

Neural Activities

THE NEWSLETTER OF THE CENTER FOR VITAL LONGEVITY

Launch of The Center for Vital Longevity



From left to right: Michael D. Rugg, Denise C. Park, Rick Perry, Richard Collins, David E. Daniel

Governor Rick Perry was greeted by a packed room of distinguished guests when he attended our opening ceremony on September 13, 2010. Governor Perry officially launched the Center for Vital Longevity with a brief speech in praise of the aims of the Center – understanding, maintaining and improving the health of the aging mind.

Governor Perry also expressed optimism about the future of the Center.

“This Center will help draw researchers committed to the pursuit of better health into a collaborative environment of exploration and discovery that will lead to life-saving ideas,” Perry said. [Cont. pg 5](#)

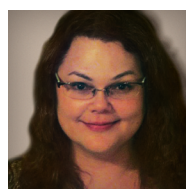
On My Mind

A message from the Director

It has happened. The long-awaited entry of the baby boomers into retirement age has begun. And just as has been predicted for decades, the world in general, and the U.S. in particular, are not ready. The front page of every newspaper is filled with concerns about underfunded pensions, mounting investment in healthcare, and a frightening increase in Alzheimer’s disease. And yet, at the same time, we see evidence of vital and productive aging all around us. The skills and wisdom of our older citizens are critically important to major corporations, legal and political systems, and most charities. [Cont. pg 5](#)



Dr. Kristen Kennedy



Dr. Karen Rodriguez

Two National Awards!

The National Institute on Aging grants fewer than ten prestigious awards to young scientists per year. Remarkably, in 2010, two postdoctoral fellows at the Center for Vital Longevity earned these rare awards.

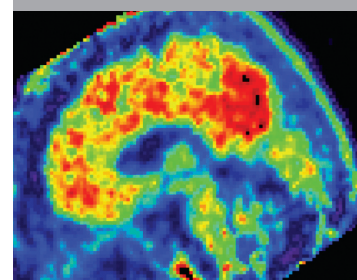
Known as the Pathway to Independence Awards, these five-year, two-phase grants total just under \$1 million each and help fund the early careers of extremely promising young scientists. [Cont. pg 3](#)

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RESEARCH UPDATE

THE SYNAPSE PROJECT

Fifty seniors from all walks of life are thrown together for three months to overcome challenges that may change their lives forever. While this may sound like the premise for the next primetime reality series, in actuality it is a groundbreaking scientific study that has already impacted over 280 older adults right here in the Dallas area. *Synapse: Actively Engaging the Aging Mind* is just one of the large scale projects currently underway through The University of Texas at Dallas' new Center for Vital Longevity.

The *Synapse* project is testing the much-debated theory that we can keep our minds healthy at advanced ages by leading an engaged lifestyle—the so-called “use it or lose it” hypothesis. Center scientists are

intervening to change the lifestyles of older adults by engaging them for months in an active learning environment, in exercise, or in both, and assessing the impact of this immersive experience on brain and cognitive function. The goal: to determine if this engagement will slow decline in cognitive function with age. The *Synapse* project will not only benefit science but has already anecdotally had a profound impact on the lives of the participants involved. Whether learning to quilt or capture digital photography, exercising for perhaps the first time, or making connections with other individuals, participants have been overwhelmingly positive in their feedback. One participant stated: “I’ve been treated as a has-been for decades due to a disability. I’ve learned I can still learn and do new things, even in my 80s. I want to go back to school to finish my college degree.” Another participant said, “I’ve had chronic depression for years. *Synapse* has been a wonderful experience. I don’t think I have ever felt better or been happier.”

If you are 60 years or older and would like to participate in *Synapse: Actively Engaging the Aging Mind*, please call 972-883-3200 Monday through Friday, to inquire about attending an informational meeting in the White Rock Lake area. ☒



Photo taken during a digital photography outing as part of the *Synapse* Project

SPOTLIGHT ON OUR TEAM

The Center for Vital Longevity is pleased to welcome two new members.



CINDY DE FRIAS

Dr. Cindy de Frias recently joined the Center and is an Assistant Professor in the School of Behavioral and Brain Sciences. She hails from Stockholm University in Sweden and she earned her doctoral degree from the University of Victoria in Canada. She is interested in cognitive neurogenetics and aging as well as how novel cognitive training techniques change the brain and improve cognitive functioning in older adults.

“I am enthusiastic about the growth of the Center and opportunities at UTD,” Dr. de Frias says.



HELEN SMALL

Helen Small joined our team in September.

Helen graduated from The University of Texas at Dallas in May 2010 at the age of 90! She has a master's degree in Psychological Sciences.

The second oldest graduate ever from UT Dallas, Helen returned to school after a 67-year hiatus, earning her bachelor's degree in psychology in 2007.

“I still have a lot to learn,” Helen says, “and a lot of interesting things to do.”

Mental Notes

Vitaly important stories in the news

"The Age of Alzheimer's"

by Sandra Day O'Connor, Stanley Prusiner
and Ken Dychtwald, *The New York Times*
October 27, 2010

Sandra Day O'Connor makes an impassioned plea for the government to invest in curing Alzheimer's by 2020 in a recent editorial in *The New York Times*. She emphasizes the looming threat of the disease for the baby boom generation and argues that Alzheimer's research must be made a priority now in order to develop an effective treatment in time. A breakthrough is possible by 2020, O'Connor says, if legislators pass the bill currently before Congress that would increase federal funding for research and appoint an official dedicated to leading the fight against Alzheimer's. ✕

"New Scan May Spot Alzheimer's"

by Gina Kolata of *The New York Times*
July 12, 2010

Avid Radiopharmaceuticals has made a huge step forward in diagnosing Alzheimer's, using a PET scan to identify and quantify levels of the hallmark amyloid plaque in the brain. Previously plaque in the brain was only identifiable via autopsy, but Avid has found that a PET scan can be as accurate as an autopsy. The Center for Vital Longevity has long partnered with Avid and has imaged more healthy adults across the lifespan with Avid's radiotracer than any other lab in the world. ✕

Links to cited articles are on our website
vitallongevity.utdallas.edu/newsletter

AWARDS CONTINUED FROM PAGE 1

Dr. Kristen Kennedy earned her award for her proposed research on the interconnectivity of the healthy aging brain.

Dr. Karen Rodrigue's award will fund research on how cardiovascular health and Alzheimer's disease are intertwined.

Dr. Denise Park emphasized the importance of these awards, commenting, "The awards provide significant resources to further the careers of the best young researchers and to see that they are provided with everything they need for the first five years of their career. To have one young scientist at the Center for Vital Longevity with such an award is a significant honor. To have two is unprecedented." ✕

> HOT OFF THE PRESS

This regular newsletter feature will highlight the main findings from recent publications by Center for Vital Longevity researchers.

The Adaptive Brain: Aging and Neurocognitive Scaffolding

D.C. Park and P. Reuter-Lorenz, *Annual Review of Psychology*, 2009

Drs. Park and Reuter-Lorenz propose that the brain resists aging and maintains its cognitive health by building "neural scaffolds"—new neural circuits that extend the working life of the aging brain. We now know that as people age, more and more neural activity often appears in functional scans. Drs. Park and Reuter-Lorenz suggest this additional activity maintains optimal function. Work is under way at the Center to determine if we can increase this scaffolding and sculpt a better brain via exercise and engaged lifestyles (see story on *Synapse* project, page 2). ✕

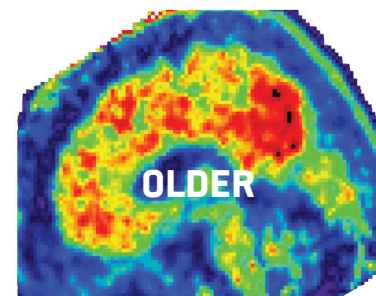
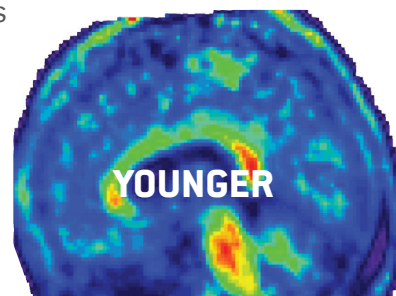
Older Really Is Wiser: Reasoning About Social Conflicts Improves Into Old Age

I. Grossmann, J. Na, M.E. Varnum, D.C. Park, S. Kitayama, and R.E. Nisbett, *Proceedings of the National Academy of Sciences*, 2010

Scientific literature reports widely on the age-related declines in cognition, but, until now, little could be found on the improvement in reasoning with age that is commonly called "wisdom." A research group at the University of Michigan, along with Denise Park, conducted a study in which they presented over 430 adults (ages 25-93) with stories that involved important social issues, such as how to resolve

problems associated with immigration and how to allocate and manage scarce natural resources. There were no right or wrong answers, but when asked how they would solve the problems, older adults gave more sophisticated and complex responses than younger. They also were quicker to suggest compromises than younger participants. This is one of the first scientific studies ever published to show what many of us have suspected: wisdom and practical intelligence increases with age. ✕

Links to articles are on our website
vitallongevity.utdallas.edu/newsletter



Questions About Cognition

This regular feature will pose a question and provide an answer about the aging mind and how it works. To submit a question, please visit: vitallongevity.utdallas.edu/newsletter



Why do we have so much trouble remembering names?

Think of all of your stored knowledge as a network with links of different strength. If you see your spouse or child, the link between face and name is incredibly strong—like a metal chain—and you have no trouble with the name because you have built up such a strong link over so many years. But let's say you run into a friend from your yoga class. You have met her a few times and recognize her, but that link from her face to her name is weak—more like spaghetti than a strong chain—and sometimes the link is just too fragile to support the retrieval of the name. So although you “know you know,” you can't come up with her name right away. Well, no worries. There is nothing wrong with you. Retrieving relatively rare information is hard for all of us due to the fragility of the linkage between the target face and the stored name. ☒



Our very own Dr. Park was the guest November 11 on *Think*, a topic-driven interview and call-in program hosted by Krys Boyd on North Texas public radio station 90.1 KERA-FM. It was a lively hour, discussing everything from brain imaging breakthroughs to T. Boone Pickens' cranium. Missed it? Visit vitallongevity.utdallas.edu/newsletter for a link to the Podcast.

Support The Center

Research at the Center for Vital Longevity has a national impact on the understanding of Alzheimer's disease and how to maintain cognitive vitality. The mental frailty that occurs too often with age is a critical issue that threatens the financial health of our nation and the well-being of its citizens. The Center for Vital Longevity is making tremendous strides on all fronts, but it is almost wholly dependent on highly-competitive, prestigious federal research awards. Not only are these awards diminishing in size, but the probability of a project being funded is also now lower than it has ever been in the National Institute on Aging's history—under 5%. Scientific advances depend on a blend of public and private funding. Center scientists are more successful at competing with other scientists for NIH funds than any other aging research group in the state. But we lag in private support as a new Center. By making a gift to the Center, you can support continued innovation and cutting edge science that will advance our ability to maintain the health of the aging mind. The Center for Vital Longevity has developed an Advisory Council of leading Dallas citizens to assist in fundraising. In Dr. Park's own words recently published in *The Dallas Morning News*, “We have proven we can be successful at the most elite levels of scientific competition by securing such a breadth of funding from the National Institutes of Health and hope that we have proven to the community that we are worthy of investment.”

Gifts would allow us to:

- Bring Vital Longevity to the community by establishing a distinguished lecture series.
- Provide scholarship or fellowship funds to recruit exceptional students and postdoctoral fellows to Dallas.
- Support critical new lines of research that cannot be initiated without support.
- Establish Dallas as a nexus of aging research by attracting leading faculty scholars to join the Center.

Dr. Park adds, “I hope that the legendary generosity of Dallas citizens will help us take this Center to the very top!”

To discuss opportunities for supporting the Center's work, please contact Melinda Ellis, Director of Development, at 972-883-3728, or visit vitallongevity.utdallas.edu/support to make a gift online.

ON MY MIND CONTINUED FROM PAGE 1

Health clubs, walking paths, and jogging trails are filled with older adults that are both physically and mentally fit. Just think about your grandparents at age 65 or 70, and the vitality that research advances have brought us with advanced age will be obvious.

The Center for Vital Longevity is an active participant in this good news about aging. Every day, Center researchers learn astonishing new things about healthy minds—how the mind works and how to maintain it. As researchers, we are learning how to keep shifting the productive lifespan closer and closer to 100% of days lived. We are able to see that the aging mind actively reorganizes its neural circuitry to protect its memories and its ability to solve problems, and manage life in general at the oldest of ages. We are learning how to identify individuals whose minds are at risk of not aging well long before any symptoms appear so that appropriate interventions can occur before mental fragility manifests itself.

It is a thrill and honor to direct this vital, world-class research operation. And we are growing! I am delighted that Dr. Michael D. Rugg and his scientific staff will soon be joining the Center from the University of California at Irvine. Dr. Rugg is an internationally eminent scientist and will co-direct the Center with me. Together, Dr. Rugg and I are hosting an international conference on memory here in Dallas this February. Scientists will be joining us from across the world to share results, techniques, and interventions that protect the mind.

So stay tuned. And check vitallongevity.utdallas.edu for updates and more information. Our Center is rapidly becoming an internationally-recognized enterprise for the study of the aging mind. The brain is giving up its secrets to us at a startling rate due to the imaging tools we have available. Yes, our aging society presents some problems. Scientists at the Center for Vital Longevity are tackling them head-on and I am confident that Center research will not only solve problems but unlock the opportunities aging represents for our society. Indeed, the best is yet to be. ✕



Denise C. Park

Denise C. Park, Ph.D.

Director
Center for Vital Longevity

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UPCOMING EVENT

The Dallas Aging and Cognition Conference is coming in February 2011. Organized by Denise Park and Michael Rugg of the Center for Vital Longevity, this conference will bring over 100 of the world's brightest scientists who study the aging mind to Dallas!

LAUNCH OF THE CENTER CONTINUED FROM PAGE 1

Dr. Denise C. Park, Director, spoke of the Center's mission and its promise, declaring, “We are at the moment of discovery in understanding the aging mind, and it is a thrill to lead this research center. We are recruiting the best cognitive neuroscientists in the world to the Center to focus on understanding what makes a mind vital and how to keep it that way for life.”

UT Dallas President David E. Daniel echoed the high hopes of other speakers and the audience at our opening ceremony.

“UT Dallas has great expectations for the work that will be done by Dr. Park and her colleagues at the Center for Vital Longevity. This Center is tackling critical scientific problems that diminish quality of life and working on discovering how to maintain the vitality of the mind with age.” ✕

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Chief Operating Officer,
istation

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Dr. Kenneth Altshuler
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