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Penn Medicine is taking the lead as the coordinating center for a new, national clinical trial to test testosterone replacement therapy in older men. Dr. Peter J. Snyder, Professor of Medicine in the Division of Endocrinology, Diabetes, and Metabolism, IOA Fellow, and a longtime researcher of testosterone, is the Principal Investigator for the 6-year, \$45 million trial and is overseeing trial activities at the 12 designated study sites around the U.S.

Interest in researching the question of whether unusually low testosterone is pathological or purely a natural part of aging began ten years ago with a group of dedicated researchers from around the country. Dr. Snyder and the group continued to pursue this possible line of study and eventually received the proverbial green light from the National Institutes of Health (NIH) four years ago when the National Institute on Aging (NIA), part of the NIH, expressed interest. The initial

research group expanded and began preliminary work to craft a proposal for NIA review, with Dr. Snyder taking the lead. A \$1 million planning grant was subsequently awarded that supported the development of the current clinical trial. The planning grant was instrumental in allowing the group to collaboratively design the trial, encompassing all aspects from recruiting and screening participants to treatment protocols, inclusion/exclusion criteria, data capture and management, follow-up procedures and monitoring, and ultimately final analysis of the study results.

The trial's premise seems simple: to see if testosterone therapy makes older men better in many different ways. In reality, the trial is actually more akin to six trials in one. As it is believed that low serum testosterone may contribute to a number of problems affecting older men, including decreased ability to walk, loss of muscle mass and strength, decreased vi-

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Basic Science
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Research in aging at Penn



celebrating 30 years

MESSAGE FROM THE DIRECTOR



Midway through the academic year, there is much to report. So much that we elected to follow the special 30th anniversary edition of our newsletter with a winter newsletter to update you on the latest news in aging research efforts at Penn. The news certainly covers campus, touching on the Schools of Nursing, Medicine, Arts and Sciences, Social Policy and Practice (SP2), and Wharton. This is the vision that Vince Cristofalo had from the start of the IOA (then the Center for the Study of Aging). Aging is not the province of only one discipline. We're all in this together.

Congratulations go out to IOA Fellows Beth Soldo and Kevin Volpp on their funding news.

The Population Aging Research Center (Soldo) is a fixture on campus and an important social science contributor to the economics of health and aging and the social aspects of aging. I know we are all eager for the behavioral economics findings that will come out of the new Roybal Center (Volpp) here at Penn, in partnership with Carnegie Mellon University. Not to be overlooked is the contribution the new SP2's Penn Aging Concentration Program will make to expanding and enhancing the social work services available to older adults in Pennsylvania and the entire tri-state area. Read on for information on these news items and much more. As always, I invite you to join us at one of the upcoming Visiting Scholars Series lectures or for this year's Sylvan M. Cohen Annual Retreat with Poster Session on Aging, or catch one of the available podcasts.

Testosterone Therapy in Older Men



Recruitment Information

Recruitment of study participants began in November, 2009. There is no cost to participants for any of the tests or the treatment. Travel costs will be reimbursed. Men aged 65 and older who are interested in participating should call the site closest to them. Men living within a 50-mile radius of the study centers listed below are especially encouraged to participate.

Additional information about the study is available online, visit www.ttrial.org or www.clinicaltrials.gov. The testosterone trial study sites are:

University of California, Los Angeles: 310-222-5297

University of California, San Diego: 877-219-6610

Boston University: 617-414-2968

University of Pittsburgh: 800-872-3653

Albert Einstein College of Medicine (Bronx, NY):
718-405-8271

Baylor College of Medicine (Houston): 713-798-8343

University of Minnesota (Minneapolis): 612-625-4449

Yale University: 203-737-5672

University of Alabama at Birmingham: 205-934-2294

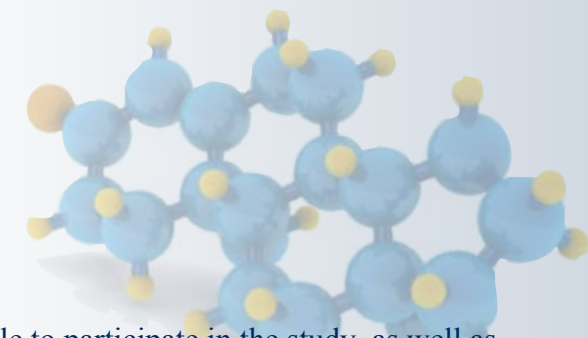
University of Washington (Seattle): 206-768-5408

Northwestern University (Evanston, IL): 877-300-3065

University of Florida, Gainesville: 866-386-7730 or
352-273-5919

Taking the Lead to Explore
Testosterone Therapy in Older Men

Continued from front cover



tality, decreased sexual function, impaired cognition, cardiovascular disease, and anemia, these are the very areas that will be given closer inspection and monitoring during the trial.

The heart of the trial is the enrollment of over 800 men, aged 65 and older, who have blood testosterone levels below 250 nanograms per deciliter, as well as at least one of the following symptoms: anemia, impaired thinking, difficulty walking a quarter-mile, less interest in sex, or reduced vitality. It is estimated that the trial will take 6 years to complete, allowing for 2½ years to recruit participants, 1 year for treatment with a testosterone gel, 1 year for follow-up post-treatment, and then 1½ years to analyze the results.

Trial participants will be randomly assigned to a treatment or control group. Treatment groups will be given a testosterone gel that may be applied to the torso, abdomen, or upper arms. Control groups will receive a placebo gel. Subsequently, serum testosterone will be measured monthly for the first three months and then quarterly for up to one year. In addition, participants will be tested on a wide range of measures to evaluate their physical function, vitality, cognition, cardiovascular disease, and sexual function. "This is an unprecedented opportunity for older men to learn more about themselves and at the same time help find out if testosterone will improve some of the effects of old age," explains Dr. Snyder.

Given the important - and surprising - findings about estrogen that arose from the recent Women's Health Initiative, the idea of the testosterone study was carefully reviewed by the Institute of Medicine, which studied all available research on testosterone, noted the unanswered questions about the effects of testosterone as a therapy, and ultimately recommended midsize trials to look at possible benefits to such therapy (as opposed to a longer, longitudinal study like the Women's Health Initiative). As there is some concern that testosterone therapy could raise the risk of prostate cancer, men at high risk for prostate cancer

are not eligible to participate in the study, as well as those men who have medical conditions that might be worsened by increased testosterone or those men who have already undergone some testosterone treatment or therapy. Likewise, notes Dr. Snyder, the trial will stop if any negative health effects from the testosterone therapy are noted during the treatment phase.

While some have wondered about the value of results and information on testosterone that can come from a midsize study such as this, Dr. Snyder believes that the study will help further explore and illuminate the connection of aging, hormones, and health. "Testosterone in men declines with age but not uniformly," says Dr. Snyder. "We don't know at this point if the decline is a normal or pathological phenomenon. In medicine, there's never a final word, but I think we'll have enough evidence [after the study] to know if it's worth continuing."

The study is a collaborative effort, using resources, researchers, and participants from 12 sites across the country. In addition to recruiting participants, sites will also be focusing on specific research areas. For example, the VA Puget Sound Health Care System and University of Washington in Seattle will be taking the lead on reviewing prostate care and health results. "Penn is the coordinating center for the study. While we will not be enrolling participants here at Penn, we will be deeply involved in managing the study, overseeing all data collection and statistics, serving as the central pharmacy and distributing the testosterone and placebo gels to all other sites, and monitoring the procedures being used. Over 1,000 men have already been screened over the phone as potential participants, but not all meet the various inclusion criteria. So we are still actively recruiting across the country," states Dr. Snyder.



Interested in learning more?
Find additional information
on the bottom of page 2

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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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**Finding Genes and Medicines That Extend Healthy Lifespans:
 2009 Vincent J. Cristofalo, PhD Annual Lectureship**



On November 12th, the Institute on Aging, its Fellows, Penn Medicine researchers and staff, the Cristofalo family and friends, and colleagues from area colleges and universities assembled for the third annual Vincent J. Cristofalo, PhD, Annual Lectureship. The event celebrates exceptional research in aging and aging-related diseases and the pioneering and mentoring spirit of the late Vince Cristofalo, the creator and founder of the Institute on Aging (originally called the Center for the Study of Aging) a little over 30 years ago.

After opening remarks from IOA Director, Dr. John Trojanowski, Mrs. Margaret (Peggy) Cristofalo gave us some additional background on the early



years of the IOA and expressed, on behalf of her family, their collective enthusiasm and support for the Cristofalo Lectureship and the mission and research efforts of the IOA at Penn.

Taking the microphone as the Cristofalo Lecturer for 2009 was David A. Sinclair,

PhD, Co-Director of the Paul F. Glenn Laboratories for the Molecular Biology of Aging and Professor of Pathology at Harvard Medical School. Dr. Sinclair discussed the quest that he is on to find small molecules and, eventually, drugs that will treat diseases of aging. For Dr. Sinclair, aging research is about keeping people healthier for longer which may possibly lead to lifespan extension. More importantly for him, aging research is about the ability to ward off many, if not most, of the common diseases of society until 5 or 10 years later, effectively getting people through what he referred to as the ‘danger zone’ of their 50s and 60s. “This research has the potential to change medicine and lift the world up into a world where diseases of middle age and those of later ages, like dementia and Alzheimer’s, are

something that people don’t have to worry about until much later,” said Dr. Sinclair. Just reducing some of the common diseases of aging by 10% would save trillions of dollars.

Walking the audience through his work, Dr. Sinclair traced the path he and his colleagues have taken in their research. He cited the research advances that have come from the discovery of ‘longevity genes,’ genes that evolved to help organisms adapt and survive times of distress, and science’s efforts to turn on these genes and activate other pathways. Through work in the lab, other researchers have shown that caloric restriction (CR) actually slows the aging process and is the most robust way to prevent diseases like cancer, heart disease and other disorders in animal models. Dr. Sinclair explained how he and his colleagues have been trying to understand how the CR process works. Given the necessity of careful monitoring and the delicate balance needed to achieve optimal nutrition while reducing calories, he feels that the process is just not a viable option for seniors. What would work much better, however, would be to turn the process into drugs that can be injected or taken as a pill.

They found sirtuins, a set of genes that encode enzymes and seem to control the aging process in yeast cells and other organisms. Sirtuins are involved in a multitude of important biological processes and underlie



the benefits of CR. Work moved to finding small molecules that could regulate and activate sirtuins, like SIRT1. What they found were a family of plant-derived molecules, or STACs (sirtuin-activating compounds), which were found to extend lifespan in yeast, *c elegans* worms, and especially in certain fish.

In collaboration with the NIH, Dr. Sinclair sought to test the effects of STACs, particularly resveratrol. Using three types of mice – one fed a CR diet, one a high calorie diet, and one the high calorie diet plus a dosage of resveratrol – they found that the resveratrol mice were at least as healthy as CR mice in terms of the health of bones and other organs as scored by pathologists in a blind analysis.

Are sirtuins too good to be true? Might they promote cancer? Studies with colon cancer model mice and lymphoma model mice have shown this not to be the case. STACs seem to work in so many diseases in rodent models, including cancers, type 2 diabetes, cardiovascular disease,



optic neuritis, retinopathy, AD, Huntington’s disease, stroke and MI recovery, osteoporosis, cataracts, inflammatory bowel disease, COPD, and kidney dysfunction, that Glaxo-SmithKline is now actively pursuing sirtuins’ potential. “It does seem too good to be true,” says Dr. Sinclair, “but as my former mentor, Lenny Guarente, says ‘the data is the data.’”

Following the lecture, attendees gathered in the BRB Lobby for a reception and to toast the 30th anniversary of the IOA. Streaming video of the afternoon’s speakers is available online at the IOA’s website, www.med.upenn.edu/aging.

Photos courtesy of Mark Garvin.





Dr. Davitt and Dr. Gellis: Penn Aging Concentration at the School of Social Policy and Practice

This past September, Penn's School of Social Policy & Practice launched a new program to earn a Master in Social Work (MSW) with a concentration in services to older adults and their families in response to the aging boom and the dearth of social workers specially trained to respond to older adults' needs.

The Penn Aging Concentration, or PAC, is the only social work concentration of its kind in Pennsylvania. The program will train students for Clinical and Macro practice and leadership in social work services in collaboration with a consortium of community field agencies in southeastern Pennsylvania. PAC is part of the Specialized Geriatric Social Work Initiative, funded with the help of a two-year, \$10,000 grant from the John A. Hartford Foundation

and a matching contribution from a donor.

PAC will give graduate students an intensive, hands-on experience in their advanced year of study, along with enhanced field placements, special electives, multi-agency rotating field seminars, and a stipend in addition to their existing aid package. PAC's goal is to increase the number of MSW students electing to go into the field of aging and to increase the number of competent social work practitioners and leaders in the field of gerontological-social work in the U.S.

IOA Fellows Dr. Zvi Gellis and Dr. Joan Davitt are Co-Investigators on the grant and Co-Directors of the program. Anne Weiss is Director of Field Placement. All are pictured above. For more information, visit www.sp2.upenn.edu/pac/.

Dr. Shiriki Kumanyika: Partners in Weight Loss May Help African Americans

As reported in the October 26th issue of *Archives of Internal Medicine*, Dr. Shiriki Kumanyika, Professor of Epidemiology and IOA Fellow, and her Penn research colleagues conducted a two-year trial of a culturally specific weight loss program among 344 African American men and women. The program goal was to achieve and maintain a 5- to 10-percent weight loss. The trial found that enrolling in a weight loss program with a family member or friend appeared to enhance the weight loss but only if the enrolled partner attended the sessions frequently or also lost weight.

As obesity and its resulting cardiovascular complications affect many African Americans, Dr. Kumanyika and her Penn Medicine colleagues conducted the trial because standard behavioral treatments for obesity appear to be less successful in African Americans than in whites.

Enhancing standard weight loss programs with cultural modifications like the inclusion of family members and support networks may increase their effectiveness and help improve African Americans' health.



Research and News in Aging

Dr. Sam Preston: Is the U.S. Healthcare System to Blame?

With data released from the World Health Organization saying a baby born in the U.S. will live up to five years less than a child born in another affluent country, Dr. Samuel Preston, Frederick J. Warren Professor of Demography and an IOA Fellow, examined the longevity issue more closely in three papers published in 2009 with Jessica Ho, from the Penn Population Studies Center. While poor performance by the U.S. healthcare system is often blamed for the declining longevity rather than behavioral or social factors, the papers (available at <http://www.pop.upenn.edu/publications/pscwps.html>) present evidence on the relative performance of the U.S. healthcare system using death avoidance as the sole criterion. Findings show that the U.S. does well in terms of screening for cancer, survival rates from cancer, survival rates after heart attacks and strokes, and medication of individuals with high levels of blood

Pepperpot Award to Penn Medicine Communications and Kim Guenther for IOA Media Efforts

In December, the IOA's Penn Medicine Communications Officer, Kim Guenther, received a Pepperpot Award from PRSA Philadelphia, the local chapter of the Public Relations Society of America.

Kim's Pepperpot in Multicultural Communications was in recognition of "Aging Well: Seniors and Scientists Showcase Experience, Cutting-Edge Research from Penn's Institute on Aging" and her efforts to raise the profile of understanding medical care for people as they age.



Congratulations, Kim! It's well deserved.

pressure or cholesterol, and that the U.S. has had significantly faster declines in mortality from prostate and breast cancer than comparison countries. The conclusion is thus that the U.S.'s low longevity ranking is not likely to be a result of a poorly functioning healthcare system.

IOA Visiting Scholars Series 2009-2010

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.

March 3, 2010 - 9:00am
 Michele K. Evans, MD
 Deputy Science Director
 National Institute on Aging
 Lecture: "The HANDLS Study: An urban study of health, race and socioeconomic status"
 Venue: Austrian Auditorium
 Clinical Research Building
 415 Curie Boulevard

April 8, 2010 - 9:00am
 Luigi Ferrucci, MD, PhD
 Senior Investigator and Chief,
 Longitudinal Studies Section
 National Institute on Aging
 Lecture: "Central Role of Sarcopenia in Frailty"
 Venue: Medical Alumni Hall
 Maloney Building
 3600 Spruce Street

Registration is requested. Select lectures are available as podcasts. For information on subscribing to the free podcasts, visit the IOA website at www.med.upenn.edu/aging.



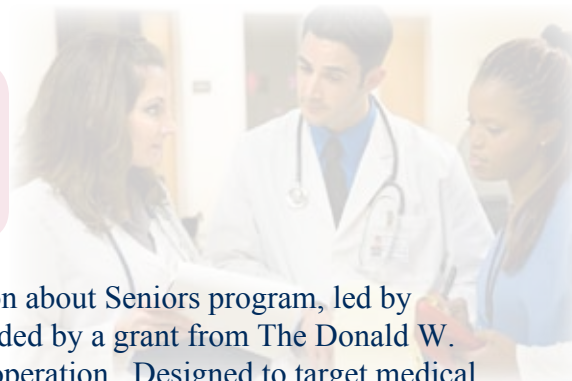
Penn Awarded Grant for New Roybal Center on Behavioral Economics and Health

In early February, the National Institute on Aging (NIA) awarded funding for an Edward R. Roybal Center for Research on Applied Gerontology to a collaboration between the University of Pennsylvania and Carnegie Mellon University (CMU). The Roybal Centers were created to move promising social and behavioral research findings out of the lab and into programs and practices that will improve the lives of older people and help society adapt to an aging population. The Penn-CMU Center, which will focus on behavioral economics and health, joins nine other existing centers and three new centers funded by the NIA.

The Penn-CMU Center on Behavioral Economics and Health will be headed by Dr. Kevin Volpp, Associate Professor of Medicine and Health Care Man-

agement; Director of the Leonard Davis Institute of Health Economics Center for Health Incentives; Staff Physician, Center for Health Equity Research and Promotion, Philadelphia VA Medical Center, and an IOA Fellow. The Center will conduct studies that foster the translation of approaches from behavioral economics to the improvement of healthcare behaviors and healthcare delivery for older adults.

“We are working to catalyze the development of new approaches to improving health behavior that recognize and take advantage of the fact that people often take the path of least resistance,” commented Dr. Volpp, “by designing new approaches using choice architecture, incentives, and information for patients and providers that promote health.”



Integrating Geriatrics Education: Penn CARES Program Update

Penn CARES, the Community and Academic Resources for Education about Seniors program, led by Dr. Jerry Johnson, Chief of the Division of Geriatric Medicine, and funded by a grant from The Donald W. Reynolds Foundation, has made significant progress in its first year of operation. Designed to target medical students, residents in six specialties, and faculty preceptors of medical students and residents, Penn CARES is working to establish a longitudinal curriculum in geriatrics and increase the expertise in geriatric medicine education. Dr. Amy Corcoran, Assistant Professor of Clinical Medicine in the Division of Geriatric Medicine and an IOA Fellow, is leading medical student activities and is working to incorporate geriatrics activities into all aspects of the medical student curriculum. To date, new content has been inserted into two of the basic science courses, and a house calls program that involved visitation of all first-year medical students to a home was created. Additionally, an aging component was introduced as part of a new palliative care module for all medical students. Materials related to falls and gait assessment will be added to the introduction of medicine course. Dr. Lynsey Brandt, Assistant Professor of Clinical Medicine in the Division of Geriatric Medicine and an IOA Fellow, heads resident-related work, including the Chief Resident Immersion Training (CRIT). Transitions of Care training was given to Internal Medicine and Family Medicine/Primary Care residents, and the first CRIT training weekend has been scheduled. Dr. Jen Kapo, Assistant Professor of Clinical Medicine in the Division of Geriatric Medicine and an IOA Fellow, is working on faculty activities, which have included workshops on osteoporosis management and aging-related aspects of palliative care.

Research and News in Aging

Population Aging Research Center (PARC) Receives 5-Year Renewal of NIA Funding

Under the leadership of Dr. Beth Soldo, Director of the Population Aging Research Center (PARC), Distinguished Senior Scholar in Sociology in the Penn School of Arts and Sciences, and an IOA Fellow, PARC has received renewed funding from the NIA to continue to serve as a Center on the Demography of Aging for the next five years. The NIA created the centers to conduct research on the demography and economics of health and aging, as well as the social circumstances of older people. A center since 1994, PARC is one of 14 such centers across the country.

With Research Associates drawn from across Penn's campus, PARC's research themes center on the following key areas: health at older ages and biodemography; health and economics of pensions and retirement, and healthcare systems; aging families and households, intergenerational relations, and resource transfers across multiple generations, and diversity of aging populations. Research Associates represent the IOA, the Population Studies Center, the Pension Research Council, the Boettner Center for Pensions and Retirement Security at Wharton, the Leonard Davis Institute for Health Economics, and the School of Arts and Sciences' Departments of Sociology, Economics, Psychology, Biology, and Statistics, Wharton's Department of Business and Public Policy, and the Schools of Nursing and Medicine. PARC is also home to the Mexican Health and Aging Study, and its researchers participate in the Latin American Network on Aging.

PARC's online Working Paper Series has provided a rich and interesting trove of data and analysis on a variety of topics and issues in health and aging. “The IOA and its Fellows have been a spring board for the development of PARC. Over the last 5 years, the Center has maintained and accelerated its growth, increasing in size, substantive diversity, and disciplinary breadth,” says Dr. Soldo. “Since 1994, the number of social-behavioral science Associates involved in aging research has grown from 9 to 60 today.” Visit PARC online at www.pop.upenn.edu/rc/parc/aging.html to learn more.

Lifestyle Modification and Blood Pressure Study (LIMBS)

Is your blood pressure borderline high? Would you like to try controlling it naturally with lifestyle changes such as nutrition, walking, or yoga?

Researchers at the University of Pennsylvania are beginning a research study examining the effects of yoga, walking, and nutrition on lowering Blood Pressure.

Qualified participants will receive at no cost: study-related exams and lab tests, study related classes, instruction and materials.

Compensation will be provided for time & effort. If you are *not* currently on a blood pressure medication or taking regular yoga classes and are over 18 years of age, please call the UPENN LIMBS Study Coordinator at (215) 615-6570, or visit the study website at <http://limbs.cohenhtn.com>.



Dr. Anne Cappola and Ghrelin Findings: IOA Pilot Research Success in Treatment for Frailty

Dr. Anne Cappola, Assistant Professor of Medicine in Endocrinology, Diabetes, and Metabolism, and an IOA Fellow and 2007 Pilot Research Grant Awardee, presented compelling findings from her IOA Pilot Research Grant work looking at clinical frailty in older women and the hormone, ghrelin, at ENDO, the Endocrine Society's 91st Annual Meeting in June, 2009.

In the pilot study, five frail women and five healthy women, all over the age of 70, were randomized to receive an infusion of the hormone, ghrelin, or a placebo. After a ghrelin infusion, frail women in the study had a stronger, healthy appetite and increased anabolic hormone activity. The only side effect reported during the treatment was a transient sense of warmth that occurred in four participants who received the ghrelin infusion.

Frailty, a common geriatric syndrome that is characterized by unintentional weight loss, weakness, exhaustion and low levels of anabolic hormones, increases the risk of falls, hospitalizations, disability, and death. Ghrelin is a hormone that stimulates appetite. Those women who received the ghrelin infusion consumed 51% more calories than the placebo group and had growth hormone levels that were higher throughout the ghrelin infusion. The increased caloric intake came from carbohydrates and protein and not fat.

As the pilot study established safety and initial efficacy, larger follow-up studies will examine the potential therapeutic role of ghrelin or ghrelin mimetic agents in the frail population.

Pilot Research News

Dr. Eric Brown: IOA Pilot Research Grant to Advance Promising Findings on Tissue Regeneration

In a study published in the October issue of *Nature Genetics*, Dr. Eric J. Brown, Assistant Professor of Cancer Biology at the Abramson Family Cancer Research Institute and an IOA Fellow, demonstrated that the loss of the tumor-suppressor protein, p53, coupled with elimination of the DNA-maintenance protein, ATR, severely disrupts tissue maintenance in mice. The findings show that keeping tissues like skin and intestines functional not only involves stem and progenitor cell potential, but also necessitates the clearing away of damaged cells. p53 is a protein that monitors cells for damage and either stimulates the early death of such cells or prevents their replication. By deleting p53, researchers compounded the problems that arose following the removal of the genome maintenance protein ATR by allowing DNA-damaged cells to persist. In other words, p53-mediated cellular clearance ultimately permits more efficient tissue renewal. As an IOA Pilot Research Grant Awardee, the IOA is funding the continuation of these studies to determine how the persistence of DNA-damaged cells inhibits regeneration. "It is possible that delayed renewal may serve as a tissue homeostatic checkpoint, deliberately inhibiting progenitor-driven renewal until damaged cells have been effectively cleared," says Dr. Brown. "Thus, the factors that regulate this process may strongly impact tissue maintenance and the onset of age-related diseases."

Study of Naltrexone for Impulse Control Disorders in Parkinson's Disease

This study is being conducted by the University of Pennsylvania School of Medicine with Daniel Weintraub, MD, as the Principal Investigator, through support from The Michael J. Fox Foundation for Parkinson's Research.

This 8-week research study will evaluate the effectiveness of a marketed medication (naltrexone) in reducing Impulse Control Disorder (ICD) symptoms in Parkinson's disease patients taking a dopamine agonist (DA).

ICDs - including compulsive gambling, sexual behavior, buying, and eating - are increasingly recognized as a significant clinical problem in Parkinson's disease (PD), occurring in up to 15% of patients. DA treatment is thought to be the primary risk factor for the development of ICDs in PD. ICDs often lead to significant impairments in psychosocial functioning, interpersonal relationships, and quality of life. Patients may be reluctant to discontinue DA treatment due to the motor benefits derived from treatment, so patients often have chronic ICD symptoms. Thus, additional treatment approaches are needed.

In this study, 48 PD patients with an ICD will be treated either with naltrexone (50-100 mg/day) or placebo for a period of 8 weeks. The study will assess if naltrexone improves ICD symptoms in PD and is well tolerated. To our knowledge, the proposed study is the first controlled trial of an agent to treat ICDs in PD.

Participation is voluntary. Certain inclusion and exclusion criteria are in effect. To learn more, please contact Kimberly A. Papay, BS (215-349-8390 or Kimberly.Papay@uphs.upenn.edu) or Eugenia Mamikonyan, MS (215-615-3085 or Eugenia.Mamikonyan@uphs.upenn.edu).

Power of Pilots

The IOA is entering its final year on a generous \$1 million grant from The Bingham Trust which allowed for the doubling of the number of Pilot Research Grants that were awarded each year for 5 years. Since the Pilot Research Grant Program began, 43 Pilots have been awarded. The Bingham Trust has made 16 of those research studies possible - with four more to be awarded this year. The 'success rate' among our Pilot Grant awardees in securing further funding to continue and expand their research is 51%, a very impressive number given the extremely competitive climate for grant funding. The Bingham Trust gift has been invaluable in advancing aging research here at Penn.

As we begin the process of awarding this year's Pilots, the IOA is looking for a generous donor or donors to continue the investment that The Bingham Trust began and open doors for new, promising research in aging and aging-related diseases here at Penn. To learn more, please contact Irene Lukoff, Director of Development, at 215-573-0187 or via email at ilukoff@upenn.edu.

Participants Needed

Spotlight on an IOA Fellow: A Profile of Dr. Kelly Jordan-Sciutto

Dr. Jordan-Sciutto received her BS in Cumulative Science from Villanova University. She earned her PhD in Biochemistry and Molecular Biology at Thomas Jefferson University. In 1999, she completed her postdoctoral fellowship at the University of Pittsburgh, working on the functional characterization of the novel, developmentally-regulated fetal Alz-50 clone 1 (FAC1) as a regulator of gene expression. Dr. Jordan-Sciutto worked as a Research Associate in Pathology at Pitt as well as an Adjunct Assistant Professor in Biology at Westminster College before being named as a Research Associate Professor in 2000 and then an Adjunct Assistant Professor in 2001 in Pitt's Division of Neuropathology.

Her intrastate move to Penn Dental Medicine and back to the Philadelphia area also came in 2001 when Dr. Jordan-Sciutto was named an Assistant Professor in the Department of Pathology at the Penn School of Dental Medicine. She subsequently became an Associate Pro-

cessor in 2008. She is an active member of the International Society of Neurovirology, the International Cell Death Society, the American Society for Cell Biology, the Society for Neuroscience, and the American Association for the Advancement of Science, and is a member of the Editorial Board of the *Journal of NeuroVirology*. Dr. Jordan-Sciutto has also been an ad hoc reviewer for the Department of Veterans Affairs, the National Institutes of Health, and the Medical Research Council in the U.K.

Her research investigates molecular mechanisms underlying neurodegenerative processes. Current research is focused on the role of cell cycle proteins, the endogenous antioxidant response, and unfolded protein response in HIV encephalitis (HIVE),

Alzheimer's disease (AD), and Parkinson's disease (PD). Specifically, studies in Dr. Jordan-Sciutto's lab are aimed at determining how cell cycle proteins regulate neuronal survival in response to varied and conflicting stimuli and have resulted in the discovery of a role for the protein E2F1 in the activation of the calpain-dependent death pathway which has not been previously described. Research is also examining the endogenous antioxidant response and its failure to prevent accumulation of oxidative damage and neuronal loss in neurodegenerative disorders, as well as on identifying differences in regulation of the endogenous antioxidant response in Alzheimer's and Parkinson's diseases. Lastly Dr. Jordan-Sciutto and her lab are exploring the role of the unfolded protein response (UPR) in neurodegenerative conditions and the pathways activated by UPR, which contribute to neuronal dysfunction and loss, in the lab's models of HIVE, AD, and PD.

In addition to her research in the School of Dental Medicine, Dr. Jordan-Sciutto participates actively as a member of Penn Medicine's Center for AIDS Research, Mahoney Institute of Neurological Sciences, Cellular and Molecular Biology Graduate Group, Institutional Animal Care and Use Committee, and Neuroscience Graduate Group, for which, among other things, she chairs the Admissions Committee.

Dr. Jordan-Sciutto is currently the Principal Investigator for two R01 grants and co-Investigator for another R01 from the National Institute of Neurological Disorders and Stroke (investigating cell cycle proteins in HIV encephalitis and integrated stress response in HIV-associated dementia, and HIV neural apoptosis), as well as one R01 grant from the National Institute of Mental Health for her work in HAART-mediated neuronal toxicity in the central nervous system.

Q: You serve as course Co-Instructor for "General and Oral Pathology" in the School of Dental Medicine as well as a mentor for four School of Medi-

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cine graduate students drawn from the Neuroscience Graduate Group, the Cellular and Molecular Biology Graduate Group, and the Graduate Group in Pharmaceutical Sciences. Yet, your primary appointment is in the School of Dental Medicine. Can you talk about the research collaboration between the two schools?

A: From my perspective, one of the greatest research strengths of the University of Pennsylvania is the collegiality of the faculty. Despite primary appointments that are organized around our teaching, the University has several graduate groups, centers and institutes (such as the IOA) which organize the research community by their primary research interests creating forums for scientific interaction. Not only do each of the centers and institutes host various seminar series in which to learn about outside research, they also host annual retreats where the Penn community can learn about the research at our own institution and set up collaborations. Because of the powerful networking opportunities and the openness of the faculty to collaborative research across disciplines, we are poised to approach scientific questions with interdisciplinary and multi-faceted approaches. As my work stands at the nexus of several research disciplines, cell and molecular biology, neurodegeneration, and virology, I have benefited greatly by collaborative efforts across these disciplines. I feel very fortunate to have such amazing and interactive colleagues.

Q: In 2009, you were awarded more than \$500,000 in stimulus research funding, that came from the American Recovery and Reinvestment Act (ARRA), to continue your research into neurodegenerative disorders. What led you into this area of research?

A: My ARRA money was actually to investigate central nervous system (CNS) effects of anti-retroviral drugs used to treat patients infected with HIV. HIV positive patients are treated with combinations of anti-retroviral drugs to halt viral replication. Treatment of these patients with combination anti-retroviral therapy (cART) has significantly reduced mortality in

the HIV positive population. However, now there is clinical evidence that these patients experience cognitive, behavioral and motor changes that, while not as severe as frank dementia, significantly impact their daily lives. In addition, autopsy studies have shown that the CNS pathology of patients on cART has features similar to that of patients with Alzheimer's disease. Thus, we hypothesized that these clinical and pathologic changes may be the result of cART as well as the HIV infection. We initiated this work because we noted that the impact of cART drugs on CNS cells was never investigated in therapeutic combinations, instead, each drug was tested individually. As each drug can induce cellular stress by a distinct mechanism, we wanted to know if taking these drugs would induce several stress pathways and lead to premature aging in HIV-infected populations. Our goal is to find the cART combinations with the least neuropathologic impact and see what we can learn about the stress processes that contribute to aging.

Q: As part of the next generation of researchers, do you have any thoughts on future directions in aging research?

A: My focus area is in the brain, but I think that inflammation and immunity change as we age and that these normally useful physiologic processes have the potential to be very damaging if they are not regulated and balanced properly. So I believe our increasing knowledge of how inflammation and immunity changes as we age has widespread implications for treating many diseases associated with aging. In the brain, inflammation has recently become an area of intense investigation. Interestingly, a number of factors that regulate immunity and inflammation have been shown to have alternative roles in brain function (such as enhancing synaptic activity). By expanding our knowledge of inflammation in the brain and how it changes with age and in pathologic states we may be able to attenuate or halt neuroinflammation and associated cognitive decline.

Healthy Aging - What *You* Can Do...

Four studies in the January 25th Archives of Internal Medicine Offer More Proof Exercise Leads to Healthier Aging

1. Based on data from the Nurses' Health Study in the U.S., women who were more physically active during middle age were more likely to be "successful survivors" by the time they reached the age of 70. Walking and other moderate-intensity exercises lowered the risk for chronic diseases, heart trouble, and cognitive impairment. Surprisingly, walking and other moderate activities were almost equivalent to the benefit gained from more vigorous physical activity.

2. A study from Germany focusing on women found that those who participated in a higher intensity exercise program 4 days a week had stronger bones and less chance of falling than women who were in a 'well-being' program (including relaxation, flexibility, endurance, and balance).

3. A second study from Germany found more evidence that exercise - either moderate or high-intensity - reduced the risk of cognitive impairment in men and women over age 55, over a two-year follow-up period.

4. Researchers in Canada found that women who practiced resistance training (1-2x a week) had improved cognitive skills (in the areas of attention and conflict resolution).

Awards and Honors: News from IOA Fellows



Penn Dental Medicine

Dr. Kelly Jordan-Scuitto, Associate Professor in the Department of Pathology, has been named a 2010 Penn Fellow. The Penn Fellows Program provides leadership development to select Penn faculty in mid-career. Dr. Jordan-Scuitto also was awarded more than \$500,000 by the National Institute of Mental Health to continue her research investigating central nervous system effects of anti-retroviral drugs used to treat HIV.

Penn Medicine

Dr. David Asch, Robert D. Eilers Professor of Medicine and Health Care Management and Economics and Executive Director of the Leonard Davis Institute of Health Economics, received the Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Award from the Association of American Medical Colleges.

Dr. Rita Balice-Gordon, Professor of Neuroscience, was awarded a McKnight Neuroscience of the Brain Disorders Award for 2010, along with her Penn Medicine colleague, Dr. Josep Dalmau. Together they were recognized for their research project, "Cellular, Synaptic and Circuit Mechanisms of Autoimmune and anti-Glutamate Receptor Disorders of Memory and Cognition."

Dr. Virginia M.-Y. Lee, the John H. Ware 3rd Professor in Alzheimer's Research, Professor of Pathology and Laboratory Medicine, and Director of the Center for Neurodegenerative Disease Research, was presented with the 2009 Khalid Iqbal Lifetime Achievement Award from the Alzheimer's Association.

Dr. Amita Sehgal, John Herr Musser Professor of Neuroscience and Investigator with the Howard Hughes Medical Institute, was elected as a member of the Institute of Medicine, one of the nation's highest honors in biomedicine.

Dr. Louis Soslowsky, Fairhill Professor of Orthopaedic Surgery; Professor of Bioengineering; Director of Penn Center for Musculoskeletal Disorders; Vice Chair for Research for the Department of Orthopaedic Surgery, and Director of McKay Orthopaedic Research Laboratory, was awarded the American Academy of Orthopaedic Surgery's 2010 Ann Doner Vaughan Kappa Delta Award, considered the 'Nobel Prize' in orthopaedic surgery research.

Dr. David Casarett, Associate Professor of Medicine in the Division of Geriatric Medicine, recently published *Last Acts: Discov-*

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ering Possibility and Opportunity at the End of Life, which draws on his experience as a palliative-care physician and looks at a variety of ways in which human beings react to the knowledge that death is near.

Dr. Frank S. Lee, Associate Professor of Pathology and Laboratory Medicine, was one of the recipients of the new NIH Director's Transformative R01 (T-R01) Awards. Dr. Lee, with his colleague and co-recipient Dr. Stephen Master, will pursue studies on how cells sense oxygen, which has implications for understanding such diseases characterized by hypoxia as heart attacks, stroke, and cancer.

Dr. Joseph Baur, Assistant Professor of Physiology, was awarded a \$75,000 grant from the American Federation for Aging Research (AFAR) to support his research on mitochondrial biogenesis and longevity.

Dr. Anne Cappola, Assistant Professor of Medicine and Epidemiology and Director of Research Programs for FOCUS on Health and Leadership for Women, received the Department of Medicine's Austrian Award for Junior Faculty and the Edward Rose Teaching Award for outstanding teaching and mentorship of Endocrinology Fellows in clinical practice or research.

Dr. Rachel Werner, Assistant Professor of Medicine, Division of General Internal Medicine, was awarded AcademyHealth's 2009 Alice S. Hersh New Investigator Award, which recognizes scholars early in their careers as health services researchers who show exceptional promise for future contributions.

Penn Nursing

Dr. Kathy Culpepper Richards, Professor of Health Promotion in Gerontology; Director of the John A. Hartford Center of Geriatric Nursing Excellence, and Director of the Polisher Research Institute of the Madlyn and Leonard Abramson Center for Jewish Life, has been appointed as the Ralston House Endowed Term Professor in Gerontological Nursing. The Chair was founded in 1995 by a gift from The Ralston House to support Gerontological Nursing.

Dr. Sarah Hope Kagan, Professor of Gerontological Nursing-Clinician Educator, has been appointed

as the Lucy Walker Honorary Term Professor. The Chair was founded in 2009 to support the scholarship of honors students. Dr. Kagan also recently published *Cancer in the Lives of Older Americans: Blessings and Battles*, a look at the important points about cancer among older adults.

Dr. Terri Weaver, Professor of Nursing and Chair of the Biobehavioral and Health Sciences Division, was appointed as the Ellen and Robert Kapito Professor in Nursing Science. The endowed Chair was founded in 2009 to both recognize faculty excellence and to provide support for faculty research, particularly in biobehavioral nursing science.

Dr. Pamela Z. Cacchione, Associate Professor of Geropsychiatric Nursing in the Clinician Educator Tract joined the faculty at the School of Nursing in July. Dr. Cacchione's area of expertise is mental healthcare. She will be teaching mental health and aging with Dr. Lois Evans and will be working with Nursing's L.I.F.E. Program.

Dr. Mary Ersek, Associate Professor of Nursing and Associate Director, Center for Integrative Science in Aging and the John A. Hartford Center of Geriatric Nursing Excellence, was elected as a member of The Hospice and Palliative Nurses Association (HPNA) Board of Directors.

Dr. Therese Richmond, Associate Professor of Nursing, has been appointed as the Andrea B. Laporte Endowed Term Associate Professor. The Chair was founded earlier this year by a gift from Mrs. Andrea Laporte, a School of Nursing alumna and a member of its Board of Overseers, to recognize and provide support to faculty research.

Dr. Christopher Lance Coleman, Assistant Professor of Nursing, was appointed as Term Assistant Professor in Multi-Cultural Diversity in acknowledgment of his devotion to advancing knowledge of the determinants of health among racial/ethnic minorities, marginalized, vulnerable, and/or underserved populations across the life span.

Dr. Mary Naylor, Marian S. Ware Professor in

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Taking a Different Approach to Care: Penn Center for Women's Behavioral Wellness

A new face at Penn is leading a fresh approach to women's behavioral health and reproductive psychiatry. The new Penn Center for Women's Behavioral Wellness (PCWBW) is a collaboration between the Penn Medicine Departments of Psychiatry and Obstetrics/Gynecology. The center will promote women's wellness through education, clinical care, and research that broaden medicine's knowledge of how periods of hormonal fluctuation contribute to cognitive and emotional changes across the female lifespan.

"Many reproductive psychiatry programs across the country focus their research and clinical efforts on one particular area of the female reproductive life cycle, typically the perinatal period," explains Dr. C. Neill Epperson, Director of the Penn Center for Women's Behavioral Wellness and new Associate Professor of Psychiatry and Obstetrics/Gynecology at Penn School of Medicine. "I believe that we can be most effective in our research, as well as clinical care, if we take the life span approach to women's health."

Three factors support the life span approach. First, health maintenance activities at early stages of life can have a powerful impact on health and well-being at later stages of life. Secondly, clinical conditions that occur at one stage of the female life cycle can reoccur or worsen at other stages. Lastly, new knowledge gained from research in one area of women's behavioral health may advance collective understanding of the causes of behavioral health issues at multiple stages in a woman's reproductive life.

Dr. Epperson was recruited to Penn from Yale University with what she calls an "offer that I couldn't refuse" to develop a center for women's behavioral health that reflected her vision. She cites Penn's attractiveness as an institution for a clinical investigator. "The research faculty is world-class thus I knew that I'd have great collaborators. There are so many institutes and research facilities that are part of the medical school and university; each of these has considerable intellectual and physical resources for research," says

Dr. Epperson. "Penn is in Philadelphia, a great city for clinical research, and it has a large health system which serves as a terrific referral base for clinical cases as well as research subject."

Dr. Epperson initially started her research career with a postpartum depression study and realized early on that findings about the neurobiology of the postpartum period could be applied to other life cycle periods which are characterized by low estrogen. "By studying the central nervous system effects of naturally occurring hormonal changes at different reproductive time points, as well as inducing artificial changes in hormones such as PCWBW is doing with its menopause study, one can begin to understand why some women experience mood and other behavioral changes in these contexts," says Dr. Epperson. "That women with mood changes around menstruation are frequently those women who go on to experience depression in the perinatal and perimenopausal periods suggests a vulnerability to the normal hormonal changes occurring in all women."

PCWBW's Research Division will examine how sex and gender impact behavioral health and will focus on women's issues such as premenstrual syndrome, perinatal depression and anxiety, and menopause-related mood and cognitive complaints. "Women and men are different, and we need to embrace those differences in order to improve clinical care and research for each. Research has shown that there is a gender bias for a number of neuropsychiatric and substance use disorders," states Dr. Epperson. "My research aims to determine the neuroendocrine contribution to these disorders in women. For ex-



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ample, what role does estrogen, progesterone and/or the neurosteroids play in manifestation of depression, anxiety or cognitive changes across the female life span? If all women experience hormonal fluctuations, why do some have severe mood or cognitive symptoms with these changes? Understanding how reproductive hormones and their neurosteroid derivative affect neurotransmitters - such as GABA, glutamate, and serotonin - may provide clues as to how we can target these interactions to promote brain health in women."

PCWBW offers opportunities to participate in research studies focusing on hormone effects on the brain during pregnancy, postpartum/antepartum depression and anxiety, pregnancy loss and complications, severe premenstrual syndrome (or premenstrual dysphoric disorder), cigarette smoking and its effects on mood, and hormone effects on memory and mood during menopause. The menopause study in particular is seeking women aged 40-60 to learn more about how estrogen affects memory, emotions, and brain activity in menopausal women.

Dr. Epperson's interest in studying menopausal women arose from clinical and preclinical lines of evidence suggesting that estrogen enhances serotonin function. There is compelling evidence from preclinical studies that estradiol is neuroprotective although the human studies have been mixed with respect to estrogen's effects on cognition. Estrogen's antidepressant effects in perimenopausal women suggests that one should consider the interactive effects of estrogen and serotonin on cognitive and affective processing in menopausal women and whether its positive effects on verbal memory and mood come via its effects on serotonin neurotransmission.



More information on the menopause study and other studies can be found on the PCWBW website at

www.med.upenn.edu/womenswellness/

Awards and Honors

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Gerontology and Director of NewCourtland Center for Transitions and Health, was the 2009 recipient of the STT Episteme Award, which acknowledges a major break-through in nursing knowledge development resulting in a significant and recognizable benefit to the public. Dr. Naylor has also been named to serve as Chair of the newly-created Long-Term Quality Alliance, comprised of the country's leading health, consumer, and aging advocates.

Penn Social Policy and Practice

Dr. Zvi Gellis, Associate Professor of Social Policy and Practice and Director of the Center for Mental Health & Aging, received the Society for Social Work and Research's 2010 Excellence in Research Honorable Mention for his work in "Randomized controlled trial of problem-solving therapy for minor depression in home care."

Wistar Institute

Dr. Russel E. Kaufman, President and CEO of the Wistar Institute, was inducted into the Fellowship of The College of Physicians of Philadelphia and also earned the Ohio State University Alumni Association's 2009 Professional Achievement Award, recognizing a 'superb record' of career accomplishments and community service.

Clinically, PCWBW is composed of psychiatrists, psychologists, psychiatric nurse clinicians, administrative and research personnel who will provide clinical consultations and evaluations regarding psychotropic medications in pregnancy and lactation, postpartum and antepartum depression and anxiety, and mood disorders specific to the menstrual cycle and menopausal transition at its three locations: 3535 Market, 3701 Market, and at Pennsylvania Hospital. For more information, visit the website listed at left, or contact the Patient Intake Coordinator at 215-573-8886 or via email at pcwbw@med.upenn.edu.

News from the IOA External Advisory Board: Welcoming New Members

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. Recently the Board added four new members, each bringing a unique perspective on aging research and medicine. The Institute on Aging is pleased to welcome Dr. Zaven Khachaturian, Ms. Judith Ellen Newman, Dr. William Potter, and Dr. Don Trachtenberg.

Zaven S. Khachaturian, PhD



Zaven S. Khachaturian, PhD, obtained his BA from Yale University and his doctorate from Case Western Reserve University, with post-doctoral training at Columbia University. After several years at the University of Pittsburgh, he moved to the National Institutes of Health (NIH), where his appointments included Director of the Office of Alzheimer's Research and Associate Director for Neuroscience and Neuropsychology of the National Institute of Aging.

During nearly 20 years of government service, he was responsible for creating a new area of scientific study and policy for the U.S. Federal Government concerning brain aging and Alzheimer's disease, which previously did not exist, and helped develop the scientific careers of many investigators and Nobel laureates who have become prominent leaders in the fields of brain aging and Alzheimer's research. Dr. Khachaturian posited a unifying theory of brain aging, the "Calcium Hypothesis of Brain Aging," which was instrumental in shifting aging research from descriptive studies to those exploring biological mechanisms of brain aging.

Continued on next page



Ms. Newman received her BA in Education (1964) from New York University and taught as an elementary education teacher in Warminster, PA, from 1964-1966. For 23 years she owned and operated Details, a Rittenhouse Square retail store specializing in personalized stationary, invitations and gifts. She sold the business in 2006.

In addition to her teaching and business career, Ms. Newman has volunteered for and served on the boards of a number of cultural, healthcare and civic organizations including the Willowcrest Bamberger Skilled Nursing Facility – Trustee (1972-1982); Albert Einstein Medical Center – Trustee (1975 – present); American Ballet Company of Philadelphia – Trustee (1985 – 1989); Rock School of The Pennsylvania Ballet – Trustee (1987 – 1990); Friends of Rittenhouse Square – Trustee (1990 – present); Philadelphia Art Alliance – Trustee (1998 – 2001); American Poetry Review – Trustee (2008 – present), and the Board of Women Visitors of the University of Pennsylvania Health System (2009 – present). Ms. Newman has a particular interest in aging and advancing cures for neurodegenerative diseases.

Judith Ellen Newman

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After retiring from government, Dr. Khachaturian created an international consulting firm. He served as the President and CEO of the then Lou Ruvo Brain Institute, which has since merged with the Cleveland Clinic, and is also the Senior Science Advisor to the Alzheimer's Association and the Editor-in-Chief of *Alzheimer's Dementia: The Journal of the Alzheimer's Association*. Dr. Khachaturian is now the President and Chairman of The Campaign to Prevent Alzheimer's Disease by 2020, which seeks accelerated progress in the discovery of cures for Alzheimer's and related neurodegenerative disease.

William Z. Potter, MD, PhD



William Z. Potter, MD, PhD, is recognized world-wide as an expert in the field of neuropsychopharmacology and the development of novel drugs for major Central Nervous System (CNS) disorders. Most recently, he served as Vice President of Translational Neuroscience at Merck Research Laboratories; prior to this, he was head of early CNS development at Lilly Research Laboratories.

Before working in the pharmaceutical industry, Dr. Potter had a distinguished 25-year career, mainly in the National Institutes of Mental Health (NIMH). He was one of the early architects of the Alzheimer Disease Neuroimaging Initiative (ADNI), and he continues as former Chair and active participant on the Industry Strategic Advisory Board.

As current Chair of the American College of Neuropsychopharmacology Government, Industry, Academia Liaison Committee, Dr. Potter focuses on opportunities to align and leverage efforts among stakeholders and has recently been working with the leadership of both the Alzheimer's Association and National Alliance for the Mentally Ill as representatives of patient concerns.

Dr. Potter's current major interest is in seeing that

everything possible is done to "realize the potential of methods that have been advanced over the last decade that allow one to better explore the physiological and biochemical processes associated with brain function, especially with regard to Alzheimer's and other neurodegenerative diseases."

Don I. Trachtenberg, DDS



Don I. Trachtenberg, DDS, is an accomplished teacher, scientist, and advocate in the field of dental medicine, who received his undergraduate, dental, and graduate degrees from the University of Pennsylvania, earning dual certification in prosthodontics and periodontics.

Dr. Trachtenberg is currently an Adjunct Professor of General Restorative Dentistry at Penn Dental and has held numerous academic appointments including Departmental Chair and full Professor appointments since he started there as an instructor in 1967. Dr. Trachtenberg also served as Clinical Professor at the Medical College of Pennsylvania and Clinical Professor of Surgery (in Dental Medicine) at Allegheny University of the Health Sciences and at MCP Hahnemann School of Medicine. He has served on the boards of a number of community and civic organizations and is currently Treasurer and a member of the board of the Delaware Valley Academy of Osseointegration, as well as a life member of many other professional organizations.

Writing from the perspective of a caregiver of someone with a form of frontotemporal disease, Dr. Trachtenberg also co-authored an article together with Dr. John Trojanowski in the *Archives of Neurology* advocating for more recognition of the impact the label of dementia can have on a person and for an alteration of terminology to afford more sensitivity to those diagnosed with memory and cognitive disorders.



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The Sylvan M. Cohen Visiting Scholar is Clifford J. Rosen, MD, Senior Scientist at Maine Medical Center's Research Institute and former Director of the Maine Center for Osteoporosis Research and Education, presenting "Who is keeping time? The role of clock genes in regulating body composition." Our Penn School of Medicine Presenters are Robert J. Pignolo, MD, PhD, Assistant Professor of Medicine, and Director, Ralston-Penn Clinic for Osteoporosis & Related Bone Disorders, and Mary Leonard, MD, MSCE, Professor of Pediatrics and Epidemiology. Dr. Pignolo will present "The Biological Basis for Alternative Approaches to Osteoporosis Treatment;" Dr. Leonard will examine "Bone Structure, Muscle Function and Vitamin D in Adults with Chronic Kidney Disease." The 2010 Retreat with Poster Session on Aging is co-sponsored by the Penn Center for Musculoskeletal Disorders. For more information about the retreat and the poster session and to register to attend, visit the IOA's website at www.med.upenn.edu/aging.