SUSAN M LANDAU, PhD

Helen Wills Neuroscience Institute, University of California at Berkeley

Radiotracer Development & Imaging Technology Dept,
Lawrence Berkeley National Laboratory
Berkeley, CA

slandau@berkeley.edu
510-486-4433

ACADEMIC HISTORY

1995 – 1996   UC Davis
Integrated Studies Invitational Honors Program

1997 – 1999   Wesleyan University, Middletown, CT
B.A., Psychology (Honors)

1999 – 2004   M.A., Ph.D., Dept of Psychology
UC Berkeley
Supervisor: Mark D'Esposito, M.D.

EMPLOYMENT

01/2005 – 06/2009   Postdoctoral Fellow
Cognitive and neural function in aging
Helen Wills Neuroscience Institute, UC Berkeley
Lawrence Berkeley National Laboratory
Supervisor: William J. Jagust, M.D.

07/2009 –   Research scientist
Neurodegeneration in aging and Alzheimer's disease
Helen Wills Neuroscience Institute, UC Berkeley
Radiotracer Development & Imaging Technology Department,
Lawrence Berkeley National Laboratory

AWARDS AND TRAINING

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
2011	Advanced Psychometrics Workshop, Friday Harbor, WA
2015	Second place poster award at Fourth Annual UC Davis Alzheimer's Disease Center Symposium

PUBLICATIONS and PRESENTATIONS

Peer-reviewed publications

1. 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.

2. 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.

3. 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.

4. SM Landau and 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.

5. 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.

6. 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.

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

8. 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.

9. 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.

10. 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.

11. MN Braskie, SM Landau, CE Wilcox, SD Taylor, JP O'Neil, SL Baker, CM Madison, WJ Jagust (2011). Correlations of striatal dopamine synthesis with default network deactivations during working memory in younger adults. Human Brain Mapping, 32, 947-961.

12. SM Landau, D Harvey, C Madison, NL Foster, EM Reiman, R Koeppe, MW Weiner, WJ Jagust, and the Alzheimer's Disease Neuroimaging Initiative (2011). Cognitive, functional, and metabolic decline in Alzheimer's disease and MCI. Neurobiology of Aging,32,1207-1218.

13. 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, 56, 52-60.

14. EC Klosterman, MN Braskie, SM Landau, JP O'Neil, WJ Jagust (2012). Dopamine synthesis capacity is related to front-striatal functional connectivity and task accuracy in older adults. Neurobiology of Aging, 33, 623.e15-623.e324.

15. SM Landau, SM Marks, EC Mormino, GD Rabinovici, H Oh, JP O'Neil, RS Wilson, WJ Jagust (2012). Lifetime cognitive engagement is associated with low beta-amyloid deposition. Archives of Neurology, 69, 623-629.

16. 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 Nucl Medicine, 53, 592-600.

17. SM Landau, MA Mintun, AD Joshi, RA Koeppe, RC Petersen, PS Aisen, MW Weiner, and WJ Jagust (2012). Amyloid deposition, hypometabolism, and longitudinal cognitive decline. Annals of Neurology, 72, 578-586.

18. WJ Jagust & SM Landau (2012). Apolipoprotein E, not Fibrillar Beta-amyloid, Reduces Cerebral Glucose Metabolism in Normal Aging. J Neuroscience, 32, 18227-18223.

19. SM Landau, C Breault, AD Joshi, M Pontecorvo, CA Mathis, WJ Jagust, and MA Mintun (2013). Amyloid imaging with Pittsburgh compound B and florbetapir: Comparing radiotracers and quantification methods. J Nucl Medicine, 54, 70-77.

20. M Wirth, H Oh, EC Mormino, C Markley, SM Landau, WJ Jagust (2013). The effect of amyloid β on cognitive decline is modulated by neural integrity in cognitively normal elderly. Alzheimer's & Dementia, 9, 687-698e1.

21. M Wirth, C Madison, G Rabinovici, H Oh, SM Landau, and WJ Jagust (2013). Alzheimer's disease neurodegenerative biomarkers are associated with decreased cognitive function but not beta-amyloid in cognitively normal older individuals. J Neuroscience, 33, 5553-5563.

22. SM Landau, M Lu, AD Joshi, M Pontecorvo, MA Mintun, JQ Trojanowski, LM Shaw, WJ Jagust (2013). Comparing PET imaging and CSF measurements of Aß. Annals of Neurology, 72, 826-836.

23. KR Murphy, SM Landau, KR Choudhury, CA Hostage, KS Shpanskaya, HI Sair, JR Petrella, TZ Wong, PM Doraiswamy (2013). Mapping the effects of ApoE4, age and cognitive status on 18F-florbetapir PET measured regional cortical patterns of beta-amyloid density and growth. NeuroImage, 78, 474–480.

24. T Haight, SM Landau, O Carmichael, C Schwartz, C DeCarli, WJ Jagust (2013). Dissociable effects of Alzheimer's Disease and white matter hyperintensities on brain metabolism. JAMA Neurology; 70,1039-1045.

25. M Wirth, S Villeneuve, CM Haase, CM Madison, H Oh, SM Landau, GD Rabinovici, WJ Jagust (2013). Alzheimer's disease biomarkers, neurodegeneration, and cognition in cognitively normal older people. JAMA Neurology, 70, 1512-1519.

26. J Nettiksimmons, C DeCarli, SM Landau, L Beckett (2014). Biological heterogeneity in ADNI amnestic MCI. Alzheimer's & Dementia, 10, 511-521.e1.

27. SM Landau, BA Thomas, L Thurfjell, M Schmidt, R Margolin, MA Mintun, M Pontecorvo, SL Baker, and WJ Jagust (2014). Amyloid PET imaging in Alzheimer's disease: A comparison of three radiotracers. Eur J Nucl Med & Mol Img, 41,1398-1407.

28. ME Schmidt, P Chiao, G Klein, D Matthews, L Thurfhell, PE Cole, R Margolin, SM Landau, NL Foster, NS Mason, S De Santi, J Suhy, RA Koeppe, WJ Jagust, (2014). The influence of biological and technical factors on quantitative analysis of amyloid PET: Points to consider and recommendations for controlling variability in longitudinal data. Alzheimer's & Dementia (doi:10.1016/j.jalz.2014.09.004).

29. N Mattsson, P Insel, M Donohue, SM Landau, WJ Jagust, L Shaw, J Trojanowski, H Zettererg, K Blennow, M Weiner (2015). Independent information from cerebrospinal fluid β-amyloid and florbetapir imaging in Alzheimer's disease. Brain,138:772-83.

30. K Chen, A Roontiva, P Thiyyagura, W Lee, X Liu, N Ayutyanont, H Protas, J Luo, R Bauer, C Reschke, D Bandy, RA Koeppe, A Fleisher, R Caselli, SM Landau, WJ Jagust, M Weiner (2015). Improved power to characterize longitudinal amyloid-β PET changes and evaluate amyloid-modifying treatments using a cerebral white matter reference region. J Nucl Med, 56, 560-6.

31. A Caroli, A Prestia, S Wade, K Chen, N Ayutyanont, SM Landau, CM Madison, C Haense, K Herholz, EM Reiman, WJ Jagust, GB Frisoni (2015). Alzheimer

Disease Biomarkers as Outcome Measures for Clinical Trials in MCI. Alzheimer's Dis & Assoc Dis, 29, 101-109.

32. JB Toledo, M Bjerke, D Xiao, SM Landau, NL Foster, WJ Jagust, C Jack, M Weiner, C Davatzikos, LM Shaw, JQ Trojanowski (2015). Nonlinear Association Between Cerebrospinal Fluid and Florbetapir F-18 β-Amyloid Measures Across the Spectrum of Alzheimer Disease. JAMA Neurology, 72, 571-581.

33. SM Landau, A Fero, SL Baker, RA Koeppe, MA Mintun, K Chen, EM Reiman, WJ Jagust (2015). Measurement of longitudinal Aβ change with 18F florbetapir PET and standard uptake value ratios. J Nucl Med, 56, 567-74.

34. WJ Jagust, SM Landau, RA Koeppe, EM Reiman, K Chen, CA Mathis, JC Price, NL Foster, AY Wang (2015). The Alzheimer's Disease Neuroimaging Initiative 2 PET Core: 2015. Alzheimers & Dementia, 11, 757-71.

35. S Schreiber, SM Landau, A Fero, F Schreiber, WJ Jagust (2015). Comparison of visual and quantitative florbetapir PET analysis in predicting MCI outcomes. JAMA Neurology, 72,1183-1190.

36. A Altmann, B Ng, SM Landau, WJ Jagust, MD Greicius (2015). Regional Brain Hypometabolism Is Unrelated to Regional Amyloid Plaque Burden. Brain (dx.doi.org/10.1093/brain/awv278).

37. WJ Jagust, SM Landau, RA Koeppe, EM Reiman, K Chen, CA Mathis, JC Price, NL Foster, AY Wang (2015). The Alzheimer's Disease Neuroimaging Initiative 2 PET Core: 2015. Alzheimers & Dementia, 11, 757-771.

38. EE Sundermann, A Biegon, LH Rubin, RB Lipton, W Mowrey, S Landau, PM Maki (2016). Better verbal memory in women than men in MCI despite similar levels of hippocampal atrophy. Neurology (online).

39. SM Landau, A Horng A, A Fero, WJ Jagust (2016). Amyloid negativity in patients with clinically diagnosed Alzheimer disease and MCI. Neurology (online).

Invited publications

1. SM Landau & M Doraiswamy (2012). Book review: The Biology of Alzheimer's Disease. JAMA, 308, 1925-1926.

2. SM Landau & MP Frosch (2014). Editorial: Tracking the earliest pathological changes in Alzheimer disease. Neurology; 82, 1576-1577.

Invited oral presentations

1. 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.

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

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

4. 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.

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

6. 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.

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

8. 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, San Francisco, CA.

9. 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.

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

11. Lifetime cognitive engagement and amyloid (Nov 2011). UC San Francisco Memory and Aging Center Neuropsychology seminar, San Francisco, CA.

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

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

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

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

16. Detection of Early Alzheimer's Disease (Nov 2012). Preventive Treatment for Alzheimer's disease: Live Webinar hosted by the Wien Center for Alzheimer's Disease and Memory Disorders, Mount Sinai Medical Center, Miami Beach, FL.

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

18. Measuring Progression in Alzheimer's Disease Using Brain Imaging Tests (Jan 2013). Public Educational Forum, Wien Center for Alzheimer's Disease and Memory Disorders, Mount Sinai Medical Center, Miami Beach, FL.

19. Agreement and disagreement between PET imaging and CSF measurements of amyloid (Feb 2013). Lawrence Berkeley National Laboratory Life Sciences Division Retreat, Lafayette, CA.

20. Amyloid, Glucose Metabolism, and Longitudinal Change (Jan 2014). 12th Mild Cognitive Impairment Symposium, Wien Center for Alzheimer's Disease and Memory Disorders, Mount Sinai Medical Center, Miami Beach, FL.

21. Understanding biomarker relationships in Alzheimer's disease: The ADNI experience (Jan 2015). 13th Mild Cognitive Impairment Symposium, Wien Center for Alzheimer's Disease and Memory Disorders, Mount Sinai Medical Center, Miami Beach, FL.

22. SM Landau (March 2015). Using biomarkers in Alzheimer's disease. Janssen AI, La Jolla, CA.

Conference oral presentations

1. 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.

2. 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.

3. 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.

4. 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.

5. 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.

6. SM Landau, M Lu, AD Joshi, M Pontecorvo, MA Mintun, JT Trojanowski, LM Shaw, and WJ Jagust (2013). Agreement and disagreement between PET imaging and CSF measurements of Aß Human Amyloid Imaging, Miami Beach, FL.

7. SM Landau, A Fero, SL Baker, WJ Jagust (2014). Amyloid Change Early in Disease is Related to Increased Glucose Metabolism and Episodic Memory Decline. Human Amyloid Imaging, Miami Beach, FL.

8. SM Landau, A Fero, WJ Jagust (2015). Amyloid negativity in clinically diagnosed ADNI Alzheimer's disease patients. Human Amyloid Imaging, Miami Beach, FL.

9. SM Landau, A Horng, WJ Jagust (2016). The clinical significance of increasing amyloid in cognitively normal, amyloid negative individuals. Human Amyloid Imaging, Miami Beach, FL.