



# NEURAL ACTIVITIES

THE NEWSLETTER OF THE CENTER FOR VITAL LONGEVITY

## DIRECTOR'S MESSAGE

### Looking Forward

Welcome to our Fall newsletter. As you'll see, we have much to look forward to as we move into 2019. We're especially excited to begin working with new advisory council chair Lindsey Kluempers (see profile, p. 2). With Lindsey at the helm, and with input from our new director of development, Megan Harrison, we look forward to building on former chair Larry Warder's signal contributions to further increase CVL's visibility and reputation in the DFW community.



Dr. Michael Rugg

We also look forward to the imminent Dallas Aging & Cognition Conference. This will be our sixth conference, organized, like all of its predecessors, under the leadership of CVL's founding director and director of research, Dr. Denise Park. As always, our invited platform speakers are a "who's who" of leading scientists in the cognitive neuroscience of aging (see right). Together with a diverse range of submitted platform and poster presentations, this makes for an exceptional program that continues the tradition of scientific excellence established with the first conference.

Finally, you'll see that this edition of the newsletter introduces no less than eleven new CVL members. This is both a testament to the health of our research funding, recently enhanced by competitive, peer-reviewed grant awards totaling some \$5 million (see p. 3), and a reflection of our vigor as a leading center for research on the aging brain. ☀

As in past years, the remainder of the conference is organized across four themes, with each theme highlighted by an invited

## Center Gears Up for 6th Biennial Dallas Aging & Cognition Conference

The Center for Vital Longevity is holding the next Dallas Aging & Cognition Conference (DACC) from January 26 to January 28, 2019. The meeting, which occurs every two years, is focused on the cognitive neuroscience of aging, and is organized by the Center, with co-sponsorship by UT Dallas' School of Behavioral and Brain Sciences.

Between two and three hundred researchers at the intersection of aging, cognition and neuroscience are expected to descend on Dallas for the conference. In past years, researchers have hailed from more than 50 universities across the globe, including attendees from Germany, South Korea, England, Sweden and Canada. Over the last five conferences, large groups from the University of Michigan, Massachusetts General Hospital/Harvard University and locally from UT Southwestern Medical Center have attended.

The keynote address will be delivered by Dr. Lars Nyberg of Umea University on "Successful Memory and Aging — What is the Evidence?"



As in past years, the remainder of the conference is organized across four themes, with each theme highlighted by an invited

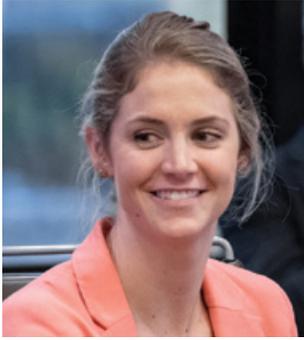
speaker as well as researchers whose talks fall under the rubric of one of the categories.

For the 2019 DACC, the categories are: "Animal & Human Models of Neurocognitive Aging," with lead speaker Dr. Carol Barnes, of the University of Arizona; "Dedifferentiation of Brain Structure and Function with Age," led by Dr. Thad Polk of the University of Michigan; "The Healthy Brain in Transition to Disease" led by Dr. Brad Dickerson of Massachusetts General Hospital and Harvard University; and "The Social and Emotional Underpinnings of Neurocognitive Aging," co-led by Dr. Mara Mather of the University of Southern California and Dr. Angela Gutches of Brandeis University.

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## CVL Councilmember Lindsey Kluempers

Property and Casualty Insurance Agent,  
SwingleCollins & Associates

Much of what Lindsey Kluempers has learned on the college basketball court has influenced her daily life. The importance of selflessness, teamwork and persistence are ingrained in her character.

These and other traits are what the 32-year-old commercial insurance agent, and the new chair of CVL's advisory council, says were instilled in her through experiences on the court, and *almost* having an athletic scholarship to Eastern Illinois University rescinded — a big deal at a school that claims such sports greats as ex-Dallas Cowboys Quarterback Tony Romo among its alumni.

“Our coach said he needed a stronger player in my spot (forward guard), and that I probably wouldn't see ‘another minute’ on the court,” she remembers.

Sensing it was more than a warning, Lindsey began a rigorous practice schedule the summer between her sophomore and junior year. It was a period of three months in which every minute of intense physical and mental preparation was accounted for, she says.

“My only chance to stay on the team was to be the team's leading three-point shooter, regardless of position,” she said recently over breakfast. “I had a choice: step up or walk away.” Stepped up she did, and to this day, she still holds Eastern Illinois' single-season three-point percentage record, which she earned the season following that summer.

Although Lindsey literally stands tall everywhere she goes (she's 6'0”), she has been reaching greater heights professionally these last several years, “tackling” some major public health issues.

Since moving to Dallas in 2011, she has been sacking quarterbacks in the annual BvB Dallas (formerly Blondes vs. Brunettes) football game benefitting Alzheimer's care and research organizations. In August, after surpassing her personal goal to raise \$30,000 in the fight against Alzheimer's, she took to the Cotton Bowl gridiron for the sixth year in a row against Team Brunette. Although the Blondes technically won the 2018 game, everyone was a winner, including the beneficiaries of this year's game: the Center for BrainHealth, UT Southwestern Medical Center, The Senior Source, and the Alzheimer's Association. CVL is very grateful to have been a beneficiary in 2015 and 2017.

When she's not on the field, Lindsey's position at SwingleCollins & Associates involves finding new business partnerships and helping business owners both understand their exposures to risk and become more educated about buying insurance. Her clientele ranges from newly minted MBAs and

young venture capitalists to healthcare executives focused on caring for older generations.

Last year, Lindsey was recognized as the “Young Agent of the Year” by the Independent Insurance Agents of Dallas. The award recognizes an independent agent in the Dallas area under the age of 40 who has displayed “exceptional leadership skills both in the insurance industry and in the local community”

Selflessly, she often volunteers at senior citizen homes and memory care facilities to provide company to residents who might not have regular visitors.

Another trait, perhaps distilled in the heat of athletic competition, is her appreciation for the clock: Much like her predecessor, outgoing chair Larry Warder, she begins and ends meetings on time.

“I'm delighted to be ‘passing the baton’ to Lindsey,” Warder said recently. “She cares a great deal about CVL and the aging mind. Plus, she can run a lot faster than me,” he joked. “I know she'll do well.” 🌞



Lindsey Kluempers, also an avid traveler, on a recent trip to Machu Picchu, Peru.

# CVL Receives More Than \$5 Million for Aging Studies

Center researchers have received three federal grants totaling more than \$5 million to start new projects or continue existing studies on the cognitive neuroscience of aging.

## Dr. Denise Park

was awarded \$1.2 million from the National Institute on Aging (NIA) for her ongoing “Synapse Project.” As part of the original study, older adults were randomly assigned to mentally challenging conditions, including learning digital photography, quilting or both. Dr. Park and her team used written tests and MRI scans to measure participants’ cognitive and brain function before and after the



tasks to learn whether this cognitive stimulation improved their functioning. Initial results showed it did. With the additional funding, Dr. Park and her team are re-creating similar conditions to the earlier project to see if they can replicate the original effect, to be followed by a clinical trial if so.

## Dr. Karen Rodrigue

received a five-year, \$3.5 million award from the NIA for research seeking to distinguish age-related brain changes linked to the earliest signs of Alzheimer’s Disease — before symptoms occur — from changes that reflect non-pathological aging. Her previous research has provided insight into when certain biomarkers that are



associated with risk for Alzheimer’s begin to accumulate in the brain. With the new funding, Dr. Rodrigue will examine novel biomarkers in the brain, such as iron accumulation, changes in synaptic density and accumulation of a protein called beta amyloid, and their potential to be early markers of neural decline. The study will include adults with and without genetic risk for Alzheimer’s, as well as those in the earliest phase of Alzheimer’s with mild cognitive impairment.

## Dr. Chandramallika Basak

received more than \$760,000 in NIA funding to explore the potential benefits of cognitive training in healthy older adults. Dr. Basak will use both experimentally developed and commercially available video games to exercise working memory and attention in study participants. The aim is to determine whether the ability to switch attention between various features of an environment and to perform complex tasks improves as a result of structured practice on different types of video games. 🌟



## Director’s Research Circle Activities

Center Director Dr. Michael Rugg delivered the Director’s Research Circle talk on “Memory and Dementia (and Healthy Aging and Neuroimaging)” on Sept. 26, to a boardroom crowd at the Center for Vital Longevity. The talk was preceded by hors d’oeuvres and drinks and a chance to mingle with Center scientists.



DRC member Nancy Shutt at the September DRC event.

Founded in 2011, the Directors’ Research Circle (DRC) is a core group of donors who donate at least \$2,500 annually to the Center for Vital Longevity. These generous contributors take great pride in supporting an internationally recognized research and educational center in Dallas that is addressing one of the most pressing problems facing our society: preserving the health and vitality of the aging mind for life.

Benefits include invitations to three to four events annually that provide timely access to information about the aging brain, and the opportunity to schedule lunch with a Center scientist. To learn more about how to become a DRC member, please visit [vitallongevity.utdallas.edu/support/naming-and-other-giving-opportunities](http://vitallongevity.utdallas.edu/support/naming-and-other-giving-opportunities). 🌟

## Margaret O’Connell Successfully Defends Dissertation



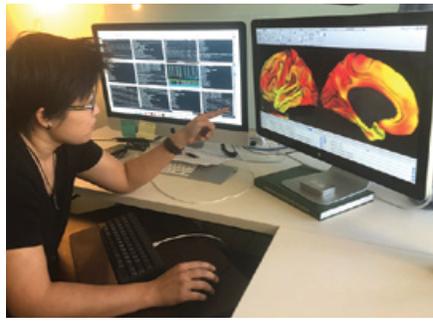
On Nov. 6, Margaret O’Connell, a UT Dallas doctoral student under Dr. Chandramallika Basak, successfully defended her dissertation. She was the first doctoral student to join Dr. Basak’s lab — and now is the first Ph.D. to emerge from Dr. Basak’s lab. 🌟

## Socioeconomic Status and the Adult Brain

A study from Dr. Gagan Wig's lab has examined the relationship of socioeconomic status (SES) to brain function and anatomy in adults, finding that the structure of the adult brain may be sensitive to social and economic factors.

"We know that socioeconomic status influences the structure of the brain in childhood and older age, and we wanted to see if there were relationships between SES and the brain across a wider range of adulthood," said Dr. Wig, the corresponding author of the study published in the *Proceedings of the National Academy of Sciences*.

The study included 304 individuals ranging between 20 and 89 years of age. Each individual's SES was approximated using standard methods that combine education and a measure of occupational prestige. The SES measure also was correlated with individual income and reports of subjective SES standing. To



**Dr. Micaela Chan looked at scans revealing individuals' functional brain networks.**

measure brain function, the researchers used functional magnetic resonance imaging to collect a type of brain scan that shows how an individual's functional brain networks are organized while the participant lies in the machine in a state of resting wakefulness. In addition, the researchers used anatomical brain scans to measure the thickness of cortical grey matter in each individual's brain.

In middle-aged adults (ages 35 to

64 years) higher socioeconomic status was associated with more efficiently organized brain networks and thicker cortical grey matter. Put another way, those who ranked lower in SES tended to have less well-organized functional brain networks and a thinner cortex. A thinner cortex can contribute to cognitive impairment later in life, such as memory loss and dementia.

The SES-brain relationships persisted after controlling for demographic variables, measures of physical and mental health, and cognitive ability. In addition, the relationship between an individual's current SES and their brain-network organization was independent of his or her childhood SES, providing evidence that the SES relationships are not simply due to differences established during the earliest years of life, the researchers said. ☀

## Neural Selectivity is Lower in Older Adults and Can Predict Memory Performance

In older adults, changes in brain structure and function are associated with declines in some aspects of cognitive performance. One phenomenon that may play an important role in cognitive aging is "neural dedifferentiation" – the finding that older adult brains tend to show less selective patterns of neural activity for certain types of information. This reduction in neural selectivity could be associated with cognitive decline.

A new study published in the *Journal of Neuroscience* builds on previous work at the Center for Vital Longevity, from the laboratory of Director of Research Dr. Denise Park, which showed that less selectivity in neural activity was associated with poorer cognitive performance in healthy older adults.

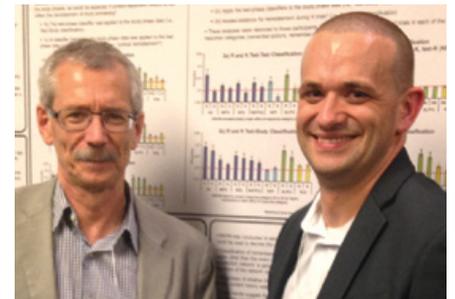
The new study, from the laboratory of Center Director Dr. Michael Rugg, measured how neural selectivity in a region of the brain called the "parahippocampal place area" or PPA, a region implicated in processing visual

scenes, differed with age and measures of memory.

For the study, groups of 24 young and 24 older adults underwent functional magnetic resonance imaging (fMRI) while viewing images that included scenes and objects. As has been described many time before, viewing scenes resulted in selective activity of the PPA. This pattern of neural selectivity, however, was reduced in healthy older individuals, a finding that replicates previous results.

The novel result was that neural selectivity in the PPA predicted cognitive performance regardless of the participant's age. In both young and older adults, higher levels of neural selectivity were associated with better memory for the objects and scenes they viewed while undergoing fMRI, as well as with better performance on some cognitive tests.

This "age-invariant" relationship between neural selectivity and cognitive performance likely reflects a general



**Drs. Michael Rugg and Josh Koen**

principle of brain function, said first author and now assistant professor Dr. Joshua Koen, who undertook this work as a postdoctoral researcher at CVL prior to joining the faculty at the University of Notre Dame earlier this year.

Dr. Rugg, who leads the Functional Neuroimaging of Memory laboratory at CVL, is the senior author on the paper, while former research assistant Nedra Hauck is the middle author. The research was supported by a grant from the National Institute on Aging, and a fellowship from the Aging Mind Foundation. ☀



Maria Shriver greets  
Dr. Chandramallika Basak

## “Purple Luncheon” Welcomes CVL Faculty Member

Dr. Chandramallika Basak was the guest of journalist and media personality Maria Shriver, whose “Purple Luncheon” in Dallas last month hosted scientists, memory caregivers and social activists in support of the Women’s Alzheimer’s Movement (WAM), founded by Shriver. “For every three brains that are diagnosed with Alzheimer’s, two belong to women and no one knows why that is,” Shriver said. “Women are at the epicenter of this global Alzheimer’s crisis, and we can be at the heart of the solution.” Dr. Basak presented a brief overview of the Center and her work at the luncheon, joining Fort Worth Mayor Betsy Price at the end of the program, and Janet Dorsett, wife of famed Dallas Cowboys running back Tony Dorsett, in a call to action for more funding and support for Alzheimer’s research. 🌻

## Center Gears up for 6th Biennial Dallas Aging & Cognition Conference

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“Since the first conference in 2010, the DACC has played a critical role in maintaining the Center for Vital Longevity’s international leadership in the cognitive neuroscience of aging,” said conference organizer and Director of Research Dr. Denise Park. “It’s a critical venue for our researchers and students to showcase their work to leading scientists from across the world.”

More details and registration information can be found via the conference website at [dallasacc.org](http://dallasacc.org). For ways to support the DACC, please see back page. 🌻

# Early Changes in Amyloid Could Offer Window into Future Alzheimer’s Disease

Research from the Park Aging Mind Lab suggests that evaluating changing amyloid levels in certain brain structures may offer an important early clue into who is on a trajectory toward Alzheimer’s.

Amyloid pathology is one of the earliest signs that an individual is at high risk for developing Alzheimer’s. Extensive evidence indicates that amyloid slowly builds up in the brain over the course of more than a decade before individuals develop dementia. The findings were published in *Neurology*, with Dr. Michelle Farrell as lead author, and demonstrated that early changes in amyloid in posterior cortical regions of the brain were associated with subtle declines in episodic memory — one’s memory for events, times and places that are autobiographical in nature. Declines in this type of memory are known to be one of the first symptoms of Alzheimer’s.

The research was conducted as part of the Dallas Lifespan Brain Study (DLBS) initiated and led by Dr. Denise Park, Director of Research, who was senior author on the study. Participants in the DLBS have had brain scans four years apart that assess whether the participants have amyloid deposits (a protein associated with Alzheimer’s) on their brains. Dr. Farrell used these data to relate changes in amyloid deposits to changes in memory function in cognitively normal adults ages 30 to 90. The study focused specifically on participants who were initially considered “amyloid negative” based on an amyloid PET scan. By following these participants over four years, the research team was able to detect increases in amyloid in specific regions of the brain. Interestingly, these early signs of posterior cortical amyloid accumulation were found to track with



Dr. Denise Park (center) and Dr. Michelle Farrell (far right) presented their findings at this year’s Alzheimer’s Association International Conference with colleagues in Chicago.

subtle declines in episodic memory. This early relationship between amyloid and memory was even found to be present in younger adults from age 30 to 59.

“These findings suggest that even the earliest signs of amyloid have observable consequences for memory, though not to the extent that these individuals would be considered to have dementia,” Dr. Farrell said. “It is only by following these individuals over time that we are able to observe these subtle shifts in amyloid and memory.”

These and other findings are leading researchers to believe that we may be able to detect evidence for future AD many years before symptoms of cognitive decline become obvious. “This will become important as treatments for Alzheimer’s disease are developed. The hope is that we will be able to predict and stave off the disease early in the lifespan,” Dr. Park says.

In addition to Dr. Farrell, who earned her doctorate at UT Dallas prior to recently joining Harvard Medical School’s Athinoula A. Martinos Center for Biomedical Imaging at Massachusetts General Hospital, the other authors on the paper are Drs. Melissa Rundle, Micaela Chan, Gagan Wig, and graduate student Xi Chen. The study was supported by funding from the National Institute on Aging. 🌻

# NEW FACES



## Andy Gonzalez — Park Lab

Andy joined the Aging Mind Lab last month. He plans to apply to medical school while continuing his work as a research assistant. He attended the University of Arizona, where he studied neuroscience and cognitive science, completing his undergraduate degree with an emphasis on neurobiology. He has worked in a variety of laboratory settings, primarily in labs studying memory in older adults and observing age-related changes in memory. He enjoys baseball, orchestra performances, and a variety of outdoor activities, including scuba diving. ☀



## Megan Harrison — Administration

Megan joined CVL this fall as the Director of Development. She is responsible for building relationships with private funders in support of the Center's research on the brain and aging mind. She has many years of experience serving as a "frontline" fundraiser, leading fundraising strategy and developing new initiatives. Most recently, Megan served as the Vice President of Development for TexProtects, overseeing all fundraising activities including grant proposals, annual giving, and an annual gala raising over half a million dollars per year. Megan has also served as the Vice President of Sponsorship and Annual Giving at Klyde Warren Park, Director of Development for the Dallas Zoo, and was an integral part of the Perot Museum of Nature and Science's Capital Campaign team, serving as the Museum's Director of Corporate Giving. Megan holds a bachelor's in marketing and management from Tulane University and is also a graduate of Leadership Dallas. She has lived in Dallas since 2003 and is an active member of the Kappa Alpha Theta Alumni group. Megan keeps local gas stations in business running her two sons between school, scouts, band and various sports activities. ☀



## Joseph Hennessee — Park Lab

Joe joined the Park Aging Mind Lab this summer as a postdoctoral fellow. His research explores factors responsible for healthy cognitive aging versus cognitive decline, including factors related to Alzheimer's Disease progression. He earned his doctorate in cognitive neuroscience from University of California, Los Angeles, this spring. During graduate school, he worked in Dr. Barbara Knowlton's and Dr. Alan Castel's labs examining how younger and older adults selectively learn valuable information. In his work at UCLA, Joe utilized diffusion tensor imaging techniques to examine individual differences in this selective learning process. Some of his findings highlighted the role of anatomical structures in the brain, such as the nucleus accumbens and inferior fronto-occipital fasciculus following exposure to rewarding stimuli associated with learning and other activities. At the Center, Joe is working with the Dallas Lifespan Brain Study (DLBS) examining how individual differences in brain structure and function predict maintenance of cognitive functioning. He has already begun interpreting new and existing data from the DLBS with software that analyzes brain-imaging sequences to detect new changes and underlying patterns that could be associated with aging. ☀



## Mingzhu Hou, Ph.D. – Rugg Lab

Mingzhu joined the Center in November as a research associate, after receiving her Ph.D. in psychology from the University of Arizona. Mingzhu earned her undergraduate degree from Binzhou Medical University and her master's from Capital Normal University in China, where she began her research on episodic memory using electroencephalography. Then she joined the lab of Dr. Elizabeth Glisky to investigate relational memory in aging, focusing on memory strategies to enhance performance in individuals with different levels of neuropsychological functioning. At the Center, Mingzhu will be further studying episodic memory in aging. In her spare time, she enjoys hiking and watching movies. ☀



## Seham Kafafi — Rugg Lab

Seham joins the Functional Neuroimaging of Aging Laboratory as a research assistant and its new lab manager, after having spent the last couple of years as an assistant manager at Responsive Intelligence — an executive coaching and employee training firm that helps different organizations integrate mindfulness into workplace culture. Born in Maryland, Seham moved to Texas in her teens. After finishing high school in Plano, she decided to go abroad for university, earning her bachelor's in psychology from The American University in Cairo and a master's in mindfulness neuroscience from King's College London. She has experience interpreting functional magnetic resonance imaging data, and has tracked and recorded participant data in previous longitudinal studies. Her duties in Rugg Lab include managing aspects of Institutional Review Board approval of ongoing and future studies, as well as managing participant recruitment. In her spare time, she likes to travel of offbeat places, recently among them: Cuba. ☀



## Angela Mueller — Park Lab

Angela joined the Center as a postdoctoral research scientist in the Park Aging Mind Lab this summer, arriving from Vancouver, Canada, where she was a fellow at the University of British Columbia (UBC). She holds a Ph.D. in neuropsychology from the University of Zurich, where her doctoral thesis involved investigating how the intrinsic activity of the healthy aging brain relates to behavior and cognition using resting-state functional magnetic resonance imaging. While in the Perception-Action Laboratory of Dr. Virij-Babul at UBC, she published research that evaluated subtle changes in structure and network connectivity that occur in the adolescent brain after sustaining a concussion. She traces her interest in neuroscience to an intrinsic fascination with the mysteries of the brain. "Some people are drawn to space research or other areas of scientific research, but within the body, the brain itself is a fascinating frontier," she says. "To use the brain to study the brain, well, I find that intriguing." Dr. Mueller also holds a second doctorate in Latin literature. The study of the writings of the ancient philosophers and historians has given her an "Epicurean view" of a rapidly changing world, and the role of the individual in it, she says. ☀



### Melanie Racenstein — Rugg Lab

Melanie “Mel” Racenstein joined the Functional Neuroimaging of Memory Lab this summer as a research assistant. Hailing from Chicagoland, specifically from the North Shore (where she practically grew up on the campus of Northwestern University), Mel earned her bachelor’s in biopsychology, cognition, and neuroscience, with a double major in Spanish in the spring from the University of Michigan. The daughter of a radiologist and a clinical neuropsychologist, Mel realized she wanted to eventually become a medical doctor at the precocious young age of five. “My parents’ lines of work inspired my interest in neuroscience, combining what both of them do,” she says. During her undergraduate years, she volunteered as a fundraiser for the American Cancer Society’s “Relay for Life” and as a community service chair for the U. of M. American Red Cross Club. After witnessing a family member succumb to the ravages of cancer, Mel aspires to be a new breed of oncologist who offers full-family consultations — not just with the patient but also with patient’s entire support network, in a highly personalized, case-by-case setting. While at CVL she has been learning more about imaging techniques and working with study participants on memory and cognitive tests. In her free time, Mel enjoys listening to audiobooks in the car, inventing creative recipes, and vigorous exercise, including leading her own dance classes. She is currently studying for the MCAT. ☀️



### Sabina Srokova — Rugg Lab

Sabina is a new doctoral student in UT Dallas’ Cognition and Neuroscience program, and has joined the Functional Neuroimaging of Memory lab. Sabina was born and raised in Slovakia, and she earned her undergraduate degree in psychology at the University of Essex in the United Kingdom. She was involved in several research labs at Essex, and had the most rewarding experience working in memory and aging lab, she says, where she developed a strong interest in cognitive neuroscience of human memory and the aging brain. She wishes to study the cognitive and neural basis of human memory, and the age-related differences in memory function. In her free time, Sabina can be found reading in her living room, painting, or working out in the weight section of her favorite gym. ☀️



### Garrett Virgin — Kennedy & Rodrigue Labs

Garrett has recently taken the position of lab manager within the Kennedy and Rodrigue labs. He graduated from UT Dallas in 2017 with a bachelor’s in psychology. Before coming to CVL he worked under Drs. Daniel Krawczyk and David Martinez as a research assistant at the Center for Brain Health (CBH). At CBH, he focused on the cognitive and behavioral effects of traumatic brain injury. During that time, he also worked under Dr. Matthew Housson as a counselor and tutor. He has plans to pursue a master’s in Applied Cognition and Neuroscience from UTD. His goal is to one day work as an intraoperative neurophysiologist. In his free time, Garrett likes to play competitive volleyball and spend time with his dog, Trek. ☀️



### Christina Webb — Kennedy Lab

Christina joined the Center as a postdoctoral researcher in the Neuroimaging of Aging and Cognition Lab this fall, having freshly arrived from Penn State with her doctorate in cognitive psychology. While at Penn State, she studied under Dr. Nancy Dennis, whose lab focuses on the cognitive and neural mechanisms that support learning and memory. Christina has been particularly interested in false memories, and the neural correlates that underlie the recollection of events that did not actually happen. She first became interested in cognitive psychology as an undergrad (also at Penn State), through the university’s Women in Sciences and Engineering Program, which allowed her to gain experience working in several cognitive psychology labs. At CVL, she will be delving into longitudinal data concerning the genetic and health factors that influence memory across the lifespan, including how hypertension negatively affects the structure and function of the brain. She hopes to explore more of the structural changes that accompany the aging brain through her work at the Center by incorporating different imaging modalities, including fMRI and diffusion tensor imaging. When she’s not doing science, Christina enjoys walking her two dogs, and playing complex board games with her family. ☀️



### Ziwei Zhang — Wig Lab

Ziwei joined the Cognitive Neuroimaging Lab as a first-year doctoral student this fall. She received her bachelor’s degree in psychology and a minor in cognitive science in the University of California, Los Angeles. Before college, she became very interested in cognitive psychology after watching the film *Inception* “millions of times.” At UCLA, she completed her honors thesis by understanding the role of perceptual learning in solving mathematical word problems under the mentorship of Dr. Philip Kellman. Upon graduation, she joined Dr. Edythe London’s lab as a research associate for two years, focusing on administering PET and functional magnetic resonance imaging scans, and performing data analyses. In Dr. Wig’s Lab, she will be studying the impact of aging on neural activation and brain networks. In her free time, Ziwei enjoys reading books, watching movies, Japanese anime, playing games, and exploring different genres of music. ☀️



CENTER FOR  
VITAL LONGEVITY

THE SCIENCE OF THE AGING MIND

Center for Vital Longevity  
The University of Texas at Dallas  
1600 Viceroy Drive, Suite 800  
Dallas, Texas 75235  
972-883-3200

## CENTER FOR VITAL LONGEVITY ADVISORY COUNCIL 2018–2019



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### SUPPORT THE DALLAS AGING & COGNITION CONFERENCE (DACC)

You're invited to help support important scientific discussions and the Center's effort to attract the next generation of scientists researching the cognitive neuroscience of aging to the Center for Vital Longevity. For information on ways you can sponsor the DACC, as well as associated benefits including an exclusive opportunity to attend the "Meet the Scientists" dinner hosted at the Park Cities Club on January 27, 2019, please contact Director of Development Megan Harrison at (972) 883-3728 or [megan.harrison@utdallas.edu](mailto:megan.harrison@utdallas.edu). Your participation will support important research and our goal to allow as many people as possible to enjoy lifelong cognitive vitality. ☀