-produced protein and lived about half as long as those flies without the mutation, underscoring the consequences of sleep deprivation. “...We hope that human equivalents of our gene will be isolated and will not only further our understanding of human sleep but perhaps also serve as drug targets to promote sleep or treat insomnia,” explains Dr. Sehgal. In the U.S. alone, 70 million people suffer from chronic sleep problems, which reduce workplace productivity, affect quality of life and can be lethal.

**Dr. James Shorter: Preventing Protein Clumping**

Dr. James Shorter along with researchers at Penn and several partner universities have pinpointed an unlikely source that might protect against Parkinson’s disease (PD). Hsp104, a protein from baker’s yeast, was identified and introduced into the animal models of PD. This introduction was found to prevent the protein clumping that leads to nerve cell death characteristic of PD.

“Yeast expresses a protein called Hsp104, which is able to reverse protein aggregation, however, for reasons that are unclear, Hsp104 is not found in mammals. We wondered if introducing Hsp104 into mammals could help with diseases connected with protein aggregation,” explains James Shorter, PhD, Assistant Professor of Biochemistry and Biophysics, IOA Fellow, and IOA Pilot Research Award grantee.

While the process and cause of PD remains to be fully understood, researchers believe that a protein called alpha-synuclein misfolds and clumps in many forms of the disease. It is this process that is tied to the selective death of dopamine-producing neurons that result in PD. In this study, researchers found that Hsp104 could partially reverse alpha-synuclein aggregation in test-tube experiments. Interestingly, rats expressing Hsp104 showed lower levels of alpha-synuclein aggregation and alpha-synuclein-induced toxicity of neurons. This is important because the rat model being used recreates the selective loss of dopamine-producing nerve cells in the brain.
region of the brain affected in PD. Dr. Shorter continues, “This study represents an important preliminary step. The next step is to treat an animal model which already has considerable quantities of alpha-synuclein aggregates to see if Hsp104 can reverse the process in the rat brain.”

Success at that level could lead to additional research using other animal models to better ascertain potential implications and applications for humans. The Michael J. Fox Foundation, European Molecular Biology Organization, Swedish Parkinson’s Foundation, Swiss National Science Foundation, American Heart Association, the IOA at Penn, and the National Institute of Health Director’s New Innovator Award provided funding for this research.

Dr. Christos Davatzikos: Neuroimaging and AD

As the number of cases of Alzheimer’s disease (AD) grows, detecting the progression of AD becomes more and more critical. Dr. Christos Davatzikos, Professor of Radiology and an IOA Fellow, with colleagues from the National Institute on Aging, developed a measurement tool and then compared MRI images of the brains of normal older adults with those from the brains of people with AD. This comparison allowed them to identify subtle structural changes in the brain tissue of healthy older adults with no noticeable symptoms of AD. “We hope clinicians will be able to detect structural brain changes that are typical of AD earlier, before individuals present cognitive decline, by measuring levels of brain deterioration,” says Dr. Davatzikos.

Dr. Leslie Shaw: Biomarkers for MCI to AD

By measuring significant cellular signatures, Dr. Leslie Shaw, Professor of Pathology and Laboratory Medicine, IOA Fellow, and Director of the Penn ADNI Biomarker Core Laboratory, and colleagues have found they can predict when patients with mild cognitive impairment (MCI) may convert to Alzheimer’s disease (AD). Examining cerebral spinal fluid (CSF) samples collected, researchers determined baseline levels of three proteins associated with AD. They found significant differences in the level of these biomarker concentrations between groups: cognitively normal older adults, mildly cognitively impaired, and those with AD. “Analyzing changes in these CSF biomarker levels in people with MCI can detect the conversion to AD, especially when used in conjunction with neuroimaging and psychological tests,” says Dr. Shaw. “By defining significant differences in biomarkers, we are able to accelerate our drug development efforts to look for compounds that modify these discrepancies and may treat AD.”

Dr. J. Kevin Foskett: Calcium and Alzheimer’s

Alzheimer’s disease (AD) affects as many as 5 million Americans, 5% of whom have the familial form of the disease. Dr. Foskett and researchers in the Penn School of Medicine have shown that mutations in two proteins associated with familial AD disturb the flow of calcium ions with neurons. The proteins Presenilin 1 (PS1) and Presenilin 2 (PS2) interact with a calcium release channel in an intracellular cell compartment.

The study from Dr. Foskett’s lab identifies a molecular mechanism that makes the ‘calcium dysregulation’ hypothesis for inherited, early onset familial AD very compelling. “Mutated PS1 and PS2 caused exaggerated cellular calcium signaling in cells through a calcium channel (InsP3R), suggesting that it or other proteins in this calcium signaling pathway could be targets for AD therapies,” says Dr. Foskett, Professor of Physiology and a Penn Alzheimer’s Disease Core Center (ADCC) Pilot Grant awardee.

Next, researchers need to determine if other mutations in PS1 and PS2 that cause AD have a similar effect on calcium signaling in the brain and to identify drugs that might inhibit the interaction between InsP3R and PS1 or PS2 in the brain.

A second study from the Foskett lab revealed a new gene that influences calcium regulation and amyloid beta levels in the brain. A polymorphism in the gene CALHM1 significantly increased the risk of sporadic, late-onset AD and was shown to disrupt the gene’s function in cellular calcium regulation.

“Calcium is the common denominator in our two studies, strongly suggesting that it plays an important role in the development of Alzheimer’s disease,” explains Dr. Foskett. “However, our experiments have identified calcium inside cells as the important feature. No one should consider modifying their dietary intake of calcium as a strategy to limit the risk of developing AD because the body very effectively regulates the amount of calcium absorbed from food and the levels in the blood and brain. It is very important that those who take calcium channel blockers, for cardiovascular problems for example, should not alter their medication regime as a response to our studies.” This research was supported by grants from the NIH and the Penn ADCC.
IOA VISITING SCHOLARS SERIES 2008-2009

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 and are free and open to the public. Registration is requested. 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.

December 3, 2008
Christina M. Puchalski, MD
Director, George Washington Institute for Spirituality and Health
George Washington University School of Medicine and Health Sciences
Title: “Facing the End of Life as a Hospital Patient: Spiritual Care Needs and Opportunities”
Venue: Hirst Auditorium, Dulles 1, HUP 10:00am

February 12, 2009
Henry L. Paulson, MD, PhD
Lucile Groff Professor of Neurology for Alzheimer’s Disease and Related Disorders
University of Michigan
Title: TBA
Venue: Flyers/Sixers Surgery Theatre HUP 12:00pm

Presented in conjunction with the Department of Neurology

February 17, 2009
L. Gregory Pawlson, MD, MPH
Executive Vice President
National Committee for Quality Assurance
Title: TBA
Venue: Claudia Cohen Hall (formerly Logan) 4:00pm

Presented in conjunction with the New-Courtland Center for Transitions and Health

February 26, 2009
Mony J. de Leon, PhD
Director, Center for Brain Health and

Cristofalo Lectureship Looks At Links Between Cancer and Aging: Second Annual Event Recap

The IOA, Penn School of Medicine faculty, researchers and staff, the Cristofalo family, friends, and colleagues gathered in BRB 2/3 Auditorium on November 11th for the second Vincent J. Cristofalo, PhD, Annual Lectureship. The annual event celebrates the research interests and spirit of colleague, mentor, and friend, Vincent J. Cristofalo, PhD.

Dr. Cristofalo created the Institute on Aging (IOA) nearly 30 years ago as the Center for the Study of Aging. Originally seated in the Penn School of Veterinary Medicine, it was Dr. Cristofalo’s intent to have the IOA reach across species and Penn’s many schools to first stimulate collaboration among researchers, faculty, and students in the then new field of aging research and secondly to mentor younger researchers and students and encourage their interest - and eventual careers - in the field of aging and aging-related diseases, particularly cellular aging.

The second annual event was opened by Dr. John Trojanowski, Director of the IOA. Dr. Robert Pignolo, a trainee and mentee of Dr. Cristofalo’s, highlighted Dr. Cristofalo as scientist, mentor, and friend.

Dr. Judith Campisi, Senior Staff Scientist and co-Head of the Center for Research and Education on Aging at the Lawrence Berkeley National Laboratory and Professor at the Buck Institute for Age Research, served as the Cristofalo Lecturer.

In her lecture, “Cellular Senescence Links the Rival Demons of Cancer and Aging,” Dr. Campisi discussed the state of permanent cell growth arrest that is caused by different types of damage that put cells at risk for becoming cancerous, such as DNA damage caused by radiation or reactive oxygen species or mutations that activate oncogenes. Overall, cellular senescence thus acts to prevent cancer because it restrains the growth of cells that might otherwise form a tumor.

However, as Dr. Campisi explained, cellular senescence also has the downside of contributing to age-related degenerative diseases, because it can prevent the regeneration and repair of damaged normal tissues. Dr. Campisi also described new evidence that an important feature of senescent cells is their secretion of several different factors that stimulate the inflammatory arm of the immune system. Called the SASP, for senescence-associated secretory phenotype, it is activated by

6
the ATM DNA damage signaling protein, but is inhibited by the actions of p53. In particular, senescent cells appear to be particularly good at activating natural killer cells, which are known to play roles in destroying tumor cells.

SASP may help to remove senescent cells, but it can also cause tissue damage that might contribute to aging and, somewhat paradoxically, may even promote tumor growth because some SASP factors stimulate cancer cell growth. Thus, according to Dr. Campisi, cellular senescence can have both pro- and anti-cancer effects, and a better understanding of the detailed mechanism of the SASP might allow for selective augmentation of its beneficial aspects.

Be sure to check the IOA website at www.med.upenn.edu/aging for news on the next Cristofalo Lectureship.

**IOA VISITING SCHOLARS SERIES 2008-2009**

Professor of Psychiatry  
New York University  
Title: “The Presymptomatic Diagnosis of Alzheimer’s Disease Using Imaging and CSF Biomarkers”  
Venue: TBA  
9-10:30am

**Winter/Spring, 2009**  
John W. Rowe, MD  
Professor of Health Policy and Management, Mailman School of Public Health  
Columbia University  
Former Chairman and CEO of Aetna  
Title and Venue: TBA  
3:00pm

**April 9, 2009**  
Ted Dawson, MD, PhD  
Leonard and Madlyn Abramson Professor of Neurodegenerative Diseases  
Johns Hopkins University  
Title: TBA  
Venue: Flyers/Sixers Surgery Theatre  
HUP  
12:00pm

**April 30, 2009**  
Ana Maria Cuervo, MD, PhD  
Associate Professor of Medicine, Development & Molecular Biology and Anatomy & Structural Biology  
Albert Einstein College of Medicine of Yeshiva University  
Title and Venue: TBA  
9:00am

**May 7, 2009**  
David A. Bennett, MD  
Robert C. Borwell Professor of Neurological Sciences  
Director, Rush Alzheimer’s Disease Center  
Rush University  
Title and Venue: TBA  
9:00am

For more information and updates, visit www.med.upenn.edu/aging, or contact us at aging@mail.med.upenn.edu or 215-898-3163.

**UPDATED UNRavelING THE MYSTERY AVAILABLE**

The National Institute on Aging (NIA) released an updated edition of *Alzheimer’s Disease: Unraveling the Mystery*, an illustrated book written for people with Alzheimer’s disease (AD), their families, healthcare professional, students, and others with an interest in AD.

Originally published in 2003, *Unraveling the Mystery* is designed to help readers understand AD, its impact, and the advances in research to prevent or diminish the effects of AD. The updated version also describes the basics of the healthy brain, focuses on changes that occur in the brain when it’s affected by AD, highlights findings from recent NIA-funded research into the causes of AD, developments in diagnosing the disease, the continued search for new treatments, and also addresses issues of concern to family members of and those caring for people with AD. A glossary, comprehensive listing of organizations, and a list of recommended reading have also been added to the updated edition of *Unraveling the Mystery*.

To view, download, or order copies of the updated book, go online to www.nia.nih.gov/Alzheimers/Publications/Unraveling or call the NIA’s Alzheimer’s Disease Education and Referral (ADEAR) Center at 1-800-438-4380. For bulk orders, go online to www.niapublications.org/adearorder/bulk.asp.

**The National Institute on Aging (NIA) released an updated edition of Alzheimer’s Disease: Unraveling the Mystery, an illustrated book written for people with Alzheimer’s disease (AD), their families, healthcare professional, students, and others with an interest in AD.**

**Originally published in 2003, Unraveling the Mystery is designed to help readers understand AD, its impact, and the advances in research to prevent or diminish the effects of AD. The updated version also describes the basics of the healthy brain, focuses on changes that occur in the brain when it’s affected by AD, highlights findings from recent NIA-funded research into the causes of AD, developments in diagnosing the disease, the continued search for new treatments, and also addresses issues of concern to family members of and those caring for people with AD. A glossary, comprehensive listing of organizations, and a list of recommended reading have also been added to the updated edition of Unraveling the Mystery.**

**To view, download, or order copies of the updated book, go online to www.nia.nih.gov/Alzheimers/Publications/Unraveling or call the NIA’s Alzheimer’s Disease Education and Referral (ADEAR) Center at 1-800-438-4380. For bulk orders, go online to www.niapublications.org/adearorder/bulk.asp.**
Kent Smetters Named Joseph E. and Ruth E. Boettner Professor of Financial Gerontology

Perhaps you’ve heard the term and wondered what exactly is ‘financial gerontology’? It’s not a new accounting term for aging balance sheets and corporate interests. Rather it is a growing field that addresses the financial planning issues individuals face as they prepare, at any age, for retirement: the retirement process, adequate savings, proper investments, and risk management for such things as long-term care.

An expert in Social Security and tax policy at the Wharton School, Kent Smetters, PhD, was recently named the Joseph E. and Ruth E. Boettner Professor of Financial Gerontology. The Boettner Professor of Financial Gerontology, endowed by a gift from the estate of Joseph and Ruth Boettner, carries out research pertinent to economic security and quality of life in an aging society.

Dr. Smetters is also an Associate Professor of Insurance and Risk Management at Wharton. He earned his BS in Economics and Computer Science from Ohio State University and his MA and PhD in Economics from Harvard University. Prior to coming to Penn in 1998, Dr. Smetters was an economist at the Congressional Budget Office (1995-1998). He later served as the Deputy Assistant Secretary of Economic Policy at the U.S. Treasury (2001-2002). His new position as the Boettner Professor of Financial Gerontology is directly related to several of the issues that he worked on during his time in Washington, including the complex challenges of Social Security reform, Medicare, and healthcare.

In addition to his roles at Wharton, Dr. Smetters is a Non-Resident Scholar at the American Enterprise Institute and has been a consultant to the World Bank and the Urban Institute, as well as a Kaiser Visiting Professor at Stanford University. He is a Faculty Research Fellow in the Aging Program and a Research Associate in Public Economics at the National Bureau of Economic Research, a Member of the Blue Ribbon Advisory Panel on Dynamic Scoring for the U.S. Congress, a Member of the National Academy of Social Insurance, and a Research Associate at the Michigan Retirement Research Center.

Dr. Smetters’ research areas include social insurance programs, incomplete markets, annuity markets, tax reform, and pricing government guarantees. He is the co-author of Fiscal and Generational Imbalances: New Budget Measures for New Budget Priorities (published in 2003) and co-editor with Dr. Olivia Mitchell, International Foundation of Employee Benefit Plans Professor and Director of the Boettner Center for Pensions and Retirement Research at Wharton, of The Pension Challenge: Risk Transfers and Retirement Income Security (published in 2004). In ad-

Metabolism & Aging
May 12, 2009

The IOA will be partnering with the Institute for Diabetes, Obesity and Metabolism (IDOM) to present the 2009 Sylvan M. Cohen Annual Retreat with Poster Session on Aging, scheduled for May 12, 2009, in Houston Hall at the University of Pennsylvania.

This year’s focus will be on metabolism and aging, and the lectures will be designed for a scientific and healthcare professional audience.

Serving as the Sylvan M. Cohen Visiting Scholar, Bruce Yankner, MD, PhD, Professor of Pathology and Neurology at Harvard Medical School, will present “Epigenetic Reprogramming of the Aging Brain and Pancreas.”

Our featured Penn presenters are Anne Cappola, MD, ScM, and Joseph Baur, PhD. Dr. Cappola will discuss “Metabolic Changes in the Frailty Syndrome” while Dr. Baur, a new faculty recruit to Penn, will speak about his work in “Caloric Restriction, Metabolism, and Aging.”

The annual Poster Session on Aging will follow the lectures and is open to all who wish to participate.

Registration is required to attend and/or present a poster. Lunch will be provided to those who register. Visit the IOA website to register online or send an email to aging@mail.med.upenn.edu. You can also register via phone by calling 215-898-3163.

Don’t forget to check the IOA website for updates!
The Abramson Cancer Center of the University of Pennsylvania introduces the new Human Subjects Recruitment, Retention and Outreach Core (RROC) facility.

The RROC, which has been in operation for almost two years, provides an infrastructure and serves as a resource for faculty and staff members who are either members or affiliates of the ACC; many known members of the ACC work within varying departments throughout the Penn Community. RROC provides funded scientists with a stable, scientific, evidence-based, outcomes research approach to recruitment, retention and community outreach activities.

The purpose and goals of the RROC are to facilitate the research conducted by peer-review funded investigators at the ACC by providing them access to a collaborative team of highly skilled recruitment, communication, education and outreach specialists; to add an evidence-based, approach to recruitment in order to increase overall clinical trials and cancer control recruitment. Other goals include providing balance in recruitment by ethnicity, race, gender and age and developing an integrated system to track and report recruitment activities and accrual.

An estimated 80% of clinical trials suffer from recruitment issues; this is a cross-cutting issue for all disease sites, phases of trials and both cancer treatment and cancer control studies.

For more information, please feel free to contact RROC:

Kia Kerrin, MSW, RROC Associate Director at wilsonk@mail.med.upenn.edu; Aimee Kim, RROC Project Manager, at yukakim@mail.med.upenn.edu, or Deborah Bruner RN, PhD, RROC Director, at wbruner@nursing.upenn.edu.

PROVIDING SUPPORT FOR RESEARCH...

Make an Investment in Aging at Penn

Research is key to unlocking the mysteries of aging and aging-related diseases for older Americans. Today’s research into understanding the changes of aging and why they occur may provide important clues that lead to interventions to identify risk factors, that develop better treatments and prevention approaches, and that improve quality of life.

Despite substantial commitment by government funding agencies and foundations to support aging research here at Penn, this funding has its limits. To pursue unexpected discoveries in greater depth or to launch timely research initiatives and support the inquiry of junior faculty members, Penn relies on the financial support from individuals. Your financial support is an investment in bringing us closer to improving the health and quality of aging of older adults. As a result of endowments and gifts from individuals, Penn is breaking new ground in Alzheimer’s disease, Parkinson’s disease, cancer, and other aging-related diseases. Your support through donations and endowments can accelerate researchers’ efforts to improve the quality of life for older adults in the 21st Century.

Make a gift online to the IOA by visiting our website www.med.upenn.edu/aging or by contacting Irene Lukoff, Director of Development, Healthy Brain Aging & Neurodegenerative Diseases, at 215-573-0187 or via email at ilukoff@ben.dev.upenn.edu.
Dr. Allan Pack, Director of the Center for Sleep and Respiratory Neurobiology in the Penn School of Medicine, has been named the first John L. Miclot Professor of Medicine. The Miclot chair is the first dedicated to the study of sleep disorders at Penn and will support Dr. Pack’s efforts at the Center, which focuses on exploring and understanding the basic mechanism of sleep and circadian rhythm, the pathogenesis of sleep disorders and the outcomes of therapy.

Dr. Mary Naylor, Marian S. Ware Professor in Gerontology in the Penn School of Nursing Science, has been chosen to receive the first ever Friends of the National Institute of Nursing Research (FNINR) Frances Payne Bolton Award. The award honors an outstanding scholar who has made a difference in nursing by working to improve the quality of healthcare for patients, now and in the future. Dr. Naylor was selected as the first recipient in recognition of her nationally and internationally known program of research on patients in transition.

Dr. Lou Soslowsky, Professor of Orthopaedic Surgery and Bioengineering in the Penn School of Medicine, has been appointed to the Fairhill Endowed Professorship. Dr. Soslowsky is Vice Chair for Research in Orthopaedic Surgery, the Director of the McKay Orthopaedic Research Laboratory, and the founding Director of the Penn Center for Musculoskeletal Disorders.

Dr. Armstrong received her Bachelor’s degree in Architecture from Yale University. She earned her MD and completed an internship, residency, and chief residency in Medicine at Johns Hopkins University. Dr. Armstrong joined the Penn School of Medicine in 1996 as a Physician Scientist Fellow in the Division of General Internal Medicine. In 1998, she earned her Master’s in Clinical Epidemiology and joined the Penn faculty. She is Associate Professor of Medicine, Obstetrics and Gynecology, and Biostatistics and Epidemiology and has newly accepted the position of Chief of the Division of General Internal Medicine.

Among her many roles at Penn, Dr. Armstrong also serves as Associate Director of the Abramson Cancer Center and as Co-Director of the Robert Wood Johnson Clinical Scholars Program at Penn, a training program designed to provide scholars with the skills to improve health and healthcare in community settings. She is also the founding Director of the Masters of Science in Health Policy Research, which prepares graduates for health services research and health policy research careers in academic, government, community, and industry settings.

Dr. Armstrong is also a Senior Fellow at the Leonard Davis Institute of Health Economics, having previously served as its Director of Research for a number of years. Additionally, she is a faculty member of the Penn Center for Integration of Genetic and Healthcare Technologies (Penn...
Awards and Honors

Alumni Award: Dr. Weaver

Dr. Terri Weaver, Professor of Nursing and Chair of the Biobehavioral and Health Sciences Division of the Penn School of Nursing Science, has been honored with the University of Pittsburgh School of Nursing Alumni Award. Dr. Weaver’s research has been nationally and internationally recognized and focuses on the effect of daytime sleepiness on daily behaviors and assessment of treatment outcomes.

New Innovator Award, Pew Scholar and Allen Foundation Scholar: Dr. Gitler

Dr. Aaron D. Gitler, Assistant Professor of Cell and Developmental Biology in the Penn School of Medicine, has received a National Institutes of Health New Innovator Award. The award provides $1.5 million over five years. Dr. Gitler studies yeast cells to define mechanisms of neurodegenerative diseases and screen for new treatment targets. He has also been named as a 2008 Pew Scholar in the Biomedical Sciences. The Pew Scholars Program in the Biomedical Sciences supports early to midcareer scientists, giving each of the 20 scholars a $240,000 award over four years to help support their work.

Dr. Gitler will investigate how protein misfolding can lead to neurodegenerative disorders such as Parkinson’s disease. Dr. Gitler has also been recognized as one of the seven 2008 Rita Allen Foundation Scholars and will receive $300,000 over three years to further his research. He will work on identifying new treatment strategies for neurofibromatosis, which is a type of human cancer.

Continued from page 10

Exploring Differences in Minority Aging

Join the Penn MARCH (Minority Aging Research for Community Health) and the IOA for a special program featuring Dr. Keith E. Whitfield on April 16, 2009.

Dr. Whitfield is Professor of Psychology and Neuroscience, Professor of Medicine, Director of the Developmental Psychology Program, and Director of the Center on Biobehavioral and Social Aspects of Health Disparities at Duke University. His research examines the individual variation in health and individual differences in cognition due to health conditions. He studies individuals as well as pairs. His current research project is a longitudinal study of cognition and health among older African Americans.
Fuller Albright Award: Dr. Hankenson

Dr. Kurt D. Hankenson, Assistant Professor of Cell Biology in the Penn School of Veterinary Medicine, is a recipient of the Fuller Albright Award by the American Society of Bone and Mineral Research (AS-BMR). Dr. Hankenson, an expert in mouse phenotyping, thrombospondin biology and in mesenchymal stem cell biology, is the first veterinarian to receive this award.

APNA Award: Dr. Hanrahan

Dr. Nancy Hanrahan, Assistant Professor of Nursing in the Penn School of Nursing Science, has received the 2008 American Psychiatric Nurses Association Award for Excellence in Research. Dr. Hanrahan’s research examines the extent to which organizational traits of patient care environments and nurse staffing are associated with patient outcomes.

New Investigator Award: Dr. Schmitz

Dr. Kathryn Schmitz, Assistant Professor of Epidemiology in the Penn School of Medicine, has been named as this year’s winner of the Marjorie A. Bowman New Investigator Research Award from the Penn School of Medicine, recognizing achievements in the health evaluation sciences.

Welcome to New Fellows

The IOA would like to welcome several new Fellows and Associate Fellows.

Penn Medicine: Dr. Baur

Dr. Joseph Baur is an Instructor of Medicine in the Division of Endocrinology, Diabetes

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 Willo Carey among the External Advisory Board members.

Willo Carey

Making connections and getting the word out in Philadelphia has been Willo Carey’s specialty for over twenty years. Many in our area will recognize her familiar face from her work at WHYY TV12 and 91FM. A native of New York, Ms. Carey has been a part of WHYY since 1981, first as its Director of Development and then as Campaign Director of the $15 million capital campaign to build WHYY a new, state-of-the-art broadcast facility. Her successful efforts in development and her community connections made her the perfect choice to become the first Executive Director of Wider Horizons, a multimedia service developed by WHYY to address the needs and interests of the growing population approaching and in the second half of life -- from baby boomers, retirees and active elders, to the children of aging parents and the frail homebound.

Also a member of WHYY’s management team, Ms. Carey participates in the strategic planning, institutional branding and development of new services across the multimedia environment at WHYY. Prior to joining WHYY, Ms. Carey served as a fundraising professional for Planned Parenthood Southeastern Pennsylvania. Outside of her role at WHYY, Ms. Carey continues her community involvement by serving as Vice Chair of the Philadelphia Corporation for Aging (PCA) and on the board of CARIE (Center for Advocacy for the Rights and Interests of the Elderly). She is also part of the Executive Committee of the Section on Medicine and the Arts of The College of Physicians of Philadelphia and the Advisory Board of the Delaware Valley Schweitzer Fellows Program, as well as the Pennsylvania Task Force for Quality at the End of Life. Ms. Carey was honored in 2005 for her work in developing and leading WHYY’s Wider Horizons by the Eastern Pennsylvania Geriatric Society, which gave her its President’s Award, the first time in 15 years the award had been given. Contrary to what one might assume, Ms. Carey’s training is in fact in the arts. The daughter of a Swiss-born immigrant, she received her Bachelor’s from Mount Holyoke College and pursued graduate studies in sculpture at Tyler School of Art in Rome.

When asked how she became involved with the Institute on Aging (IOA), Ms. Carey related the following, “When I was approached to be on the External Advisory Board, I had a good idea of the IOA’s scope and the passion of its leadership. I had met Nancy Smith through The Pew Charitable Trusts in late 1999 when we sought their input into the creation of WHYY’s Wider Horizons service for people 50+. A meeting
hosted by Risa Lavizzo-Mourey (previous Director of the IOA) introduced me to Brian Duke, who took me aside afterwards and told me about the ‘caregiver’s journey’ I was embarking on with my mother, who had come to live with me. Brian later became my partner in creating WHYY’s Caring Community coalition, which grew from 12 organizations collaborating with us around Bill Moyers’ series on death and dying to more than 100 that have helped us over the years to develop award-winning television, radio and Web content, community resources and outreach.”

She continues, “I had long heard about John and Virginia’s work from Board member Dick Brown. John and I first collaborated in 2002. I got married that summer in my mother’s hometown in Switzerland, and while in Basel thought I would pay a visit to Novartis to seek their support for webcasting John’s first dementia care conference. I took the tram from our hotel and spent almost 3 hours discussing and pitching the idea in German. I made it back to my husband in time to catch a train to Lago Maggiore for our honeymoon, and they ultimately gave us the grant.”

Ms. Carey ascribes her interest in and passion for aging issues to her childhood friendships with older adults which gave her the desire to make a difference in lives that seem to grow more circumspect. She was struck by the extraordinary vitality and outlook to the end of their lives they demonstrated when in their 80s, 90s and 100s. “To stimulate that kind of interest, curiosity and connection became my goal in developing WHYY’s Wider Horizons service,” explains Ms. Carey. “My greatest mentor was my mother, Greta, who lived with me for the last four years of her life. As I started working on a service for older people, she told me, ‘Don’t just focus on bodily needs – do something for the life of the mind and spirit!’ Her example and others’ convinced me that as we age, we enter ever more interesting territory as we become more aware of our inner selves and the truly important things in life.”

As a member of IOA’s External Advisory Board, Ms. Carey says her role is to help connect the IOA with the public. “I was deeply honored to be invited to join the Board. Like other members, I’ve seen the growth of the Institute’s role in fostering research and collaboration with other departments at Penn and beyond. John leads the way in visionary thinking, and his passion for the importance of research is critical to the impending tidal wave of people with Alzheimer’s as the U.S. and world populations age,” says Ms. Carey. “The IOA can have an impact on the development of ways to prevent and ameliorate the effects of Alzheimer’s and other neurodegenerative diseases – and also in creating professional and public awareness of the issues, which will affect more and more families.” To that end, WHYY will be broadcasting Alzheimer’s Disease: Facing the Facts, a new national public television special, which features Drs. John Trojanowski and Virginia Lee, and which was co-produced and co-written by Carol Edwards, Associate Director of the Education Core at the Penn Alzheimer’s Disease Core Center. WHYY and Penn are planning a preview screening on January 13th prior to the January 22nd broadcast. The program will also be carried on other public television stations in an effort to reach people in the Delaware Valley and across the country.

**AWARDS AND HONORS**

and Metabolism at the Penn School of Medicine. Dr. Baur’s lab is interested in the basic mechanisms that lead to aging. One current project in the lab uses a transgenic mouse approach to mimic the changes in NAD+ metabolism that occur during caloric restriction; another area of interest is the role of mitochondrial biogenesis in caloric restriction.

**Penn Medicine: Dr. Chang**

Dr. Virginia Chang is an Assistant Professor of Medicine in the Division of General Internal Medicine in the Penn School of Medicine. Her research studies relationships between health and various aspects of socio-cultural life, with a focus on obesity. Her current work examines the reciprocal relationship between weight status and SES over the life cycle; how obesity and poverty cycle across generations, and the influence of weight status on the quality of medical care.

**Penn Medicine: Dr. Corcoran**

Dr. Amy Corcoran is the Medical Director of Geriatrics and Long-term Care at Penn-Wissahickon Hospice, and soon to be appointed Assistant Professor in the Division of Geriatric Medicine at the Penn School of Medicine. Her major interest is in providing care for older adults at the end of life, with a focus on those in nursing homes and with cognitive impairment. Dr. Corcoran is currently developing a geriatric curriculum for hospice interdisciplinary teams and has been actively involved in developing and implementing both geriatrics and palliative medicine teaching at various student levels and disciplines.
New IOA Associate Fellows

Penn Nursing Science: Dr. Ersek

Dr. Mary Ersek is an Associate Professor at the Penn School of Nursing Science. Recruited to Penn from the University of Washington, Dr. Ersek’s research focuses on pain and palliative care in older adults, with an emphasis on residents of nursing homes.

Penn Medicine: Dr. Schellenberg

Dr. Gerard Schellenberg is a Professor of Pathology and Laboratory Medicine at the Penn School of Medicine. A new faculty member here at Penn, see page 1 for more on Dr. Schellenberg.

Penn Medicine: Dr. Wolk

Dr. David Wolk is an Assistant Professor of Neurology at the Penn School of Medicine. He was recruited to Penn from the University of Pittsburgh and is a Cognitive and Behavioral Neurologist. Dr. Wolk will be seeing patients in the Penn Memory Center with Mild Cognitive Impairment, Alzheimer’s disease (AD), and other dementias. He is interested in cognitive aging and predictors of clinical dementia. Dr. Wolk’s primary research focuses on studying the effects of aging and very early AD on episodic memory, looking at ways to distinguish “healthy” aging changes from that of early AD pathology using behavioral paradigms, electrophysiologic measures, and structural imaging.

New IOA Associate Fellows

Penn Nursing: Christine Ray

Christine Ray is the Center Administrator for the Hartford Center of Geriatric Nursing Excellence in the Penn School of Nursing Science.

Continued on page 15

Moving information from the laboratory to the clinic and American homes, lives, and doctor’s offices is the ultimate goal of research, but it can’t happen without the involvement of study participants - those already diagnosed with a disease or disorder and those who serve as ‘normal controls.’ To learn more, please contact those listed.

RAGE Receptor and Alzheimer’s Disease Clinical Trial

Researchers in the Penn Alzheimer’s Disease Center and Penn Memory Center are conducting a Phase II, double-blind, placebo-controlled clinical trial study on an experimental medication to block nerve damage and inflammation in the brain that can lead to progressive memory loss and behavioral changes in people with Alzheimer’s disease (AD).

The experimental medication seeks to stop amyloid beta from binding to a particular receptor in the brain, and the clinical trial will determine if the drug slows the progressive decline associated with AD. The receptor, called RAGE (receptor for advanced glycation endproducts), is believed to prompt an inflammatory reaction and has been linked to several chronic diseases, including AD and diabetes. This study will be conducted nationwide, recruiting 400 volunteers aged 50 and older at 40 sites, of which Penn is one. The drug being used has been tested in animals and in preliminary human studies.

In addition to monitoring disease progression through cognitive tests, Penn researchers will be examining various biological markers, including the degree of atrophy of the brain (through MRI), the extent of amyloid buildup in the brain (through PET imaging), and levels of amyloid beta and other proteins in the blood and spinal fluid.

Physicians and nurses will monitor the participants during regular visits and will measure the severity and progression of AD using standard tests of functional and cognitive abilities. To ensure unbiased results, neither the researchers nor the participants will know who is receiving the study drug and who is getting a placebo.

To learn how to participate in this clinical trial, please contact Marianna Diloyan, MPH, Senior Clinical Research Coordinator at the Penn Memory Center, at 215-349-5903 or marianna.diloyan@uphs.upenn.edu for more information.

MsFLASH - Menopause Strategies: Finding Lasting Answers for Symptoms and Health

For many women, getting to be a ‘certain age’ brings with it certain ‘changes’ that can range from mildly annoying to bothersome to genuinely disruptive. In light of the concerns about the safety of using menopausal hormone therapy raised by the Women’s Health Initiative, women
who experience hot flashes and night sweats during the years around menopause would like safe and effective treatment options to help alleviate these menopausal issues.

The University of Pennsylvania School of Medicine is part of a new National Institutes of Health (NIH) five year initiative to conduct clinical trials of promising treatments for the most common symptoms of the menopausal transition.

The Initiative - Menopause Strategies: Finding Lasting Answers for Symptoms and Health (MsFLASH) - is led by the National Institute on Aging (NIA) in collaboration with the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), the National Center for Complementary and Alternative Medicine (NCAM) and the Office of Research on Women’s Health (ORWH), all parts of the NIH.

MsFLASH will speed the evaluation of treatments deemed promising by an independent panel at the recent NIH State-of-the-Science Conference on the Management of Menopause-Related Symptoms. Ellen W. Freeman, PhD, Research Professor and Co-Director of the Human Behavior and Reproduction Unit in Obstetrics and Gynecology at Penn will lead the Penn portion of the MsFLASH initiative.

Different treatments such as antidepressants, paced respiration, yoga, low-dosed estradiol patch and low-dose estradiol gel, and exercise programs will be studied during the five-year project period for their effectiveness against hot flashes and night sweats in trials with either placebo or usual-care control groups. Investigators will also look at possible effects on other symptoms at middle age, including sleep disturbance, mood changes, vaginal dryness, and sexual function.

As estradiol is currently the only FDA-approved treatment for hot flashes, the MsFLASH initiative will provide researchers with the critical means to evaluate other treatment options in larger, controlled trials and develop better strategies to help women who are experiencing disruptive menopausal symptoms.

The target date to start trials is July 1, 2009. The Penn trial aims to recruit 190 women from diverse ethnic backgrounds. If you are interested and would like to learn more, please call 215-662-3329 or 1-800-662-4487 or send an email to cirving@mail.med.upenn.edu.
Nine Pilot Research Grants in Aging Available

The IOA with the Penn Alzheimer’s Disease Core Center (ADCC) will fund nine (9) one-year, multidisciplinary pilot research grants in the 2009-2010 academic year to support biomedical, epidemiological, behavioral or health services research, as well as basic science, clinical or psychosocial research on aging and aging-related diseases, including but not limited to Alzheimer’s disease (AD) and related neurodegenerative disorders.

These pilots are supported by funding from the Penn School of Medicine, a generous matching grant from The Bingham Trust, and the Penn ADCC.

The Principal Investigator for each of these pilots must be a member of the University of Pennsylvania full-time faculty from any of its 12 schools or a senior level University of Pennsylvania Postdoctoral Fellow (with appropriate research training and credentials). Interested Postdoctoral Fellows should speak with Dr. Jedrziewski before submitting their application to ensure alignment with the goals of these pilot research grants. Collaboration with other departments or schools is strongly encouraged.

Each pilot will be funded at a level of up to $50,000/year for personnel and supply costs but not equipment or instruments. Due to matching requirements, it is encouraged that budgets equal $50,000 exactly.

The purpose of these one-year, non-renewable grants is to assist faculty and Postdoctoral Fellows in obtaining preliminary data to serve as the basis of a grant application to the NIH or other public or private agencies concerned with aging or aging-related diseases - such as but not limited to AD and related neurodegenerative disorders.

Applications will be considered for all pilot research grant award programs for which they are eligible. Detailed instructions regarding the application process can be found on the IOA’s website at www.med.upenn.edu/aging. For more information, contact Kathryn Jedrziewski, IOA Deputy Director, at 215-898-2445 or via email at jedrzmk@mail.med.upenn.edu.

Deadline for submissions is February 6, 2009 with an anticipated award date of July 1, 2009.