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ACADEMIC HISTORY

- 1995 – 1996 University of California, Davis
Integrated Studies Invitational Honors Program
- 1997 – 1999 Wesleyan University, Middletown, CT
B.A., Psychology (Honors)
- 1999 – 2004 Ph.D., M.A., Dept of Psychology
University of California, Berkeley
Supervisor: Mark D'Esposito, M.D.

EMPLOYMENT

- 01/2005 – 06/2009 Postdoctoral Fellow
Neuroimaging in neurodegenerative disease and aging
University of California, Berkeley
Lawrence Berkeley National Laboratory
Helen Wills Neuroscience Institute
Supervisor: William J. Jagust, M.D.
- 07/2009 – Research scientist
Neuroimaging in aging and Alzheimer's disease
University of California, Berkeley
Lawrence Berkeley National Laboratory
Supervisor: William J. Jagust, M.D.

OTHER TRAINING

- 06/2011 Advanced Psychometrics Workshop, Friday Harbor, WA
- 07/2006 – 12/2006 Omneuron, Inc., Palo Alto, CA. Real-time fMRI application to treatment of pain and addiction, co-authored successful SBIR contract proposal.
- 11/2006 – 03/2006 Neuropsychological test administration training, supervised by Drs. Bruce Miller and Joel Kramer, Memory and Aging Center, UC San Francisco, CA.
- 07/2001 Fellow – Dartmouth Summer Institute of Cognitive Neuroscience

06/1998 – 08/1998	Electrophysiological recording in primates for experiment on high-level vision, Dr. Carol Colby, Center for the Neural Basis of Behavior, University of Pittsburgh, PA.
05/1994 – 09/1999	Collected normative data for episodic memory test, Dr. Elizabeth Parker, UC Irvine, CA.

SKILLS AND TECHNIQUES

- Multisite imaging of Alzheimer's patients: Analysis of multisite FDG-PET, PiB-PET, AV45-PET, MRI, and behavioral data from the Alzheimer's Disease Neuroimaging Initiative (ADNI), management of multiple projects including including image processing and statistical modeling of longitudinal clinical outcomes
- Brain Imaging: Designed and carried out fMRI and PET experiments on cognition and aging; scanned over 50 study participants with Varian Inova 4Tesla and Siemens 3Tesla MRI scanners, PET scanning and analysis using the tracers 6-[18F]Fluoro-L-m-tyrosine (FMT) and [18F]Fluorodeoxyglucose (FDG)
- Processing and statistical analysis of neuroimaging data: Developed novel modeling techniques for identifying practice-related changes in activation reconstruction; carried out motion correction, smoothing, segmentation, normalization, modeling, statistical analysis of PET, fMRI, and structural MR data (e.g. ANOVA, regression, factor analysis)
- Image analysis (MRI, FDG-PET) for study of the metabolic and morphological effects of chemotherapy on breast cancer patients in collaboration with Dr. Hope Rugo, UCSF Oncology
- Human subjects protocols: Completed ethics and safety training for neuroimaging involving radioactive isotopes (PET) and high-field magnetic imaging (fMRI/MRI), neuroimaging with data acquisition and feedback in real time (rtfMRI)
- Collaborative work: Wrote user documentation on scanning and analysis protocols, trained research assistants and colleagues in neuropsychological testing and fMRI scanning and analysis methods
- Image processing/display and data analysis programs (SPM, Freesurfer, FSL, Matlab, Excel, R, SPSS, Python)
- Manuscripts and grant applications reviewed (e.g. Alzheimer's Association, Neurobiology of Aging, NeuroImage, Alzheimer's and Dementia, Journal of Geriatric Psychiatry and Neurology)

AWARDS AND HONORS

1995	George W. Pierce Scholarship Award, UC Davis
1998	Fellow – National Science Foundation Summer Undergraduate Training Program at the Center for the Neural Basis of Behavior, Pittsburgh, PA
1999	Walkley Prize for original research – Wesleyan University
2001	Fellow – Dartmouth Summer Institute of Cognitive Neuroscience
2000 – 2003	National Science Foundation Graduate Research Fellowship Award
2006	Travel Award, Human Brain Mapping Annual Meeting, Florence, Italy
2006	Co-authored successfully funded NIH SBIR FastTrack contract proposal on real-time fMRI and addiction at Omneuron, Inc., Menlo Park, CA

PUBLICATIONS and PRESENTATIONS

Publications

M Sardesai, C Figge, M Bodner, M Crosby, J Hansen, JA Quillfeldt, SM Landau, A Ostling, S Vuong, GL Shaw (2001). Reliable short-term memory in the trion model: toward a cortical language and grammar. *Biological Cybernetics*, 84, 173-182.

JG Seamon, SE Schlegel, PM Hiester, SM Landau, BF Blumenthal (2002). Misremembering pictured objects: people of all ages demonstrate the boundary extension illusion. *American Journal of Psychology*, 115, 151-167.

ES Parker, SM Landau, SC Whipple, BL Schwartz (2004). Aging, Recall and Recognition: A Study on the Sensitivity of the University of Southern California Repeatable Episodic Memory Test (USC-REMT). *Journal of Clinical and Experimental Neuropsychology*, 26, 428-440.

SM Landau, EH Schumacher, H Garavan, TJ Druzgal, M D'Esposito (2004). A functional MRI study of the influence of practice on component processes of working memory. *Neuroimage*, 22, 211-221.

SM Landau M D'Esposito (2006). Sequence learning in pianists and non-pianists: An fMRI study of motor expertise. *Cognitive, Affective, and Behavioral Neuroscience*, 6, 246-259.

SM Landau, H Garavan, EH Schumacher, M D'Esposito (2007). Regional specificity and practice: Dynamic changes in object and spatial working memory. *Brain Research*, 1180,78-89.

MN Braskie, CE Wilcox, SM Landau, JP O'Neil, SL Baker, CM Madison, JT Kluth, WJ Jagust (2008). Relationship of Striatal dopamine synthesis capacity to age and cognition. *Journal of Neuroscience*, 28, 14320-14328.

SM Landau, R Lal, JP O'Neil, S Baker, WJ Jagust (2009). Striatal dopamine and working memory maintenance. *Cerebral Cortex*, 19, 445-454.

WJ Jagust, SM Landau, LM Shaw, JQ Trojanowski, RA Koeppe, EM Reiman, NL Foster, RC Petersen, MW Weiner, JC Price, CA Mathis, and the Alzheimer's Disease

Neuroimaging Initiative (2009). Relationships between biomarkers in aging and dementia. *Neurology*, 73,1193-9.

SM Landau, D Harvey, C Madison, NL Foster, EM Reiman, R Koeppe, MW Weiner, WJ Jagust, and the Alzheimer's Disease Neuroimaging Initiative (2009). Cognitive, functional, and metabolic decline in Alzheimer's disease and MCI. *Neurobiology of Aging*, Epub Aug 4, 2009.

WJ Jagust, D Bandy, K Chen, NL Foster, SM Landau, C Mathis C, J Price, EM Reiman, D Skovronsky, R Koeppe, and the Alzheimer's Disease Neuroimaging Initiative (2010). The Alzheimer's Disease Neuroimaging Initiative positron emission tomography core. *Alzheimer's and Dementia*, 6: 221-229.

MN Braskie, SM Landau, CE Wilcox, SD Taylor, JP O'Neil, SL Baker, CM Madison, WJ Jagust (2010). Correlations of striatal dopamine synthesis with default network deactivations during working memory in younger adults. *Human Brain Mapping*, Epub Jun 24, 2010.

SM Landau, D Harvey, C Madison, EM Reiman, NL Foster, GE Alexander, RC Peterson, LM Shaw, JQ Trojanowski, MW Weiner, WJ Jagust, and the Alzheimer's Disease Neuroimaging Initiative (2010). Comparing predictors of conversion and decline in mild cognitive impairment. *Neurology*, 75, 230-238.

K Chen, N Ayutyanont, JB Langbaum, AS Fleisher, C Reschke, W Lee, X Liu, D Bandy, GE Alexander, PM Thompson, L Shaw, JQ Trojanowski, CR Jack, SM Landau, NL Foster, DJ Harvey, MW Weiner, RA Koeppe, WJ Jagust, EM Reiman; Alzheimer's Disease Neuroimaging Initiative (2011). Characterizing Alzheimer's disease using a hypometabolic convergence index. *Neuroimage*, Epub Jan 27, 2011.

EC Klosterman, MN Braskie, SM Landau, JP O'Neil, WJ Jagust (2011). Dopamine synthesis capacity is related to front-striatal functional connectivity and task accuracy in older adults. *Neurobiology of Aging*.

SM Landau, SM Marks, EC Mormino, GD Rabinovici, H Oh, JP O'Neil, RS Wilson, WJ Jagust (epub 2012). Lifetime cognitive engagement is associated with low beta-amyloid deposition. *Archives of Neurology*.

A Caroli, A Prestia, K Chen, N Ayutyanont, SM Landau, CM Madison, C Haense, K Herholz, F Nobili, EM Reiman, WJ Jagust, GB Frisoni, EADC-PET Consortium, NEST-DD, and the Alzheimer's Disease Neuroimaging Initiative (2012). Summary metrics to assess Alzheimer's disease-related hypometabolic pattern with FDGPET: Head-to-head comparison. *J Nuclear Medicine*.

SM Landau, C Breault, AD Joshi, M Pontecorvo, CA Mathis, WJ Jagust, and MA Mintun. Amyloid imaging with Pittsburgh compound B and florbetapir: Comparing radiotracers and quantification methods. *J Nucl Med* (in press).

WJ Jagust & **SM Landau**. Apolipoprotein E, not Fibrillar Beta-amyloid, Reduces Cerebral Glucose Metabolism in Normal Aging. *J Neurosci* (in press).

T Haight, **SM Landau**, O Carmichael, C Schwartz, C DeCarli, WJ Jagust. Dissociable effects of Alzheimer's Disease and white matter hyperintensities on brain metabolism. Arch Neurol (in press).

M Wirth, C Madison, G Rabinovici, H Oh, **SM Landau**, WJ Jagust. Alzheimer's disease neurodegenerative biomarkers are associated with decreased cognitive performance but not beta-amyloid in cognitively normal elderly individuals. J Neurosci (in press).

Invited presentations

Dynamic Changes in Working Memory Mechanisms: The Influence of Practice and Expertise (Oct 2004). UC Berkeley Cognition, Brain, and Behavior Colloquium Series, Psychology Department, Berkeley, CA.

Individual variability in functional activation: How is optimal performance represented in brain activity? (Mar 2006) Omneuron, Inc., Palo Alto, CA.

The frontal lobe and cognition. UC Berkeley undergraduate course: The Aging Brain (Oct 2005, Oct 2007, Oct 2009, Oct 2011), Berkeley, CA.

Aging and dopamine function: How does dopaminergic variability impact working memory? (Jan 2008). Center for Imaging of Neurodegenerative Diseases, San Francisco VA Medical Center, San Francisco, CA.

Aging and dopamine function (May 2008). Human Cognitive Neurophysiology Laboratory, Martinez VA Medical Center, Martinez, CA.

Optimizing FDG-PET Measurements for Prediction of Decline: Findings from the Alzheimer's Disease Neuroimaging Initiative (June 2008). Aging Clinical Research Center, Palo Alto VA Medical Center, Palo Alto, CA.

Healthy aging and the brain (Nov 2011). Gualala Arts lecture series, Sea Ranch, CA.

Optimizing FDG-PET in Alzheimer's and MCI: Data from the Alzheimer's Disease Neuroimaging Initiative (Jan 2009). Center for Imaging of Neurodegenerative Diseases, San Francisco VA Medical Center.

Alzheimer's Disease Neuroimaging Initiative (ADNI) after 5 Years: How well have PET and MRI fared as predictors of cognitive decline? (Feb 2010) High Country Nuclear Medicine Meeting, Denver, CO.

Early detection of decline: An evaluation of biomarker predictors in the Alzheimer's Disease Neuroimaging Initiative (June 2010). Bay Area Alzheimer's Association Symposium, Berkeley, CA.

Lifetime cognitive engagement and amyloid (November 2011). UC San Francisco Memory and Aging Center Neuropsychology seminar.

Lifetime cognitive engagement and amyloid (March 2012). Lumosity Labs, San Francisco, CA.

Standardization of amyloid PET imaging (April 2012). Alzheimer's Disease Neuroimaging Initiative (ADNI) Private Partner Scientific Board meeting, New Orleans, LA.

Amyloid imaging as part of a multimodal evaluation of MCI (July 2012). Alzheimer's Association International Conference. Vancouver, B.C.

ADNI MCI Experience (October 2012). NIA Alzheimer's Association Guidelines Revisited. Washington, DC.

Detection of Early Alzheimer's Disease (November 2012). Preventive Treatment for Alzheimer's disease: Live Webinar hosted by the Wien Center for Alzheimer's disease and Memory Disorders.

Cognitive activity and healthy aging (December 2012). AARP Innovation Roundtable: The Science of Brain Health. Washington, D.C.

The Relationship between Biomarkers for Measuring and Predicting Progression in Aging, MCI and AD: The ADNI Study (January 2013). 11th Annual Mild Cognitive Impairment (MCI) Symposium and the Second Annual Early Alzheimer's Disease Workshop. Miami Beach, FL.

Conference presentations

SM Landau, S Baker, JL Eberling, FT Sun, M Oliver, WJ Jagust (2005). Dopamine, aging, and working memory. *Helen Wills Neuroscience Institute Annual Retreat*, Lake Tahoe, CA.

SM Landau, S Baker, S Chen, JL Eberling, R Lal, M Oliver, WJ Jagust (2006). Prefrontal activation during working memory maintenance is related to dopamine levels in healthy older adults. Oral presentation and poster, *Human Brain Mapping Annual Meeting, Florence, Italy*.

SM Landau, D Harvey, C Madison, NL Foster, EM Reiman, JQ Trojanowski, L Shaw, R Petersen, MW Weiner, WJ Jagust (2009). Comparing predictors of conversion: Data From The Alzheimer's Disease Neuroimaging Initiative. *Alzheimer's Association International Conference on Alzheimer's Disease*, Vienna, Austria.

SM Landau, D Harvey, NL Foster, EM Reiman, PS Aisen, JQ Trojanowski, L Shaw, CR Jack, RC Petersen, MW Weiner, WJ Jagust (2010). Biomarker predictors of cognitive decline in healthy older participants in the Alzheimer's Disease Neuroimaging Initiative. *Alzheimer's Association International Conference on Alzheimer's Disease*, Honolulu, HI.

SM Landau, JC Price, WJ Jagust, CA Mathis (2011). Reliability of longitudinal PIB: How do data processing methods influence detection of change over time? *Human Amyloid Imaging*, Miami, FL.