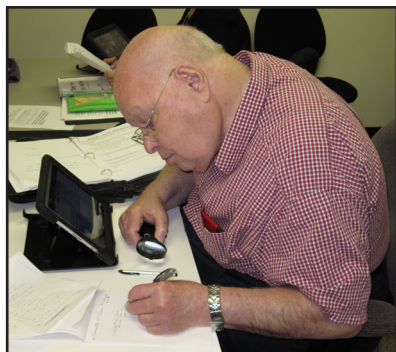


Neural Activities

THE NEWSLETTER OF THE CENTER FOR VITAL LONGEVITY

Seniors go to “camp” with iPads



iPad Camp participant Ken Brooks takes notes while working with an iPad.

A pilot project developed by Center for Vital Longevity researchers has opened a whole new world to seniors via the iPad.

During the three-month study, volunteers who had limited experience with technology spent 15 hours each week in “iPad Camp” learning how to use the tablet device, which connects to the Web, to expand their lives in many domains. Participants learned how to access email and online news sources, gather health information, play interactive games, download photographs

iCAMP continued on page 5

On Our Minds *A message from the center directors*

Center grows with addition of new faculty and postdoctoral research scientists



Denise Park, Ph.D.



Michael Rugg, Ph.D.

The Center for Vital Longevity is growing in many ways—in personnel, in intellectual capital, and in national and international reputation. This fall we welcomed a new faculty member, Dr. Chandramallika Basak, who has joined us from Rice University. In addition, over the past few months several new postdoctoral fellows and graduate students have joined the Park and Rugg laboratories. And during the coming year we shall be continuing our efforts to recruit additional faculty to further broaden and strengthen our research.

The new additions to the center will help us advance our mission of understanding how and why the mind changes as we grow older, and how we can maintain cognitive vitality throughout life. The methods for imaging the brain's function and structure that have been developed over the past two decades have revolutionized our ability to study the relationship between the brain

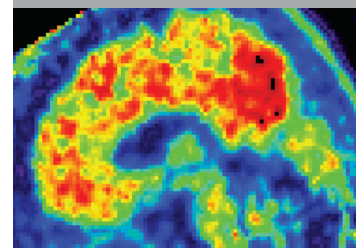
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vitallongevity.utdallas.edu





RESEARCH UPDATE

Center for Vital Longevity researchers are undertaking an ambitious project called the Dallas Lifespan Brain Study (DLBS), which is making great strides in understanding who ages successfully and why, as well as who is at risk for Alzheimer's disease well before symptoms appear.

Led by Dr. Denise Park, co-director of the center, and postdoctoral researchers Dr. Kristen Kennedy and Dr. Karen Rodrigue, the DLBS is funded by the National Institute on Aging and is one of the largest lifespan studies of the brain and cognition in the world.

Participants in the study are healthy volunteers ranging in age from 20 to 90. They

undergo examinations of their brain structure and function through the use of sophisticated brain-imaging technology, as well as tests of their cognitive abilities, such as memory and reasoning.

The scientists already have gathered data on 350 participants, and are aiming for 150 more. One of the characteristics they are examining is the presence and level of amyloid protein on the brain. The buildup of amyloid deposits plays a critical role in the diagnosis of Alzheimer's disease. New technology allows researchers to see amyloid plaques in the living human brain.

"We are among the first research teams to study amyloid deposits in cognitively healthy middle-aged and older adults," Dr. Rodrigue said. "We hope to determine whether such deposits can predict who is most at risk for developing Alzheimer's later in life."

The researchers plan to follow study participants for many years, with the goal of isolating a "neural footprint" in middle age that predicts who will and who will not age well. The results will help identify who would benefit from early intervention as treatments for Alzheimer's become available.

"By characterizing the brains of very healthy adults across many different ages, we hope to determine what kind of 'pathology burden' healthy adults might be carrying around in their brains, and why some people with seemingly unhealthy brains can function at a high level," Dr. Kennedy said. 🌞

For information about participating in the Dallas Lifespan Brain Study, call 972-883-3733 or visit online: <https://pal.utdallas.edu/dlbs/>

SCIENTIST SPOTLIGHT

Meet the Center for Vital Longevity researchers.



CHANDRAMALLIKA BASAK

Dr. Chandramallika Basak recently joined the center faculty and is an assistant professor in the School of Behavioral and Brain Sciences at UT Dallas.

Her research focuses on how and where in the brain we remember information over a short period of time, how attention and memory interact, and how these cognitive functions change with age and training.

Prior to joining the Center for Vital Longevity, Dr. Basak was an assistant professor of psychology at Rice University. She also was a research scientist and a Beckman Institute Fellow at the University of Illinois. She earned her Ph.D. in experimental psychology from Syracuse University.

Mental Notes

Center director Denise Park serves on international panel that redefines Alzheimer's disease

Revised guidelines for diagnosing Alzheimer's disease were published in April and describe it as a three-stage process ranging from changes in the brain before symptoms appear to mild memory lapses to full-blown dementia. The original 1984 criteria defined the disease as a single stage.

The guidelines also include a new research agenda for scientists studying the earliest stages of the disease. Dr. Denise Park, co-director of the Center for Vital Longevity, served on the international panel of experts that developed the research priorities, which focus on studying so-called biomarkers that are related to a risk of later developing Alzheimer's.

"This report is a blueprint for scientists to better define the disease at its earliest stages, when there is potential for interventions to do the most good," Dr. Park said.

The group defined Alzheimer's three stages as:

- **Preclinical:** A period when the brain is changing but symptoms of Alzheimer's are not yet visible. Center for Vital Longevity researchers are conducting a major study to determine whether they can detect these subtle changes in the brain, including the buildup of amyloid protein that leads to Alzheimer's in some people.

- **Mild cognitive impairment:** Small but noticeable changes in memory that don't affect independent living.
- **Dementia:** This final stage is defined by more than cognitive decline. Other signs include impaired reasoning or judgment, visual and spatial problems, and the inability to speak clearly.

Three expert workgroups spearheaded by the National Institute on Aging and the Alzheimer's Association wrote the guidelines. ☀

*Guidelines available in the journal Alzheimer's & Dementia, May 2011 issue, and online:
<http://www.alz.org/research/>*

BENCHMARKS

\$3 million research grant funds brain-imaging studies

Dr. Denise Park, co-director of the Center for Vital Longevity, recently received a five-year research award from the National Institute on Aging (NIA), a component of the National Institutes of Health (NIH).

The \$3 million grant is the second phase of a prestigious NIH MERIT award. The first phase was funded in 2006. The NIA selects about 1 percent of applicants to receive this type of award. The funding will support the continuation of the Dallas Lifespan Brain Study, which is studying how changes in the brain predict future cognitive function and successful or unsuccessful aging. ☀

(See related story, page 2).



Save the date



Laura Carstensen, Ph.D.

Director, Stanford Center on Longevity

Fairleigh S. Dickinson Jr. Professor in Public Policy

Professor of Psychology



"A Long, Bright Future"

7:30 p.m., Tuesday, October 11, 2011

Location: Center for Vital Longevity

Book signing after the event

One of the world's leading authorities on longevity and aging, Dr. Carstensen's research focuses on the social, emotional and cognitive processes people use to adapt to life circumstances as they age.

Her talk, free and open to the public, is part of the lecture series "Aging Well: Creating a Vital Life" sponsored by the Center for Vital Longevity and the Center for Values in Medicine, Science and Technology at UT Dallas.

Questions About Cognition

Do you have a question about the aging mind and how it works? To submit a question, please visit us online at: vitallongevity.utdallas.edu/newsletter

How can I better retain information and boost memory?

Research has shown that an effective way to learn is to try to retrieve from memory the information you have just reviewed, rather than simply reviewing it over and over. To remember what you've read in a book, for example, quiz yourself along the way. After reading a chapter, put the book down and try to remember as much of it as you can, or write down the main points that you remember. Then go back and check to see if you are correct. Actively trying to remember something helps reinforce a memory. "If you give one group of people five opportunities to study and one test, and another group two study sessions and three tests, all other things being equal, the group that took more tests will be better able to retrieve the information on a subsequent test," says Dr. Michael Rugg, co-director of the Center for Vital Longevity and an expert on memory. This technique is likely to help older adults and students alike. "The principles of memory do not change as we get older," Dr. Rugg says, "even though there are features of memory processing that become less efficient over time." 🌞



Support the Center

Researchers at the Center for Vital Longevity are so grateful for the generous support from our donors throughout the past year and for the interest our friends continue to show in advancing the goals and mission of the center. Your gifts have contributed directly to the high caliber research our scientists are currently undertaking, including our most recent innovative study using iPads with older adults. As the year comes to a close, please consider contributing to our center research program or outreach efforts. With your help, we will continue to grow, remain a vital component of our community and maintain our scientific leadership in research related to the aging mind.

To keep the center on a path to important discoveries and scientific excellence, philanthropic support is essential. Private funding can help us launch pilot studies, which are critical for gathering the initial data that is often needed to apply for federal grants for larger studies. There also are opportunities to fund an entire initiative on a given topic, name a laboratory or study, or fund a conference or lecture series.

SPECIAL OPPORTUNITY FOR MATCHING GIFTS

On September 15, 2011, from 7 a.m. to 7 p.m. the Center for Vital Longevity is taking part in Get Up and Give! North Texas Giving Day. On September 15, a portion of every donation of \$25 and above will be matched if you donate to us through www.donorbridgetx.org, North Texas' online resource that connects donors with organizations like us. Please visit that website anytime between 7 a.m. and 7 p.m., search for The University of Texas at Dallas ("UT Dallas"), click on its link and select "Donate Now." Leveraging your gift through this event will go a long way in helping us achieve our goals. By making a gift **of any size** to the Center for Vital Longevity, you can support continued innovation and advance the science that will improve our ability to maintain the health of the aging mind.

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.

iCAMP *continued from page 1*

and many other applications, or “apps.” Center researchers are studying whether use of the iPad facilitates independence and social and family connections, and helps maintain or stimulate cognitive abilities.

Study participant Frances Darby, 89, has a grandson living in Paris, France, and she wanted to telephone him. She downloaded to her iPad an app called World Clock, which compares the user’s time with the time anywhere on the globe. During class, Ms. Darby worked with Center for Vital Longevity advisory council member and volunteer Carol Fox to determine a good time to make that call.

Prior to joining iPad Camp, Ms. Darby had never accessed the Internet, and didn’t even have an email address. By study’s end, she was sending email to her children, grandchildren and great-grandchildren, and she compiled an electronic diary. She also enjoyed playing electronic games.

Ms. Fox is no stranger to technology. She began working at the Southwest Area Network of Libraries in Oklahoma in 1995, when public access to the Internet was just beginning to take hold. She helped to connect Oklahoma schools and libraries to the Internet, and she also trained students and university faculty on the use of online resources. Dr. Denise Park, center co-director who developed the iPad project, invited Ms. Fox to assist participants, age 65 and older, with the device.

Dr. Linda Drew, a center research scientist, was the project manager, and Katie Berglund was the instructor. Dr. Drew said that the camp would not have been possible without the help of Ms. Fox, as well as Ms. JoAnn Pratt, a center supporter and iPad project volunteer who has a background in technology.

“New technologies are a passion of mine,” Ms. Fox said. “Hearing the participants talk about sending notes and pictures electronically to their children and grandchildren was emotionally uplifting to me. Seeing the light in their eyes when they described discussions with their grandchildren and family about the apps they use, made the time that I gave to this project well worthwhile.” 🌻



Carol Fox, left, a member of the Center for Vital Longevity’s advisory council, assists iPad Camp study participant Frances Darby with her iPad computer.

ON OUR MINDS *continued from page 1*

have had a huge impact on our understanding of cognitive aging. Consequently our understanding of the aging brain is growing at an increasingly fast pace, and we at the center are proud to be contributing to this extraordinary advancement of knowledge. We are currently using a variety of brain-imaging techniques to learn more about the impact of age on the brain’s memory circuits, to investigate changes in the brain brought about by interventions designed to stave off cognitive decline, and to understand better the effects of Alzheimer’s disease years before symptoms appear.

The increase in the center’s cadre of outstanding investigators will both strengthen our existing scientific programs and fuel expansion into new and exciting areas of inquiry. One such area will involve studies of the impact of computer-based cognitive training on mental performance and age-related cognitive changes. Another new line of inquiry will employ a technique that can be used in healthy people to study brain function by temporarily disrupting the activity of one small part of the brain at a time.

We hope you share our excitement in the rapid growth of the center and the scope of its research. With your support we will be able not only to maintain, but also accelerate our future growth, placing Dallas ever more firmly on the map as a world center for research on the aging mind. 🌻

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(Chair)
Chief Operating Officer,
Foundation

Ms. Chela Abdallah

Community Volunteer

Dr. Kenneth Altshuler

Stanton Sharp
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Medical Center

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Ms. Christina Melton Crain

Attorney at Law,
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Ms. Carol Fox

Community Volunteer

Mr. John Gilchrist Jr.

Former President and CEO,
Greater Dallas Chapter,
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