

THE SCIENCE OF AGING

featuring...

FALL 2015

PENN MEDICINE'S 4TH ANNUAL 5K FOR THE IOA & THE MEMORY MILE WALK



Supporting Alzheimer's & aging-related research & care at the Institute on Aging

The 4th Annual 5K for the IOA & The Memory Mile Walk is now in the books!

On Sunday, September 20, 2015, a record 435 committed Penn faculty, staff and friends and families of those affected by age-related diseases were up early on a windy, late summer morning to run and walk to raise money and awareness for the work of the IOA. This was the largest turnout for the event since it began in 2012.

The 3.1 mile run started at Franklin Field and took participants through Penn Park with skyline views of Center City from West Philadelphia. The Memory Mile Walk wound participants down Locust Walk and through the scenic Penn campus. This year, leashed dogs were permitted to tag along for the Memory Mile walk. The top three male and female runners in several different age groups were given awards, while the top overall runners, James Murphy (16:45) and Zandra Walton (19:40) received Philadelphia Runner gift certificates.



The annual 5K for the IOA and Memory Mile walk has become a tradition at Penn Medicine. Over the past four years, the event has raised more than \$170,000 in support of basic and clinical research into normal aging processes and age-related diseases. This includes disorders such as Alzheimer's, Parkinson's and neurodegenerative diseases, as well as osteoporosis and frailty, and more.

"It is truly a race against time in aging research," said **P.J. Brennan, MD**, chief medical officer for Penn Medicine, IOA External Advisory Board member and organizer of the race. "With the population aging, we need the research dollars so that we can increase the treatment options for the growing number of patients with Alzheimer's and aging-related disorders."

For more on this year's 5K for the IOA & Memory Mile Walk, including photos and the full list of race results, visit:
www.penninstituteonaging.wordpress.com



** See the full list of top male & female race winners for all age groups inside!*

What's inside ?

- ▶ 5K for the IOA Winners
 - ▶ CNDR Student Internship Program
 - ▶ REACT! An exercise and education intervention study
 - ▶ Hormonal Changes & Frailty in Older Adults
- ... and much more!*



PENN'S 5K FOR THE IOA & THE MEMORY MILE WALK

1st PLACE WINNERS *by age.*

AGES 14 & UNDER

- Robert Gerstle, 25:33
- Lisha Chen, 28:45

AGES 15 - 19

- Richard Murphy, 18:08
- Camryn Riddell, 26:49

AGES 20 - 29

- James Murphy, 16:44
- Zandra Walton, 19:39

AGES 30 - 39

- Alexis Tingan, 17:24
- April Cardone, 22:45

AGES 40 - 49

- Kyle Cassidy, 22:44
- Aliza Schmidt, 22:38

AGES 50 - 59

- Robert Pettit, 21:58
- Lisa Pettit, 23:25

AGES 60 +

- David Stickley, 27:22
- Carolyn Cicilia, 24:02



The winning team, "Soup to Nuts," who ran in honor of their grandfather pose for a photo with IOA Director, John Q. Trojanowski, MD, PhD (far right) and Virginia M.-Y. Lee, PhD (far left).



Many thanks to all of our wonderful 5K for the IOA & Memory Mile Walk volunteers, sponsors, and event organizers. Another year, another success!

UPCOMING EVENTS //

** IOA Visiting Scholars Series lectures*

October 26, 2015
Vincent J. Cristofalo Lectureship
 Amy Wagers, PhD
 3:00pm - 5:00pm

November 10, 2015 *
 Christopher M. Murtaugh, PhD
 3:00pm - 4:00pm

November 17, 2015 *
 Andres M. Lozano, MD, PhD
 3:00pm - 4:00pm

January 5, 2016 *
 James L. Kirkland, MD, PhD
 3:00pm - 4:00pm

January 21, 2016 *
 Fran Grodstein, ScD
 3:00pm - 4:00pm

March 1, 2016
Pignolo Award in Aging Research
 Bruce A. Yankner, MD, PhD
 2:30pm (reception) 3:00pm (lecture)

April 12, 2016 *
 Steve Horvath, PhD, ScD
 3:00pm - 4:00pm

June 8, 2016
Sylvan M. Cohen Annual Retreat
"To Sleep, per change to age... and avoid Alzheimer's disease"
 David M. Holtzman, MD
 ---- with ----
 David M. Raisen, MD, PhD
 Matthew S. Kayswer, MD, PhD
 Nirmala Nirinjini Naidoo, PhD
 Sigrid C. Veasey, MD
 11:30am - 5:00pm

For more info, including talk topics & locations, visit: www.med.upenn.edu/aging



from the National Institute on Aging at NIH

The Institute on Aging is a proud partner organization of Go4Life, a nationwide campaign from the National Institute on Aging at NIH that is designed to promote a healthy, active lifestyle through a variety of safe and practical exercises and physical activities that can easily fit into your daily routine. This campaign offers tips and motivational guidelines for improving and maintaining endurance, strength, balance, and flexibility as we age, as well as user-friendly online tools to help you get started, set your goals, log your activities, and track your progress.

To learn more on starting your journey towards healthy, active aging with the help of Go4Life, visit their official website at: go4life.nia.nih.gov

WHAT'S NEW IN AGING RESEARCH?

The Science of... Aging (aka why my body's breaking down)

by Meeri Kim, *PhillyVoice*

“ We all age, whether we like it or not. The eye creams, serums, antioxidant pills, and so-called “superfoods” we throw our money at supposedly slow the process down — but even a legitimate anti-aging product would only delay the inevitable.

Getting older affects every part of the body. Along with the visible changes, bones shrink and become less dense, muscles lose their strength and flexibility, and our brains aren't as sharp or quick to react anymore. Psychologically and socially too, time takes its toll on us. But why does this happen to us?



Photo credit: news.pennmedicine.org

In a recent *PhillyVoice* feature, **Bradley F. Johnson, PhD**, an IOA Fellow and associate professor of Pathology and Laboratory Medicine, explains “the simplest way to think about aging is that your cells and tissues are constantly being damaged: oxygen that is necessary for life has the side

effect that it can damage molecules, toxins in our food, radiation coming from sunlight — things you can't avoid.” Johnson believes that “there's another way to think about aging, and it's based on evolutionary theory.”

“We age because there's no strong reason to not age — it's happening sort of by accident.”

The idea is that the energy required to maintain a longer lifespan in the face of accumulating damage to cells and tissues would perhaps be too great and without any added benefit to the species. So instead, we hand down our genetic material and wisdom to offspring as a sort of reboot. ”

For the full article, visit:
www.phillyvoice.com/the-science-of-aging

Hormonal Changes & Frailty in Older Adults

The work of **Anne R. Cappola, MD, ScM**, *Associate Professor of Medicine in the Division of Endocrinology, Diabetes, and Metabolism and Director, Center for Clinical and Translational Research at the University of Pennsylvania*, focuses mainly on hormonal changes and frailty in older adults. More specifically, her research looks at thyroid disease and what levels are actually “normal” for older adults and how these levels change as we age, as well as frailty and how the impact of exercise, especially resistance training, can help improve the mobility of frail older adults.

Most recently, Dr. Cappola was named one of the recipients of this year's Outstanding Statistical Application Award from the American Statistical Association. The goal of the paper leading to this award for Dr. Cappola and her colleagues — including fellow Penn Medicine researcher and award recipient, Wensheng Guo, PhD — was to demonstrate their model for complex hormonal data which monitors multiple hormones and their relationship to one another at the same time in order to observe their patterns. Recognizing these patterns in older adults is important because it is not always the level of their hormones that changes, but it is the way that their bodies are able to adapt to the patterns that changes, and through this model, Dr. Cappola and her team are able to pick up on these relationships.

Learn more about Dr. Cappola's research in her IOA video interview at: www.penninstituteonaging.wordpress.com

CNDR: TRAINING THE NEXT GENERATION of SCIENTISTS

A significant part of the mission of Penn's **Center for Neurodegenerative Disease Research (CNDR)** is its commitment to training the next generation of researchers. Each year, members of CNDR mentor college and high school level students teaching them a variety of skills from basic scientific research to general lab safety. Through this program, students are given the opportunity to work on real research projects under the guidance of their mentors and to explore their interests in the fields of research and medicine. The trainees leave the CNDR Student Internship program with a solid foundation in basic and translational research as well as related disciplines in preparation for a future career as an independent investigator.

To learn more about CNDR's Student Internship program and to hear from some of the student's on their experience, visit: www.penninstituteonaging.wordpress.com

REACT!

The **Rhythm Experience and African Culture Trial (REACT!)** is an Alzheimer's Association-funded research study being conducted at the University of Pennsylvania and the University of Pittsburgh. This

research study will compare two activities, African Dance and an Education/Discussion group, which might be beneficial for older African Americans (ages 65-75). The study will examine whether brain health, fitness levels or quality of life improve as a result of participating in these activities three times per week for six months.

If you are interested in participating or obtaining more information on the REACT! study, visit:
www.med.upenn.edu/aging/react.html



Institute on Aging
3615 Chestnut Street
Philadelphia, PA 19104-2676

To the IOA's Generous Donors & Friends

The IOA would like to extend its gratitude to its generous donors and friends, with special thanks to our External Advisory Board.

To meet the members of the IOA External Board, visit:
www.med.upenn.edu/aging/externaladvboard.html

MAKE A GIFT

To support aging-related research and care at Penn's Institute on Aging, please contact:

Elizabeth Yannes, Penn Medicine Development
elyannes@upenn.edu or 215-573-4961

BECOME AN IOA FELLOW

Learn more about becoming an IOA Fellow at:
www.med.upenn.edu/aging/fellows.html

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The mission of the Institute on Aging 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 aging-related diseases across the entire Penn campus.

MEET OUR // IOA TEAM

John Q. Trojanowski, MD, PhD
Director

M. Kathryn Jedrzewski, PhD
Deputy Director

Nicolette Patete
Digital Media Specialist

Ebony Fenderson
Administrative Assistant

Elizabeth Yannes
Penn Medicine Development

Lee-Ann Donegan
Penn Medicine Communications

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