



CENTER FOR  
VITAL LONGEVITY

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THE SCIENCE OF THE AGING MIND



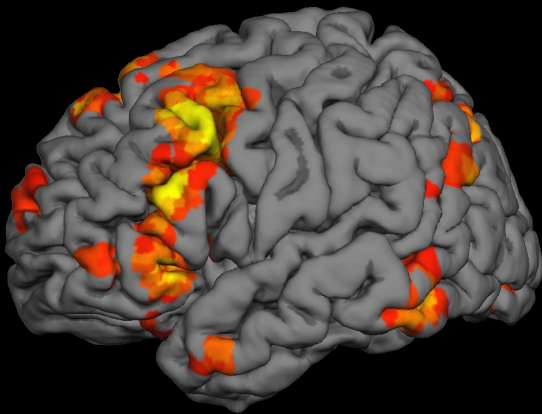
Center for Vital Longevity  
1600 Viceroy Drive, Suite 800  
Dallas, TX 75235  
[vitallongevity.utdallas.edu](http://vitallongevity.utdallas.edu)

# DALLAS-ACC PROGRAM

FEBRUARY 12-14, 2011

FOUR SEASONS RESORT AND CLUB DALLAS  
AT LAS COLINAS, TEXAS

SPONSORED BY  
THE CENTER FOR VITAL LONGEVITY  
THE UNIVERSITY OF TEXAS AT DALLAS



# Welcome to Dallas-ACC

We are delighted to welcome you to the second Dallas Aging and Cognition Conference. Historically, dissemination of research findings in the fast-moving field of the cognitive neuroscience of aging has been distributed across a number of conferences, and we sensed a need for a meeting that focuses solely on this topic. The tremendous response and positive feedback from the inaugural meeting last year suggest that we are not alone. This year's meeting—organized around the broad theme of aging and memory—has a similar format to its predecessor, with a mix of invited platform talks from scientists at different stages of their careers and poster presentations. The easy accessibility of Dallas has again allowed us to keep the conference short, so that you are able to enjoy part of the weekend with your family and friends, and miss only one day of work. This year we are especially excited about the recent establishment of the Center for Vital Longevity at The University of Texas at Dallas and the terrific research collaborations available with our colleagues from The University of Texas Southwestern Medical Center and The University of Texas at Arlington. In establishing the center, we have received tremendous support from UT Dallas at all levels, including from President David E. Daniel, Provost Hobson Wildenthal, and Dean Bert Moore of the School of Behavioral and Brain Sciences. We also are very grateful to the center's Advisory Council, which has given us steadfast support and encouragement from the very beginning. We also gratefully acknowledge the pivotal role of the council in forging relationships between the center and the local community, whose support will be vital to our continuing success.

Paula Abercrombie, Blair Flicker, Melinda Ellis, Amanda Siegfried and April Norambuena of the Center for Vital Longevity have done an outstanding job planning and executing this conference. We can never thank them enough. We also thank the members of the Park and Rugg research groups for their willing, cheerful and very competent assistance. Finally, on behalf of all the researchers at the conference, we thank the National Institute on Aging for the support of nearly all of the research that will be presented over the next two days. Understanding and slowing the process of cognitive aging is one of the premier scientific challenges facing our society. This conference will, we hope, play a role in moving us toward that goal faster and with more creativity and innovation than would have occurred otherwise.

Sincerely,  
Denise Park and Michael Rugg  
Conference Organizers



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# Conference Information

## CONFERENCE WEBSITE:

<http://vitallongevity.utdallas.edu/dacc/>

## CONFERENCE LOCATION

Dallas-ACC will take place at the Four Seasons Resort and Club Dallas at Las Colinas, located at 4150 North MacArthur Blvd., Irving, Texas 75038. The phone number is 972-717-0700.

## PRESENTATIONS

### LENGTH OF TALK

Each talk will be 20 minutes, followed by 5 minutes of questions. It is important that talks are kept to this length. The moderator will insist that talks end on time.

### LOADING YOUR TALK PRIOR TO YOUR SESSION

If you were unable to provide your presentation to us prior to the conference, please stop by the podium to load your talk in the morning before the conference starts or during lunch (for those with afternoon talks). Someone will be available to help you.

## FOOD

### TEXAS BBQ AND CVL OPEN HOUSE

You are invited to an informal welcome dinner at the Center for Vital Longevity from 6:30 p.m. to 10:00 p.m. on Saturday, February 12. All conference attendees are encouraged to come. Vegetarian options will be available. Transportation will be provided back and forth between the Four Seasons and the center at 1600 Viceroy Drive, Dallas, Texas 75235. Shuttles will leave the Four Seasons regularly between 6:00 p.m. and 8:30 p.m. and return from the center regularly between 8:30 p.m. and 10:00 p.m.

### BREAKFAST AND LUNCH

A continental breakfast and hot lunch will be provided for all registered conferees on both Sunday, February 13 and Monday, February 14. Breakfasts will be set up outside of the ballroom, while lunches will be served in a nearby room. Conference name badges must be worn to meals in order to verify registration.

### ASSISTANCE

If you have any questions or need assistance, email our conference managers, Blair Flicker ([bflicker@utdallas.edu](mailto:bflicker@utdallas.edu)) or April Norambuena ([april@utdallas.edu](mailto:april@utdallas.edu)) or call the Center for Vital Longevity at (972) 883-3200.

### LOCAL PARTICIPANTS

The Four Seasons offers complimentary self-parking in addition to valet parking.

## SUNDAY, FEBRUARY 13

### OPENING REMARKS

8:15 a.m.

Michael D. Rugg, Ph.D.

*Center for Vital Longevity, University of Texas at Dallas*

### THEORY

Moderator: Thad Polk, Ph.D.

8:30 a.m.

When does meaningful memory change begin?

*Timothy A. Salthouse, Ph.D., University of Virginia*

9:00 a.m.

The search for 'cognitive reserve': Preliminary findings

*Fergus I.M. Craik, Ph.D., FRSC, Rotman Research Institute, Baycrest*

9:30 a.m.

Evidence for multiple factors that influence cognitive aging

*Randy L. Buckner, Ph.D., Harvard University*

10:00 a.m.

Break

### MEMORY 1

Moderator: David Gallo, Ph.D.

10:30 a.m.

Episodic simulation: Evidence from aging, amnesia,  
and neuroimaging

*Daniel L. Schacter, Ph.D., Harvard University*

11:00 a.m.

Functional-anatomic correlates of relational memory in aging  
*Kelly S. Giovanello, Ph.D., University of North Carolina  
at Chapel Hill*

11:30 a.m.

Decoding memory success in aging  
*Alexa Morcom, Ph.D., University of Edinburgh*

12:00 p.m. - 1:30 p.m.

LUNCH AND POSTER SESSION 1

### HEALTHY AGING

Moderator: Chandramalika Basak, Ph.D.

1:30 p.m.

Beta-amyloid in healthy aging: Regional distribution  
and cognitive consequences  
*Karen M. Rodrigue, Ph.D., University of Texas at Dallas*

2:00 p.m.

Beta-amyloid burden is associated with altered functional  
activation during encoding across the adult lifespan  
*Kristen M. Kennedy, Ph.D., University of Texas at Dallas*

2:30 p.m.

Maintaining cognitive health despite accumulating neuropathology  
*David A. Bennett, M.D., Rush University Medical Center*

3:00 p.m.

Break



## SUNDAY, FEBRUARY 13

### MEMORY DYSFUNCTION

Moderator: Richard King, M.D., Ph.D.

3:30 p.m.

Presymptomatic Alzheimer's disease impacts  
detection of MCI/early-stage AD

*John C. Morris, M.D., Washington University, St Louis*

4:00 p.m.

Dementia and cognitive impairment in the oldest old: The 90+ study  
*Claudia H. Kawas, M.D., University of California, Irvine*

4:30 p.m.

Imaging white matter pathology in neurodegenerative disease  
*Ramon Diaz-Arrastia, M.D., Ph.D.,  
University of Texas Southwestern Medical Center*

## MONDAY, FEBRUARY 14

8:30 a.m.

Jonathan King and Molly Wagster  
*National Institute on Aging, National Institutes of Health*

### INDIVIDUAL DIFFERENCES

Moderator: Denise Head, Ph.D.

9:00 a.m.

Aging and memory: Activity, connectivity, and individual differences  
*Roberto Cabeza, Ph.D., Duke University*

9:30 a.m.

Intra-individual fMRI correlates of longitudinal  
cognitive performance in aging

*Jonas Persson, Ph.D., Stockholm University*

10:00 a.m.

Break

## MEMORY 2

Moderator: David Friedman, Ph.D.

10:30 a.m.

The importance of looking back: Age differences  
in proactive effects of memory

*Larry Jacoby, Ph.D., Washington University, St Louis*

11:00 a.m.

Pattern separation and the aging hippocampus

*Michael A. Yassa, Ph.D., Johns Hopkins University*

11:30 a.m.

True and false recognition of faces: Individual  
differences and age-related effects

*Jim Bartlett, Ph.D., University of Texas at Dallas*

12:00 p.m. - 1:30 p.m.

## LUNCH AND POSTER SESSION 2

## MONDAY, FEBRUARY 14

### CONTROL SYSTEMS

Moderator: Cindy Lustig, Ph.D.

1:30 p.m.

Influences of age-related pathology on attentional control and memory systems

*Trey Hedden, Ph.D., Harvard University*

2:00 p.m.

Connectivity in the aging brain

*David J. Madden, Ph.D., Duke University*

2:30 p.m.

Dedifferentiation and compensation: Insights from multi-voxel pattern analyses of working memory

*Patricia Reuter-Lorenz, Ph.D., University of Michigan*

3:00 p.m.

An expectation deficit hypothesis of cognitive aging

*Adam Gazzaley, Ph.D., University of Michigan*

3:30 p.m.

Closing remarks

*Denise C. Park, Ph.D.*

*Center for Vital Longevity, University of Texas at Dallas*

## POSTER SESSION 1

SUNDAY, FEBRUARY 13

Posters can be viewed during lunch from 12:00 p.m. to 1:30 p.m.

### S-1

Graph theory reveals a rich structure of functional  
brain networks in healthy aging

Gagan S. Wig<sup>1,2</sup>, Francis M. Miezin<sup>1,3</sup>, Jonathan D. Power<sup>1</sup>, Alexander  
L. Cohen<sup>1</sup>, Steven M. Nelson<sup>1</sup>, Adrian W. Gilmore<sup>2</sup>, William D. Stevens<sup>2</sup>,  
Abraham Z. Snyder<sup>1</sup>, Steven E. Petersen<sup>1,3,4</sup>, Daniel L. Schacter<sup>2</sup>

<sup>1</sup> *Department of Neurology, Washington  
University School of Medicine*

<sup>2</sup> *Department of Psychology, Harvard University*

<sup>3</sup> *Department of Radiology, Washington  
University School of Medicine*

<sup>4</sup> *Department of Psychology, Washington University*

### S-2

In vivo estimation of regional brain iron in healthy aging:  
Comparison of methods

Ana M. Daugherty, B.S., Naftali Raz, Ph.D.

*Institute of Gerontology and Department of Psychology, Wayne  
State University*

### S-3

Quantification of age-related shape changes in the cerebral cortex using fractal dimension

Richard D. King, M.D., Ph.D.<sup>1</sup>, Kristen Kennedy, Ph.D.<sup>2</sup>,  
Karen Rodrigue, Ph.D.<sup>2</sup>, Denise Park, Ph.D.<sup>2</sup>

<sup>1</sup> *University of Utah*

<sup>2</sup> *University of Texas at Dallas*

### S-4

Cognitive and structural changes in cognitively normal older adults without amyloid deposition

Hwamee Oh, Ph.D.<sup>1</sup>, Cindee Madison, M.S.<sup>1</sup>, Tad Haight, Ph.D.<sup>1</sup>,  
Candace Markley, B.A.<sup>1</sup>, William Jagust, M.D.<sup>1,2</sup>

<sup>1</sup> *Helen Wills Neuroscience Institute,  
University of California, Berkeley*

<sup>2</sup> *Life Sciences Division, Lawrence Berkeley National Laboratory*

### S-5

Increased prefrontal activation in amyloid positive cognitively normal individuals during successful episodic memory encoding

Elizabeth C. Mormino<sup>1</sup>, Michael G. Brandel<sup>1</sup>,  
Cindee Madison<sup>1</sup>, William Jagust<sup>1,2</sup>

<sup>1</sup> *Helen Wills Neuroscience Institute,  
University of California, Berkeley*

<sup>2</sup> *Department of Molecular Imaging and Neuroscience,  
Lawrence Berkeley National Laboratory*

## S-6

Multivariate pattern analysis of resting-state functional connectivity MRI predicts subject age

Koene R. Van Dijk, Ph.D.<sup>1,2</sup>, Trey Hedden, Ph.D.<sup>1</sup>,

Randy L. Buckner, Ph.D.<sup>1,2,3</sup>, Mert R. Sabuncu<sup>1</sup>

<sup>1</sup>*Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital*

<sup>2</sup>*Department of Psychology, Center for Brain Science, Harvard University*

<sup>3</sup>*Howard Hughes Medical Institute at Harvard University*

## S-7

A 'concrete view' of aging: Event related potentials reveal age-related changes in basic integrative processes in language

Hsu-Wen Huang, Ph.D.<sup>1</sup>, Aaron M Meyer, Ph.D.<sup>1</sup>,

Kara D. Federmeier, Ph.D.<sup>1,2,3</sup>

<sup>1</sup>*Department of Psychology*

<sup>2</sup>*Program in Neuroscience*

<sup>3</sup>*Beckman Institute for Advanced Science and Technology, University of Illinois*

## S-8

Why do we forget people's names as we get older?

Nigel Gopie, Ph.D.<sup>1,2</sup>, Jennifer S. Rabin, M.A.<sup>3</sup>,

Fergus I. M. Craik, Ph.D.<sup>1,2</sup>, Morris Moscovitch, Ph.D.<sup>1,2</sup>

<sup>1</sup>*Rotman Research Institute, Baycrest*

<sup>2</sup>*University of Toronto*

<sup>3</sup>*York University*

### S-9

Effects of age on the neural correlates of  
successful source memory encoding

Julia T. Mattson, Michael D. Rugg, Ph.D.

*Center for Vital Longevity, University of Texas at Dallas*

### S-10

Effects of aging on brain activity during the  
encoding of intended actions

Anne Eschen, Ph.D.<sup>1</sup>, Kliegel Matthias, Ph.D.<sup>2</sup>, Mike Martin, Ph.D.<sup>1</sup>

<sup>1</sup> *University of Zurich, International Normal Aging  
and Plasticity Imaging Center (INAPIC)*

<sup>2</sup> *Technische Universität Dresden, Department of Psychology*

### S-11

Neural correlates of recollection and familiarity in  
young and old subjects as revealed by fMRI

Tracy H. Wang, M.S.<sup>1,2</sup>, Michael D. Rugg, Ph.D.<sup>1,2</sup>

<sup>1</sup> *University of Texas at Dallas*

<sup>2</sup> *Center for Vital Longevity*

### S-12

The effects of age, memory performance and callosal integrity  
on the neural correlates of successful associative encoding

Marianne A. de Chastelaine, Ph.D., Tracy H. Wang, M.S.,

Michael D. Rugg, Ph.D.

*Center for Vital Longevity, School of Behavioral and  
Brain Sciences, University of Texas at Dallas*

### S-13

Relational memory in healthy aging and mild cognitive impairment

Jaclyn H. Ford<sup>1</sup>, Felipe De Brigard<sup>1,2</sup>, Daniel Kaufer, M.D.<sup>3</sup>,  
Jeffrey Browndyke, Ph.D.<sup>4</sup>, Kathleen Welsh-Bohmer, Ph.D.<sup>4</sup>, Kelly  
S. Giovanello, Ph.D.<sup>1,5</sup>

<sup>1</sup> *University of North Carolina at Chapel Hill,  
Department of Psychology*

<sup>2</sup> *UNC-Chapel Hill, Department of Philosophy*

<sup>3</sup> *UNC-Chapel Hill, Department of Neurology*

<sup>4</sup> *Duke University, Joseph and Kathleen Bryan  
Alzheimer's Disease Research Center*

<sup>5</sup> *UNC-Chapel Hill, Biomedical Research Imaging Center*

### S-14

Incidence and predictors of dementia in normal and cognitively  
impaired oldest-old: Findings from The 90+ Study

Carrie Brumback Peltz, Ph.D.<sup>1,2</sup>, Claudia H Kawas, M.D.<sup>1,2,3</sup>

<sup>1</sup> *Institute for Memory Impairments and Neurological Disorders*

<sup>2</sup> *University of California, Irvine*

<sup>3</sup> *Department of Neurology*



### S-15

Life space and risk of Alzheimer's disease, mild cognitive impairment, and cognitive decline in older adults

Bryan D. James, Ph.D.<sup>1,2</sup>, Patricia A. Boyle, Ph.D.<sup>1,3</sup>, Aron S. Buchman, M.D.<sup>1,4</sup>, Lisa L. Barnes, Ph.D.<sup>1,3,4</sup>, David A. Bennett, M.D.<sup>1,4</sup>

<sup>1</sup> *Rush Alzheimer's Disease Center*

<sup>2</sup> *Rush University Medical Center, Department of Internal Medicine*

<sup>3</sup> *Rush University Medical Center, Department of Behavioral Sciences*

<sup>4</sup> *Rush University Medical Center, Department of Neurological Sciences*

### S-16

Neurocognitive speed and inconsistency in Parkinson's disease with and without incipient dementia: An 18-month longitudinal study

Cindy M. de Frias, Ph.D.<sup>1</sup>, Roger A. Dixon, Ph.D.<sup>2</sup>, Richard Camicioli, M.D.<sup>3</sup>

<sup>1</sup> *Center for Vital Longevity, School of Behavioral and Brain Sciences, University of Texas at Dallas*

<sup>2</sup> *Department of Psychology, University of Alberta*

<sup>3</sup> *Division of Neurology, University of Alberta*

### S-17

Utilization of alternative diagnostic techniques:

Identifying reversible dementia in older adults

Danica Wailes, B.S., Katie Price, B.S., Dixie Kime, M.A.  
*School of Professional Psychology, Forest Institute*

### S-18

Transient neural plasticity in human motor cortex

K. C. Tung, Feng Xu, Jinsoo Uh, Ph.D., Hanzhang Lu, Ph.D.

*Advanced Imaging Research Center, UT Southwestern Medical Center*

### S-19

Dallas Lifespan Brain Study (DLBS): A lifespan study of neurocognitive aging

Denise C. Park, Ph.D., Kristen Kennedy, Ph.D., Karen Rodrigue, Ph.D., Gerard Nisal Bischof, Dipl.Psych, Jenny Rieck, B.S., Andy Hebrank, B.A., Blair Flicker, B.S.

*Center for Vital Longevity, University of Texas at Dallas*

### S-20

Synapse: Actively engaging the aging mind

Jennifer Lodi-Smith, Ph.D., Linda M. Drew, Ph.D.,

Denise C. Park, Ph.D.

*Center for Vital Longevity, University of Texas at Dallas*

## POSTER SESSION 2

### MONDAY, FEBRUARY 14

Posters can be viewed during lunch from 12:00 p.m. to 1:30 p.m.

### M-1

Age-related effects on autobiographical memory retrieval:

An fMRI study using a novel camera technology

Peggy L. St. Jacques, Ph.D.<sup>1</sup>, Roberto Cabeza, Ph.D.<sup>2</sup>

<sup>1</sup> *Harvard University*

<sup>2</sup> *Duke University*

## M-2

Age-related differences in neural correlates of working memory: Role of pointer predictability

Chandramallika Basak, Ph.D., A. Cris Hamilton, Ph.D.,  
Debshila Basu Mallick, Yu-Hsuan Chang

*Rice University*

## M-3

Age-related changes in prefrontal activity during retrieval monitoring

Ian M. McDonough, M.A., Jessica T. Wong, M.A., David A. Gallo, Ph.D.

*University of Chicago*

## M-4

Age-related changes in visual cortex activity during picture recollection

Sasha N. Cervantes, M.A., Ian M. McDonough, M.A.,  
David A. Gallo, Ph.D.

*University of Chicago*

## M-5

Everyday memory errors in older adults

Lynn Ossher, Kristin E. Flegal, Cindy Lustig, Ph.D.

*University of Michigan*

## M-6

The neural mechanisms associated with monitoring and aging

Sara Haber Halcomb, Jessica M. Logan, Ph.D., Cris Hamilton, Ph.D.

*Rice University*

### M-7

Frequent false hearing in older adults: Age differences  
in metacognition

Chad S. Rogers, Ph.D., Larry L. Jacoby, Ph.D.,

Mitch S. Sommers, Ph.D.

*Washington University, St. Louis*

### M-8

Impact of visual contrast on memory with age

Margeaux V. Auslander, M.A., Angela H. Gutchess, Ph.D.

*Brandeis University*

### M-9

Posterior parietal cortices contribute to  
compensatory processes in normal aging

Chih-Mao Huang<sup>1,2</sup>, Denise C. Park, Ph.D.<sup>1</sup>

<sup>1</sup> *Center for Vital Longevity, University of Texas at Dallas*

<sup>2</sup> *Department of Psychology, University of Illinois,  
Urbana-Champaign*

### M-10

Prefrontal volume and systolic blood pressure mediate age-  
related differences in associative recognition in ApoE  $\epsilon$ 4 carriers

Andrew R. Bender, M.A., Naftali Raz, Ph.D.

*Institute of Gerontology & Department of Psychology,  
Wayne State University*

### M-11

The effects of age and white matter integrity on  
intra-individual variability in reaction time

Guy G. Potter, Ph.D.<sup>1,2</sup>, Wythe L. Whiting, Ph.D.<sup>3</sup>,  
David J. Madden, Ph.D.<sup>1,2</sup>

<sup>1</sup> *Department of Psychiatry and Behavioral  
Sciences, Duke University Medical Center*

<sup>2</sup> *Center for the Study of Aging and Human  
Development, Duke University*

<sup>3</sup> *Department of Psychology, Washington and Lee University*

### M-12

Age differences in the neural representation of working  
memory revealed by multi-voxel pattern analysis

Joshua Carp, M.S.<sup>1</sup>, Leon Gmeindl, Ph.D.<sup>2</sup>,  
Patricia A. Reuter-Lorenz, Ph.D.<sup>1</sup>

<sup>1</sup> *Department of Psychology, University of Michigan*

<sup>2</sup> *Department of Psychological and Brain  
Sciences, Johns Hopkins University*

### M-13

Differential trajectories of longitudinal age-related changes  
in components of executive and memory processes

Joshua O. Goh, Ph.D., Yang An, M.S., Susan M. Resnick, Ph.D.  
*National Institute on Aging*

### M-14

The moderating role of exercise in stress-related effects  
on the hippocampus and memory in later adulthood

Denise Head, Ph.D., Tara Singh, Julie M. Bugg, Ph.D.  
*Washington University, St. Louis*

### M-15

The role of executive function in episodic memory performance in individuals with and without fibromyalgia  
Elizabeth M. Grandfield<sup>1</sup>, Brian Follick<sup>1</sup>, Brianne Levine<sup>1</sup>, Jordan K. Aquino<sup>2</sup>, Barbara Cherry, Ph.D.<sup>1</sup>, Laura Zettel-Watson, Ph.D.<sup>1</sup>

<sup>1</sup> *California State University, Fullerton*

<sup>2</sup> *Department of Health Science, California State University, Fullerton*

### M-16

Linking genetics and cognition with partial-least squares and correspondence analysis: A study of the ADNI cohort  
Derek Beaton, M.S., Hervé Abdi, Ph.D.

*University of Texas at Dallas*

### M-17

An expectation-based memory deficit in cognitive aging: The role of alpha oscillations  
Jacob Bollinger, Ph.D., Adam Gazzaley, Ph.D.

*University of California, San Francisco*

### M-18

Working memory and processing speed in healthy aging: An fMRI analysis  
M. Amanda Earl Colby, Ph.D.<sup>1</sup>, Ilana J. Bennett, Ph.D.<sup>1</sup>, Linda Pham<sup>1</sup>, Meghana Karnik-Henry, Ph.D.<sup>1</sup>, Traci I. Sandoval<sup>1</sup>, Bart Rypma, Ph.D.<sup>1,2</sup>

<sup>1</sup> *University of Texas at Dallas, Center for BrainHealth*

<sup>2</sup> *University of Texas Southwestern Medical Center*

## NOTES

## NOTES