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
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.
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) or April Norambuena (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.
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
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\textsuperscript{1,2}, Francis M. Miezin\textsuperscript{1,3}, Jonathan D. Power\textsuperscript{1}, Alexander L. Cohen\textsuperscript{1}, Steven M. Nelson\textsuperscript{1}, Adrian W. Gilmore\textsuperscript{2}, William D. Stevens\textsuperscript{2}, Abraham Z. Snyder\textsuperscript{1}, Steven E. Petersen\textsuperscript{1,3,4}, Daniel L. Schacter\textsuperscript{2}

\textsuperscript{1}Department of Neurology, Washington University School of Medicine
\textsuperscript{2}Department of Psychology, Harvard University
\textsuperscript{3}Department of Radiology, Washington University School of Medicine
\textsuperscript{4}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
Quantification of age-related shape changes in the cerebral cortex using fractal dimension
Richard D. King, M.D., Ph.D., Kristen Kennedy, Ph.D., Karen Rodrigue, Ph.D., Denise Park, Ph.D.
1 University of Utah
2 University of Texas at Dallas

Cognitive and structural changes in cognitively normal older adults without amyloid deposition
Hwamee Oh, Ph.D., Cindee Madison, M.S., Tad Haight, Ph.D., Candace Markley, B.A., William Jagust, M.D.
1 Helen Wills Neuroscience Institute, University of California, Berkeley
2 Life Sciences Division, Lawrence Berkeley National Laboratory

Increased prefrontal activation in amyloid positive cognitively normal individuals during successful episodic memory encoding
Elizabeth C. Mormino, Michael G. Brandel, Cindee Madison, William Jagust
1 Helen Wills Neuroscience Institute, University of California, Berkeley
2 Department of Molecular Imaging and Neuroscience, Lawrence Berkeley National Laboratory
Multivariate pattern analysis of resting-state functional connectivity MRI predicts subject age
Koene R. Van Dijk, Ph.D.\textsuperscript{1,2}, Trey Hedden, Ph.D.\textsuperscript{1}, Randy L. Buckner, Ph.D.\textsuperscript{1,2,3}, Mert R. Sabuncu\textsuperscript{1}
\textsuperscript{1}Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital
\textsuperscript{2}Department of Psychology, Center for Brain Science, Harvard University
\textsuperscript{3}Howard Hughes Medical Institute at Harvard University

A ‘concrete view’ of aging: Event related potentials reveal age-related changes in basic integrative processes in language
Hsu-Wen Huang, Ph.D.\textsuperscript{1}, Aaron M Meyer, Ph.D.\textsuperscript{1}, Kara D. Federmeier, Ph.D.\textsuperscript{1,2,3}
\textsuperscript{1}Department of Psychology
\textsuperscript{2}Program in Neuroscience
\textsuperscript{3}Beckman Institute for Advanced Science and Technology, University of Illinois

Why do we forget people’s names as we get older?
Nigel Gopie, Ph.D.\textsuperscript{1,2}, Jennifer S. Rabin, M.A.\textsuperscript{3}, Fergus I. M. Craik, Ph.D.\textsuperscript{1,2}, Morris Moscovitch, Ph.D.\textsuperscript{1,2}
\textsuperscript{1}Rotman Research Institute, Baycrest
\textsuperscript{2}University of Toronto
\textsuperscript{3}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.¹, Kliegel Matthias, Ph.D.², Mike Martin, Ph.D.¹
¹ University of Zurich, International Normal Aging and Plasticity Imaging Center (INAPIC)
² 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.¹,², Michael D. Rugg, Ph.D.¹,²
¹ University of Texas at Dallas
² 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. Ford¹, Felipe De Brigard¹,², Daniel Kaufer, M.D.³,
Jeffrey Browndyke, Ph.D.⁴, Kathleen Welsh-Bohmer, Ph.D.⁴, Kelly
S. Giovanello, Ph.D.¹,⁵

¹ University of North Carolina at Chapel Hill,
Department of Psychology
² UNC-Chapel Hill, Department of Philosophy
³ UNC-Chapel Hill, Department of Neurology
⁴ Duke University, Joseph and Kathleen Bryan
Alzheimer’s Disease Research Center
⁵ 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.¹,², Claudia H Kawas, M.D.¹,²,³
¹ Institute for Memory Impairments and Neurological Disorders
² University of California, Irvine
³ 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.\textsuperscript{1,2}, Patricia A. Boyle, Ph.D.\textsuperscript{1,3}, Aron S. Buchman, M.D.\textsuperscript{1,4}, Lisa L. Barnes, Ph.D.\textsuperscript{1,3,4}, David A. Bennett, M.D.\textsuperscript{1,4}

\textsuperscript{1} Rush Alzheimer’s Disease Center
\textsuperscript{2} Rush University Medical Center, Department of Internal Medicine
\textsuperscript{3} Rush University Medical Center, Department of Behavioral Sciences
\textsuperscript{4} 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.\textsuperscript{1}, Roger A. Dixon, Ph.D.\textsuperscript{2}, Richard Camicioli, M.D.\textsuperscript{3}

\textsuperscript{1} Center for Vital Longevity, School of Behavioral and Brain Sciences, University of Texas at Dallas
\textsuperscript{2} Department of Psychology, University of Alberta
\textsuperscript{3} 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.\(^1\), Roberto Cabeza, Ph.D.\(^2\)
\(^1\) Harvard University
\(^2\) 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\textsuperscript{1,2}, Denise C. Park, Ph.D.\textsuperscript{1}
\textsuperscript{1} Center for Vital Longevity, University of Texas at Dallas
\textsuperscript{2} 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 ε4 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.\textsuperscript{1,2}, Wythe L. Whiting, Ph.D.\textsuperscript{3},
David J. Madden, Ph.D.\textsuperscript{1,2}
\textsuperscript{1} Department of Psychiatry and Behavioral Sciences, Duke University Medical Center
\textsuperscript{2} Center for the Study of Aging and Human Development, Duke University
\textsuperscript{3} 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.\textsuperscript{1}, Leon Gmeindl, Ph.D.\textsuperscript{2},
Patricia A. Reuter-Lorenz, Ph.D.\textsuperscript{1}
\textsuperscript{1} Department of Psychology, University of Michigan
\textsuperscript{2} 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. Grandfield¹, Brian Follick¹, Brianne Levine¹, Jordan K. Aquino², Barbara Cherry, Ph.D.¹, Laura Zettel-Watson, Ph.D.¹
¹ California State University, Fullerton
² 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.¹, Ilana J. Bennett, Ph.D.¹, Linda Pham¹, Meghana Karnik-Henry, Ph.D.¹, Traci I. Sandoval¹, Bart Rypma, Ph.D.¹²
¹ University of Texas at Dallas, Center for BrainHealth
² University of Texas Southwestern Medical Center