The gift lent further support to the assertion published recently, the study already has showed the gift could be used: to cover the cost of studying participants in a National Institute of Aging-funded study that involves DNA samples from some 120 people, and counting.

The gift covered the costs associated with genotyping the group, and the subsequent findings but further support to the idea that a specific genetic variation present in a brain protein called BDNF was associated with declining age-related memory performance across four types of memory. The four types of memory — prospective, associative, subjective and episodic — all showed signs of carrying the variation, which seemed to have a negative impact on learning and memory when employed.

As part of the next phase of her research, Dr. Kennedy intends to expand the study to involve more people — including those who tested negative for the potential biomarker — the group that often takes decades; what may start out in the palm of a hand can reach long-lasting, having a so-called “multiplier effect,” expanding initial avenues of inquiry that might remain unexplored without the catalyst of investment.

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The Katy Freiberger Story

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It’s a great pleasure to introduce the 2013-2014 Annual Review of our Center.

The Lifespan Neurosciences and Cognitive SINIC Laboratory, led by Dr. Chandana Deolalikar, continues to focus on the interplay between attention and memory, and the effects of age on cognition, including virtual reality and memory training. Dr. Deolalikar’s team has made strides in understanding the role of virtual reality training in the brain.

Dr. Rugg and his laboratory employ the latest in neuroimaging techniques, including structural and functional MRI and PET imaging. Both studies, funded by the National Institute on Aging, involve the use of florbetapir to image amyloid plaques in Alzheimer’s disease. The lab has imaged amyloid plaques in more healthy adults than any other lab in the world. Findings were presented prominently at the 2014 International Association ofaging and Cognition Conference (Lincoln Beach). As a great example of the continued work Dr. Rugg and his team are doing, a recent study described in papers published in the last year addressed a number of questions, including whether social activity during a growing, nonhuman monkey depended on neural processing that was not dependent on the neural network associated with the social activity.


A review of Center activities over the past year, including those within the six laboratories that are the Center’s core.
The Center for Vital Longevity at the University of Texas at Dallas exists to change that.

It’s a great pleasure to introduce the 2013-2014 Annual Review of our Center.

This has been a good year not just for our Center but for the field of cognitive neuroscience more generally. The need for basic research in neuroscience and related fields is going to be with us for a long time to come.

Dr. Michael D. Rugg, Ph.D.
Director, Center for Vital Longevity
Distinguished Chair in Behavioral and Brain Sciences
University of Texas at Dallas

Michael Rugg and Chandramallika Basak
Darla Wade.
Karen Rodrigue, and Associate Director

Over the past year, scientific and medical advances have led to tremendous increases in longevity for our physical bodies. But these advances have not been accompanied by equivalent improvements in our mental health. In the past, psychological research has focused on how the brain operates on a network level, and of understanding the neural circuits that support the encoding and retrieval of memories, the provision of the imaging agent florbetapir from Eli Lilly, Inc., her work on fMRI finger tapping and how it might help predict the cognitive future of healthy adults by imaging amyloid plaques associated with Alzheimer’s Disease that many healthy people have in their brains.

The Neuroaging and Cognitive Laboratory, directed by Dr. Karen Rodrigue, has been investigating genetic factors that underlie age-related cognitive decline for the past few years. The Laboratory was interested in the roles of personality traits, in particular neuroticism and life satisfaction factors that affect aging, using neuroimaging techniques to investigate brain function and cognitive performance. The Laboratory has studied the impact of stress on brain function in older adults and the role of individual differences in stress resilience. They have also studied the role of aging in the brain, focusing on how the brain operates on a network level, and on understanding the neural circuits that support the encoding and retrieval of memories.

Dr. Karen Rodrigue’s proposal was one of five research proposals that were funded by the National Institute on Aging for the past three years to support research into mild cognitive impairment (MCI) and how acquiring new populations of older adults. Dr. Basak’s proposal was one of five research proposals that were funded by the National Institute on Aging for the past three years to support research into mild cognitive impairment (MCI) and how acquiring working memory or video game training. In September, the Darrell K. Royal Research Foundation, continued its focus on the interplay between attention and item-context information.

The Lifespan Neuroimaging and Cognition Laboratory, under Conditions of Low and High Processing Demands

The Aging Mind Laboratory, led by Dr. Danum Park, continued its work on the Indian Journals Brain Study (IBS) which focuses on how the brain operates on a network level, and on understanding the neural circuits that support the encoding and retrieval of memories, the provision of the imaging agent florbetapir from Eli Lilly, Inc., her work on fMRI finger tapping and how it might help predict the cognitive future of healthy adults by imaging amyloid plaques associated with Alzheimer’s Disease that many healthy people have in their brains.

Karen Rodrigue, and Associate Director

Dr. Michael D. Rugg, Ph.D.
Director, Center for Vital Longevity
Distinguished Chair in Behavioral and Brain Sciences
University of Texas at Dallas

Structure and Activities

A review of Center activities over the past year, including those within the six laboratories that are the Center’s core.
Over the past century, scientific and medical advances have led to tremendous increases in longevity for our physical bodies. But these advances have not been matched by corresponding progress in maintaining the vitality of the aging brain. As a result, many of us have experienced the decline in function that can come with age. This is a very real and pressing challenge. And it is one that we must address if we are to ensure a long and healthy life for ourselves and our loved ones.

The Center for Vital Longevity at the University of Texas at Dallas exists to change that. Drs. Denise Park and Michael Rugg, matched by corresponding progress in maintaining the vitality of the aging brain.

The Center for Vital Longevity at the University of Texas at Dallas

It’s a great pleasure to introduce the 2013-2014 Annual Review of our Center. On the following pages you will find descriptions of the research accomplishments of our young researchers who are the foundations of the Center, and learn about the scientific and educational achievements of the past year. The Center is committed to creating an environment that leads to the best research possible in the cognitive neuroscience of aging. And I hope you agree that we are well on our way to achieving that goal.

As you scan, we’re addressing questions crucial for understanding how to maintain cognitive vitality for life, especially how being engaged in activities that require active thinking helps maintain cognitive function across the adult lifespan. We are also talking about the aging brain – the most complex organ in the human body, and for which we now have better tools for understanding and treating conditions such as Alzheimer’s disease. We are also talking about the brain’s “being” – the function of the brain and the mind, which is what distinguishes aging brains from changes in the brain that are due to non-age-related cognitive decline conditions such as Alzheimer’s disease. We are also talking about the aging brain’s “being” – the function of the brain and the mind, which is what distinguishes aging brains from changes in the brain that are due to non-age-related cognitive decline conditions such as Alzheimer’s disease. We are also talking about the aging brain’s “being” – the function of the brain and the mind, which is what distinguishes aging brains from changes in the brain that are due to non-age-related cognitive decline conditions such as Alzheimer’s disease.
The CVL is home to scientists studying the underlying substrates of aging and ways to maintain cognitive health for life. Founded in 2010, researchers at the Center are uncovering numerous issues relevant to cognitive aging. These include the early detection of age-related neurodegenerative disorders such as Alzheimer’s Disease, new approaches to reduce cognitive decline, and new tools to enhance the cognitive neuroscience of memory and other cognitive functions.

TRACING THE TRAJECTORY OF A GIFT

Katy Freiberger is the Dallasite and community philanthropist for whom the Center was named. She made a gift to the Center in 2010 to support Dr. Kristen Kennedy’s research. The gift was made through a multi-year unrestricted gift to the Center.

Mrs. Freiberger’s Restrictionless Gift to Dr. Kennedy Makes Further Study in the Genetics of Memory Possible.

Mrs. Freiberger’s gift lent further support to the Center, which had already established a strong track record of research in the genetics of Alzheimer’s disease. The gift was made in recognition of Dr. Kristen Kennedy’s work and to support further research in the area of genetic biomarkers for Alzheimer’s.

The gift allowed Dr. Kennedy to conduct additional research on the genetics of Alzheimer’s disease, which is critical for the development of new therapies. Dr. Kennedy’s research has been supported by several grants, including a Presidential Early Career Award for Scientists and Engineers, a National Institutes of Health Career Development Award, and a Young Investigator Award from the Alzheimer’s Association.

The study of the genetics involved in Alzheimer’s and other dementia diseases needs to be continued, "Mrs. Freiberger said. "I am thrilled to be a small part of your success in the genetics of Alzheimer’s.

The Center’s founding donor, Dr. Denise Racey, transferred over the summer into her new role as Director of Research. Dr. Michalek Rugg is the current director. Dr. Park and Rugg both hold distinguished chairs at the UT Dallas School of Behavioral and Brain Sciences.

The Center’s facilities include research laboratories dedicated to electroencephalography and transcranial magnetic stimulation. Center researchers conduct functional and structural neuroimaging studies at the Advanced Imaging Research Center – a collaborative effort between UT Dallas and the UT Southwestern Medical Center.

Center researchers are supported by competitively reviewed federal and non-federal research grants. These grants support several of the research programs outlined in this report.
As part of the next phase of her research, Dr. Kennedy intends to expand recruitment from 120 to 240 people. The gift covered the costs associated with genotyping the group, and the subsequent findings lent further support to the idea that a specific genetic variation present in a brain protein called BDNF was associated with declining age-related memory performance across four types of memory. The four types of memory – prospective, associative, subjective and episodic – all fared worse among those carrying the variation, which seems to have a negative impact on learning and memory when expressed. That means people who tested positive for the potential biomarker had a harder time remembering verbal information, associating names with faces and remembering to perform an action in the future (e.g., drop off a friend after work). Present self-evaluation of one’s memory was also worse.

As of the mid-phase of her research, Dr. Kennedy expected the sample size would expand to 240 people – a doubling of her original research participants – to provide funds for your research. "The study of the genetics involved in Alzheimer's and other dementia diseases needs to be continued," Mrs. Freiberger said.

As the cost of such research grows, the effects of the gift can be long lasting, having a so-called "multiplier effect," expanding initial grants of support that might otherwise be limited without the certainty of donation. Once a certain momentum is gained, securing federal or other funding is much easier.

When Katherine Freiberger, Dallas native and community philanthropist, personally handed gifts to the Center this summer, she knew she wanted to support the research Dr. Kenneth Kennedy, a CVL assistant professor searching for new biomarkers that might show early signs of future Alzheimer’s. “The study of the genetics involved in Alzheimer’s and other dementia diseases needs to be continued,” Mrs. Freiberger said.

TRACING THE TRAJECTORY OF A GIFT

Mrs. Freiberger’s Unrestricted Gift to Dr. Kennedy Makes Further Study in the Genetics of Memory Possible.

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TRIP: State funding from the Texas Research Incentive Program. Total $1,383,384

Istation, Vice President of Strategic Accounts, Istation

Dr. Michael Rugg is the current director. Drs. Park and Rugg both hold distinguished chairs in the UT Dallas School of Behavioral and Brain Sciences. The center belongs to the Center, with each faculty member leading a research group comprising a mixture of postdoctoral fellows, graduate students and research assistants.

Center researchers are supported by several competitively reviewed research grants. These grants support recently completed and ongoing research outlined in this review. The CVL is home to scientists studying the cognitive neuroscience of aging and ways to maintain cognitive health for life. Founded in 2010, the Center is dedicated to advancing fundamental knowledge through the study of human cognitive aging.

The Center's facilities include research laboratories dedicated to electroencephalography and trans-cranial magnetic stimulation.

Center researchers conduct functional and structural neuroimaging studies at the Advanced Imaging Research Center – a collaborative enterprise between UT Dallas, UT Arlington and the UT Southwestern Medical Center – on the UT Southwestern campus.

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Published by the Center for Vital Longevity at UT Dallas. Asia Lyda, Editor; Susan McReynolds, Designer

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