NIA AWARDS $2.9 MILLION TO WIG LAB TO FURTHER ALZHEIMER’S DISEASE STUDY

Gagan Wig, PhD, director of the Wig Neuroimaging Lab at the Center for Vital Longevity and associate professor for the School of Behavioral and Brain Sciences at UT Dallas, was awarded a $2.9 million grant from the National Institute on Aging (NIA) to investigate relationships between socioeconomic status (SES) and the brain. The new study will focus on identifying individual risk factors and their link to brain networks in lower-socioeconomic status middle-age adults that might be predictive of cognitive decline and Alzheimer’s disease (AD) in older age.

Dr. Wig, the principal investigator for the study, notes that the research will look at several variables that are impacted by an individual’s SES and their environments, including access to healthcare and healthy food, exercise, sleep, education, occupation, stress levels, and mental stimulation. Through a better understanding of how these health and lifestyle variables impact the brain in middle age, the lab hopes to identify risk factors, in addition to genetics, that predict AD.

“We found in our 2018 study that lower SES is associated with less organized brain networks, which we know relates to poor memory, and that there is individual variation in this risk,” Dr. Wig said. “In the new study, we will examine more closely this individual variation by tracking individual brain networks and AD genetic risk in lower-to-middle SES middle-age adults (40-65 years), along with changes in measures of health, environment, and lifestyles. This segment of the population is at higher risk for cognitive decline and AD, yet have been largely understudied in brain research. Our goal is to identify the critical features of an individual’s environment that lead to brain and cognitive decline. Doing so could also help us understand why some people age relatively gracefully while others are more vulnerable to rapid age-related decline and dementia.”

The study will track approximately 150 middle-age participants over 4 years. The NIA award was announced in the fall of 2019 and the study hopes to begin enrolling participants in the spring of 2020.

The Wig Neuroimaging Lab is one of seven labs belonging to the Center for Vital Longevity, a UT Dallas research center that is dedicated to pursuing research that will lead to improved cognitive health and well-being for life.

FROM THE DIRECTOR

Dear Friends of the CVL,

Welcome to our Fall newsletter, the first in a new academic year that promises to herald some exciting developments. We are delighted to welcome our new faculty colleague, Dr. Kendra Seaman. Kendra’s arrival increases the number of research groups in the center to seven and expands the topics we cover to include such important questions as how decision-making and assessment of risk vary with age.

The new academic year marks the start of our tenth year as a UT Dallas research center – time flies! We will be marking this milestone in several ways over the course of the year, culminating in a major event that will celebrate not only the center but the extraordinary scientist who founded it, Dr. Denise Park. It’s not too soon, however, to thank the many of you who have supported the center in so many ways during our first ten years, especially those who have been with us from the earliest days.

Finally, thanks to the hard work of our development director, Megan Harrison, we are pleased to announce what we hope will be attractive new opportunities to become involved with the Center. These include the establishment of a new community tiered levels of membership of our long-standing Director’s Research Circle. We are delighted to welcome exciting developments. We offer you to take advantage of these new offerings and help us continue advancing the science of the aging mind and brain.

Thank you for continued support and interest in our research. I hope to see you at a CVL event soon.

— Michael Rugg, PhD
Kendra Seaman, PhD, brings new lab, research to CVL

Dr. Seaman’s Aging Well Lab becomes the seventh lab to join the Center for Vital Longevity.

This fall, the Center welcomes a new principal investigator, Kendra Seaman, PhD. Dr. Seaman will be establishing the Aging Well Laboratory – adding to our existing six research groups – and will also serve as assistant professor of psychology and cognitive neuroscience in UT Dallas’ School of Behavioral and Brain Sciences.

Dr. Seaman’s research is focused on the intersections of learning, motivation and decision-making across the adult lifespan using a variety of behavioral, modeling and neuroimaging techniques.

“As demographics shift and our population grows older, the decision-making abilities of older adults have increasingly profound economic and social consequences,” Dr. Seaman said. “I look forward to working with my new colleagues and students at UT Dallas to understand better how aging does, or does not, influence decision-making. Armed with this knowledge, we can improve the health and well-being of older adults and those who care for them.”

Dr. Seaman comes to the CVL from Duke University, where she was a postdoctoral scholar in the Motivated Cognition and Aging Brain Lab with Gregory Samanez-Larkin, PhD. Prior to working with Dr. Samanez-Larkin, Dr. Seaman obtained masters and PhD degrees from The Catholic University of America. She has also served as a Teach For America corps member, teaching science at Frick Middle School in Oakland, California, and as a teacher and department chair at KIPP DC: KEY Academy in Washington, DC. She completed her BA in psychology and biology at the University of Kansas.

“We at the CVL are delighted to welcome Dr. Seaman as our newest principal investigator in the center,” said Michael Rugg, PhD, director of the CVL and Distinguished Chair in Behavioral and Brain Sciences at UT Dallas. “We are excited the research in the center will be expanding to include the effects of age on decision-making, including the important topic of financial decisions.”

Dr. Seaman was the presenter for the CVL’s Sept. 30 Fall Science Luncheon, a brown bag lunch series that takes place on Mondays at the CVL during the academic year. Her presentation for the series, “Modeling Value in Decision Making,” gave insight into part of her current research on ways in which decision-making skills evolve in older adults in contexts such as trusting other individuals or deferring monetary and other rewards. The luncheon series is an opportunity for scientists to share their work with colleagues and students, and is simulcast live to the main UT Dallas campus. Dr. Seaman was also the featured speaker at the CVL’s fall Director’s Research Circle event.

For more information about Dr. Seaman’s Aging Well Lab at the CVL, visit the lab’s website, agingwelllab.github.io.
In the news

The Park Aging Mind Lab will be featured in a Nov. episode of “After the Fact,” a podcast produced by The Pew Charitable Trusts. The production crew from Washington, DC, including host Ray Suarez, former PBS NewsHour correspondent, spent a morning interviewing teachers, participants and Dr. Park at the engAGE study headquarters. The podcast is part of a series on learning and the mind. The CVL website will share the airdate information as it becomes available.

Overheard

Several members from the Kennedy and Rodrigue labs attended the Organization for Human Mapping conference in Rome, Italy in June. Dr. Kennedy and Dr. Rodrigue then traveled to Sicily for the International Society for Behavioral Neuroscience where they gave an invited symposium talk.

The Interdisciplinary Society for Decision Neuroscience (ISDN) welcomed Dr. Seaman to its 9th Annual Interdisciplinary Symposium on Decision Neuroscience at Duke University in June. The title of her presentation was, “Individual Differences in Human Dopamine Function and Model-based Learning.”

Joseph Hennessee, post-doctoral fellow, and Xi Chen, PhD student, from the Park lab joined Dr. Park at the first workshop on Research Definitions for Reserve & Resilience in Cognitive Aging and Dementia in Bethesda, MD in Sept., where Dr. Park was a panelist. The workshop was funded by the National Institute on Aging with support from The McKnight Brain Research Foundation, Alzheimer’s Assoc. and AARP.

In Sept., Dr. Gagan Wig was in Stockholm, Sweden giving the talk, “Brain network aging” at the Karolinska Institute’s Aging Research Center International Forum. He also presented at The National Academies of Sciences, Engineering, and Medicine: Workshop on Brain Health Throughout the Lifespan in Washington, DC in Sept. with the talk, “Brain network and health across the adult lifespan.”

Drs. Park and Rugg were invited speakers at the Aging & Dementia Symposium in Montreal, Canada in late Sept. Dr. Park presented “Amyloid and tau imaging: Predicting healthy vs. pathological cognitive aging,” and Dr. Rugg presented “Challenges in using functional neuroimaging to predict individual trajectories of age-related cognitive decline.” Joseph Hennessee from the Park lab also attended the meeting.

Dr. Seaman was the featured speaker at the CVL’s Sept. 30 Fall Science Luncheon. Her presentation, “Modeling Value in Decision Making,” gave insight into part of her current research on ways in which decision-making skills evolve in older adults in contexts such as trusting other individuals or deferring monetary and other rewards.

Ekarin Pongpipat, doctoral student of cognition and neuroscience in the Rodrigue lab, was the Oct. 3 speaker for the UT Dallas School of Behavioral and Brian Sciences Developmental, Cognitive, and Social/Personality Psychology Series (DCS), presenting on “Functional Connectivity of the Frontoparietal and Default Mode Networks during n-back across the Adult Lifespan.”

Dr. Michael Rugg, director of the CVL and principal investigator of the fNIM lab presented at the Memory Disorders Research Society 2019 Annual Conference in New York City on Oct. 5. His talk was on “Encoding specificity as a moderator of age-related differences in specificity of retrieval-related reinstatement.” The conference was hosted by members of Columbia University.

Applause

Dr. Kristen Kennedy was honored last spring as the recipient of the 2019 Moller Teaching Award. The award was established by Dr. Aage Moller, a highly respected researcher and UT Dallas professor in the School of Behavioral and Brain Sciences, to spotlight faculty members who show exceptional commitment to their students.

Dr. Chandramallika Basak was selected Chair of the Intervention and Prevention Special Interest Group (SIG), sponsored by the Adult Development and Aging Early Career Professionals Task Force. She is also co-chairing the Technology and Aging SIG with Dr. Theodore Cosco.

Dr. Rugg attended his last meeting of National Institutes of Health’s Neurobiology of Learning and Memory study section after five years as a member, with the last two as chair.

Dr. Gagan Wig received a $2.9 million grant from the National Institute on Aging to further research on the link between socioeconomic status and Alzheimer’s disease.

Graduate student Erin Horne successfully defended her dissertation in May and accepted a position as a Research Associate in the Rugg lab.

Graduate student Shuo Qin successfully defended her dissertation in August and accepted a postdoctoral position in the Basak lab, effective September.
Supporter spotlight:

For Kelley, it’s personal

Kelley Atwood, CVL supporter and director of data for the UT Dallas Office of Development and Alumni Relations, recently made a gift to the CVL. We sat down with her to talk about why she supports the Center and tips for others who may be thinking about making a gift.

Why did you decide to make a gift to CVL? I have multiple family members, going generations back, who were affected by degenerative brain diseases. I believe it is important to find the cause, so we can find a cure.

What advice would you like to share with others? Giving back is important, and easy. Find something you are passionate about and give to that cause – either by giving your time or financial support. Not only does this help the cause, it makes you feel good to know you can make a difference.

You gave an “unrestricted” gift. Why was this important to you? Giving without restrictions is so important. When people restrict their gifts to research only it can limit the overall ability of the organization to get things done. Non-profits need funds to use without restrictions for expenses like purchasing new machines, hiring the correct staff, funding new projects, or sending staff to conferences. These expenditures are also a part of finding the cause and cure for the disease. If you restrict your gift, you limit the effectiveness of your donation.

Kelley Atwood’s gift is tied to honoring her family history. Kelley shared this photo of her grandmother and her sisters, two of which died from Alzheimer’s disease while the others died young from various forms of cancer. Kelley’s great-great grandfather and her great grandmother also suffered from Alzheimer’s.

WHYS AND WAYS TO GIVE

The Center for Vital Longevity at UT Dallas is unique – pursuing research that will lead to cognitive health for life. Support to the CVL from generous donors helps fund important Center needs and foster the next generation’s scientists – needs that are not covered by highly-restricted federal research grants. For more information on how you can support the CVL, contact Megan.Harrison@utdallas.edu or 972-883-3728.
Q&A:
Meet Robert Dotson,
CVL Advisory Council member

Robert Dotson has dedicated the last 10 years of his life to helping others – and he’s just getting started.

Tell us about your involvement with non-profit organizations, and how you decided to start dedicating your time to helping others. I’d like to say that my life has been somewhat atypical and I’m quite comfortable with that. After finishing law school, I realized I didn’t want to practice law. I’ve always had a significant interest in helping other people, so I was naturally drawn to the philanthropic world.

Over the past decade, I’ve focused my time in three areas: 1) Doing pro bono and deeply discounted consulting for small charities to enhance their effectiveness; 2) travelling, because the world is indeed an amazing place – I’ve been to more than 70 countries on 6 continents and still have much I want to see; and 3) I love simply helping other people as a way to remind them that they are worthy, they are valued and that they are cared for. Having grown up in rural southern Kentucky, I remember a time when people truly focused on helping other people. In the chaotic world we live in today, doing so can be very challenging for many people. I believe in the importance of communal relationships in society and I don’t want to see that fabric and mosaic deteriorate.

How did you become involved with the Center for Vital Longevity? I’ve been fortunate to get to know Dr. Denise Park through various social settings in the city of Dallas and the philanthropic efforts that I’ve been involved in. I was inspired by her efforts and her leadership in the field as a world-renowned scientist. Cognitive decline and Alzheimer’s disease are significant social issues for which we desperately need solutions – and I want to contribute toward finding such solutions.

Why do you think research on the aging mind is so important? Cognitive loss has such a significant emotional impact on the person, the caregiver, the family and their friends. It also has immense economic consequences for families and our society. Anything we can do to mitigate such issues will help us create a better life for others. The research is so important because without it, there isn’t a chance for a cure.

The information CVL labs are gathering and sharing is so incredibly important. We all want to know what we can do to maintain cognitive health and steps we can take toward prevention. We have scientists at CVL with stores of knowledge communicating important information and awareness out into the community. This sharing of knowledge gives people hope and has high practical worth that allows people to have a better quality of life through actively pursuing their own cognitive vitality.

Why did you decide to join the Advisory Council? I joined the Advisory Council at the invitation of Dr. Rugg. He asked me to join to share professional knowledge I have accumulated in working with non-profit organizations and with the hope that I can be a resource for the Center. I was delighted to be asked to be a part of furthering the awareness of the incredibly significant work CVL is accomplishing.

Center for Vital Longevity Advisory Council

Lindsey Kluempers, Chair
Swingle Collins & Associates

Chela Abdallah
Community Volunteer

Mary Susan Barnhill
MSB Interiors

Caroline “Cassie” Crosby
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Giles Davidson
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Lisa Shardon
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Dr. John Stilwell
UT Dallas

Larry Warder
Deloitte Consulting, Retired
NEW FACES

In addition to Dr. Seaman (see full story page 2), the Center for Vital Longevity is pleased to welcome several other new faces – both lab members and administrative support. This continues the rapid growth of the center, bringing the total number of scientists and support positions to 70 (a 20 percent increase from last spring).

Join us in welcoming these new faces to the CVL.

**Julia Bacci** is a new research assistant in Dr. Park’s Aging Mind Lab. Julia graduated from the University of North Texas in 2018 where she majored in Psychology and minored in Spanish and Drug Abuse/Addictions. She was part of the Disposition, Emotion and Addiction Research Lab at UNT, conducting studies about the motivational underpinnings of tobacco use. She was also a member of the Neurocognitive Lab and conducted studies regarding tip-of-the-tongue states, c-PTSD and old/new cognition.

**Kalynn Carpenter** is a graduate student who has joined Dr. Rugg’s Functional Neuroimaging of Memory (FNIM) Lab to conduct research into emotion-based memory. She received her BS in Psychology from California Polytechnic State University in San Luis Obispo, focusing on the neuroscience behind trauma. Kalynn has also studied PTSD in Waco, which focuses on studying PTSD in first responders. She also completed an internship with Thomas Fergus, PhD, associate professor of Psychology and Neuroscience at Baylor, as a research assistant studying anxiety and OCD.

**Ann Davis** joined the CVL in September as communications manager. With more than 10 years of marketing and communications experience, Ann will work to elevate the perception and awareness of the CVL and its labs through strategic marketing and public relations efforts. She received a BA in Communications from the University of Arkansas Fayetteville and an MBA from Texas Wesleyan University.

**Sarah Frank**, a graduate of Baylor University in 2018, is a new research assistant in the Park Aging Mind Lab. At Baylor, Sarah studied Psychology and Professional Writing and completed a psychology internship at Warriors Research Institute in Waco, which focuses on studying PTSD in first responders. She also completed an internship with Thomas Fergus, PhD, associate professor of Psychology and Neuroscience at Baylor, as a research assistant studying anxiety and OCD.

**Derek Lehtonen**, a graduate student in the Rugg FNIM Lab, is a 2015 graduate of Texas A&M University and currently a PhD student in Systems Neuroscience, co-advised by Drs. Rugg and Christa McIntyre. Derek’s research is in emotional memory. In the future, he plans to translate his research in humans to animal models using optogenetic and electrophysiological techniques.

**Shelby Leverett** joined the CVL as lab manager and research assistant in Dr. Seaman’s Aging Well Lab. Shelby is a graduate of Duke University, earning a BS in Psychology while working under Dr. Bridget Weller. After graduating from Duke, she spent two years as a research assistant at the Children’s Learning Institute at the UT Health Science Center in Houston where she investigated the effect of teacher and parent intervention on infant and toddler development. She completed her master’s in Neuroscience and Cognition at UT Dallas this past May while working with Drs. Kennedy and Rodrigue.

**Wei Wang** is a visiting scholar in the Rugg FNIM Lab. Wei received his PhD in Psychology from Capital Normal University in China. His doctoral research focused on the interactions between implicit memory and recognition memory. His current research interests are on how episodic memory is affected by aging.

**Tzu-Chen (Jane) Lung** is a graduate student in the Kennedy Neuroimaging of Aging and Cognition (KNAC) Lab. Tzu-Chen earned a BS in Psychology from Chung Yuan Christian University and MS in Cognitive Neuroscience from the National Central University, Institute of Cognitive Neuroscience in Taiwan. She has conducted pilot studies on the effects of training on executive function in both young and older adults during her graduate school years.

**Ray Williams** joined CVL in July as the new software systems specialist. Ray will handle information technology support for the center, including hardware and software needs to support the research labs, center events, and network access. He is a graduate of the University of North Texas, where he majored in IT engineering.

**Ezra Winter-Nelson** recently joined the Wig Neuroimaging Lab as a graduate student. He graduated from the University of Illinois at Urbana-Champaign (UIUC) in 2018 with a BS in Molecular/Cellular Biology and a minor in Computer Science. At UIUC, Ezra worked as a research assistant in the Memory Systems Lab and was also a member of the CONNECT Lab. His research interests include large-scale functional connectivity, specifically systems modulating spontaneous changes in resting-state FC, the nature of variations among individuals FC organizations, and the relationship between the structural and functional connectomes.

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UT Dallas Celebrates 50 Years

Founded in 1969, The University of Texas at Dallas is a rising research powerhouse with eight schools and more than 140 academic degrees. It is ranked the No. 1 best value public university in Texas by Forbes and is the second-fastest growing public doctoral university in the country according to The Chronicle of Higher Education. The CVL is proud to be a key part of the University’s research activity and contribute to its rising stature locally and nationally.

Take a slide down memory lane and visit UTD’s 50th anniversary website at utdallas.edu/50.

GET INVOLVED

Being a part of CVL research goes beyond the lab. Check out these opportunities to connect with us and join our pursuit of vital longevity.

New CVL emerging professionals’ group will host first event November 20
The CVL’s early career scientists are coming together to launch a new series of events for up-and-coming community and business leaders. The CVL Network events will offer emerging professionals the opportunity to network and stay up-to-date on the latest cognitive health-related scientific discoveries happening in their very own backyard.

Save the date now for the inaugural event, “Brain Myths De-bunked,” featuring Chris Foster, PhD, and Christina Webb, PhD, researchers at the Center. Attendees will get to brush-up on brain trivia while enjoying food and drinks beginning at 7 p.m. on Wed., November 20 at Public School 214, 700 McKinney Ave #148, Dallas. RSVP to Megan.Harrison@utdallas.edu.

The Director’s Research Circle invites you
The new season of the Director’s Research Circle (DRC) is in full swing with new membership levels. The DRC brings together community members who share a dedication to preventing memory loss and ensuring healthy minds for life. Membership offers exclusive insight and interactions with the CVL’s lab directors, researchers and includes invitations to talks from visiting scientists from across the country. Contact Megan.Harrison@utdallas.edu for more information on how to join this group and learn about the new membership levels.

The next DRC event is slated for Jan. 30, 2020 at the Park Cities Club, and will feature an exclusive talk from Northwestern University’s Joel Voss, PhD, keynote speaker for the 2020 Science Symposium.

Above, left: Nancy Shutt and Carol Hall at the Fall DRC. Above, right: Dr. Gagan Wig, Mary Susan Barnhill and Larry Warder.
The CVL hosted a team of faculty, staff, friends and pets to join the Saturday morning Alzheimer’s Association Walk to End Alzheimer’s on October 5. The team raised nearly $1,200 and displayed posters from CVL labs in the new Research Emporium (a place for walk participants to learn about local research).