

DEREK EVAN NEE

Curriculum Vitae

7-29-16

Florida State University
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Tallahassee, FL 32304
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ACADEMIC POSITIONS

- 2016- Assistant Professor (Fall 2016), Florida State University, Tallahassee, FL
Department of Psychology
- 2015-2016 Assistant Project Scientist, University of California, Berkeley, CA
Helen Wills Neuroscience Institute

EDUCATION AND TRAINING

- 2012-2015 Post-Doctoral Fellow, University of California, Berkeley, CA
Helen Wills Neuroscience Institute, PI: Mark D'Esposito
- 2008-2012 Post-Doctoral Fellow, Indiana University, Bloomington, IN
Dept of Psychological and Brain Sciences, PI: Joshua Brown
- 2008-2012 Post-Doctoral Fellow, University of Michigan, Ann Arbor, MI
Dept of Psychology, PI: John Jonides
- 2008 Ph.D., Psychology, University of Michigan, Ann Arbor, MI
- 2003 B.A., Computer Science, Cognitive Science, Dartmouth College,
Hanover, NH

PUBLICATIONS

H-Index: 22 (Google Scholar)

Refereed Journal Articles

1. Rahnev, D., **Nee, D.E.**, Riddle, J., Larson, A., & D'Esposito, M. (2016). Causal evidence for frontal cortex organization for perceptual decision-making. *Proceedings of the National Academy of Sciences of the United States of America*, 113(21), 6059-6064.
2. Eich, T.S., Goncalves, B.M.M., **Nee, D.E.**, Razlighi, Q.R., Jonides, J., & Stern, Y. (2016). Attentional and memorial inhibitory selection mechanisms in clinically healthy older and

younger adults. *Journal of Gerontology Series B: Psychological Sciences and Social Sciences*, Epub ahead of print.

3. **Nee, D.E.** & D'Esposito, M. (2016). The hierarchical organization of the lateral prefrontal cortex. *eLife*, 5, e12112.
4. **Nee, D.E.**, Jahn, A., & Brown, J.W. (2014). Prefrontal cortex organization: Dissociating effects of temporal abstraction, relational abstraction, and integration with fMRI. *Cerebral Cortex*, 24(9), 2377-2387.
5. Eich, T.S., **Nee, D.E.**, Insel, C., Malapani, C., & Smith, E.E. (2014). Neural correlates of impaired control over working memory in schizophrenia. *Biological Psychiatry*, 76(2), 146-153.
6. **Nee, D.E.** & Jonides, J. (2014). Frontal-medial temporal interactions mediate transitions among representational states in short-term memory. *Journal of Neuroscience*, 34(23), 7964-7975.
7. Jahn, A., **Nee, D.E.**, Alexander, W.H., & Brown, J.W. (2014). Distinct regions of anterior cingulate cortex signal prediction and outcome evaluation. *NeuroImage*, 95, 80-89.
8. **Nee, D.E.** & Jonides, J. (2013). Trisecting representational states in short-term memory. *Frontiers in Human Neuroscience*, 7, 796.
9. **Nee, D.E.** & Brown, J.W. (2013). Dissociable frontal-striatal and frontal-parietal networks involved in updating hierarchical contexts in working memory. *Cerebral Cortex*, 23(9), 2146-2158.
10. **Nee, D.E.** & Jonides, J. (2013). Neural evidence for a 3-state model of visual short-term memory. *NeuroImage*, 74, 1-11.
11. **Nee, D.E.**, Brown, J.W., Askren, M.K., Berman, M.G., Demiralp, E., Krawitz, A., & Jonides, J. (2013). A meta-analysis of executive components of working memory. *Cerebral Cortex*, 23(2), 264-282.
12. **Nee, D.E.** & Brown, J.W. (2012). Rostral-caudal gradients of abstraction revealed by multi-variate pattern analysis of working memory. *NeuroImage*, 63, 1285-1294.
13. Barch, D.M., Moore, H., **Nee, D.E.**, Manoach, D., & Luck, S. (2012). CNTRICS imaging biomarkers selection: Working memory. *Schizophrenia Bulletin*, 38(1), 43-52.
14. Jahn, A., **Nee, D.E.**, & Brown, J.W. (2011). The neural basis of predicting outcomes of planned actions. *Frontiers in Neuroscience*, 5, 128.

15. Berman, M.G., Peltier, S., **Nee, D.E.**, Kross, E., Deldin, P.J., & Jonides, J. (2011). Depression, rumination, and the default network. *Social, Cognitive, and Affective Neuroscience*, 6(5), 548-555.
16. Berman, M.G., **Nee, D.E.**, Casement, M., Kim, H.S., Deldin, P., Kross, E., Gonzalez, R., Demiralp, E., Gotlib, I.H., Hamilton, P., Joormann, J., Waugh, C., & Jonides, J. (2011). Neural and behavioral effects of interference resolution in depression and rumination. *Cognitive, Affective, and Behavioral Neuroscience*, 11(1), 85-96.
17. **Nee, D.E.** & Jonides, J. (2011). Dissociable contributions of prefrontal cortex and the hippocampus to short-term memory: Evidence for a 3-state model of memory. *NeuroImage*, 54, 1540-1548.
18. **Nee, D.E.**, Kastner, S., & Brown, J.W. (2011). Functional heterogeneity of conflict, error, task-switching, and unexpectedness effects within medial prefrontal cortex. *NeuroImage*, 54, 528-540.
19. Joormann, J., **Nee, D.E.**, Berman, M.G., Jonides, J., & Gotlib, I.H. (2010). Interference resolution in major depression. *Cognitive, Affective, and Behavioral Neuroscience*, 10(1), 21-33.
20. Xu, L., Johnson, T.D., Nichols, T.E., & **Nee, D.E.** (2009). Modeling inter-subject variability in fMRI activation location: A Bayesian hierarchical spatial model. *Biometrics*, 65(4), 1041-1051.
21. Bissett, P.G., **Nee, D.E.**, & Jonides, J. (2009). Dissociating interference-control processes between memory and response. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 35(5), 1306-1316.
22. Barch, D.M., Berman, M.G., Engle, R., Jones, J.H., Jonides, J., Macdonald, A. 3rd., **Nee, D.E.**, Redick, T.S., Sponheim, S.R. (2009). CNTRICS final task selection: working memory. *Schizophrenia Bulletin*, 35(1), 136-152.
23. **Nee, D.E.** & Jonides, J. (2009). Common and distinct neural correlates of perceptual and memorial selection. *NeuroImage*, 45, 963-975.
24. **Nee, D.E.** & Jonides, J. (2008). Neural correlates of access to short-term memory. *Proceedings of the National Academy of Sciences of the United States of America*, 105, 14228-14233.
25. **Nee, D.E.** & Jonides, J. (2008). Dissociable interference-control processes in perception and memory. *Psychological Science*, 19, 490-500.
26. **Nee, D.E.**, Berman, M.G., Moore, K.S., & Jonides, J. (2008). Neuroscientific evidence on the distinction between short- and long-term memory. *Current Directions in Psychological Science*, 17, 102-106.

27. Jonides, J., Lewis, R.L., **Nee, D.E.**, Lustig, C.A., Berman, M.G., & Moore, K.S. (2008). The mind and brain of short-term memory. *Annual Review of Psychology*, *59*, 193-224.
28. **Nee, D.E.**, Jonides, J., & Berman, M.G. (2007). Neural mechanisms of proactive interference-resolution. *NeuroImage*, *38*, 740-751.
29. **Nee, D.E.**, Wager, T.D., & Jonides, J. (2007). Interference resolution: Insights from a meta-analysis of neuroimaging tasks. *Cognitive, Affective, & Behavioral Neuroscience*, *7*(1), 1-17.
30. Jonides, J. & **Nee, D.E.** (2006). Brain mechanisms of proactive interference in working memory. *Neuroscience*, *139*, 181-193.
31. Berman, M.G., Jonides, J., & **Nee, D.E.** (2006). Studying the mind and brain with fMRI. *Social, Cognitive, & Affective Neuroscience*, *1*, 158-161.
32. Jonides, J., **Nee, D.E.**, & Berman, M.G. (2006). What has functional imaging told us about the mind? So many examples, so little space. *Cortex*, *42*, 414-417.
33. Jonides, J. & **Nee, D.E.** (2005). Assessing dysfunction using refined cognitive methods. *Schizophrenia Bulletin*, *31*, 823-829.
34. Wager, T.D., Sylvester, C.Y., Lacey, S., **Nee, D.E.**, Franklin, M., & Jonides, J. (2005). Common and unique components of inhibition revealed by fMRI. *NeuroImage*, *27*, 323-340.
35. Jonides, J., Lacey, S., & **Nee, D.E.** (2005). Processes of working memory in mind and brain. *Current Directions in Psychological Science*, *14*, 2-5.

Book Chapters

1. **Nee, D.E.** & D'Esposito, M. (under review). Working memory: An evolving concept. In J.T. Wixted (Ed.), *The Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, Fourth Edition*. John Wiley and Sons.
2. **Nee, D.E.** & D'Esposito, M. (under review). The representational basis of working memory. In S. Martin & B. Clark (Eds.), *Behavioral Neuroscience of Learning and Memory*. Berlin Heidelberg: Springer-Verlag.
3. **Nee, D.E.** & D'Esposito, M. (2015). Working memory. In A.W. Toga (Ed.), *Brain Mapping: An Encyclopedic Reference*. Academic Press: Elsevier.
4. Brown, J.W. & **Nee, D.E.** (2012) Executive control of cognitive search. In P.M. Todd, T.T. Hills, & T.W. Robbins (Eds.), *Cognitive Search: Evolution, Algorithms, and the Brain*. Cambridge: MIT Press.

5. Lustig, C.A., Lewis, R.L., Berman, M.G., **Nee, D.E.**, Moore, K.S., & Jonides, J. (2009). Psychological and neural mechanisms of short-term memory. In J.T. Cacioppo & G.G. Berntson (Eds.), *Handbook of Neuroscience for the Behavioral Sciences*. New York: John Wiley and Sons.

Web-based Publications

1. Jonides, J. & **Nee, D.E.** (2004). Resolving conflict in mind and brain. *Psychological Science Agenda*, 18(5).

AWARDS AND HONORS

2013	Association for Psychological Science “Rising Star”
2012	Ruth L. Kirschstein National Research Service Award
2008	Patricia Gurin Distinguished Lecture Award
2007	Outstanding Graduate Student Instructor Award
2005	National Science Foundation Graduate Fellowship
2005	National Defense Science and Engineering Graduate Fellowship
2004	American Psychological Foundation and Council of Graduate Departments of Psychology Graduate Research Scholarship in Experimental Psychology
2003	Clyde H. Coombs Scholarship in Mathematical Psychology

CURRENT AND PAST SUPPORT

2012-2015	National Institute of Neurological Disorders and Stroke (F32): Characterizing the Role of the Prefrontal Cortex in Cognitive Control \$172,836, Impact Score: 15, Percentile Rank: 3 (first submission)
2013-2014	National Institute of Mental Health (R21): Neuroimaging Different Cognitive-Control Processes in Normals and Schizophrenics \$437,486, PI: Chariklia Malapani, Role: Consultant
2008-2011	National Science Foundation: Neural Mechanisms of Short-term Memory \$550,000, PI: John Jonides, Role: Post-Doctoral Fellow
2005-2008	National Science Foundation:

Graduate Research Fellowship
\$120,000

2004-2005 American Psychological Foundation and Council of Graduate
Departments of Psychology (APF/COGDOP):
Graduate Research Scholarship in Experimental Psychology
\$2000

INVITED TALKS

- 2014 Trisecting Representational States in Short-Term Memory
University of California, Davis, CA
- 2010 Neural Basis of Working Memory: Goal Maintenance and Interference
Control
*Cognitive Neuroscience Treatment Research to Improve Cognition in
Schizophrenia (CNTRICS), University of California, Davis, CA*
- 2008 Neural Mechanisms of Access to Short-term Memory
University of Michigan fMRI Symposium, Ann Arbor, MI
- 2008 Neural Mechanisms of Short-Term Memory
*University of Michigan Patricia Gurin Distinguished Lecture Series, Ann Arbor,
MI*

CONFERENCE PROCEEDINGS

Talks

- 2015 **Nee, D.E.** & D'Esposito, M. Causal evidence for the organization of the
lateral prefrontal cortex by content and control. *Annual Meeting of the
Society for Neuroscience*; Chicago, IL, October, 2015.
- 2013 **Nee, D.E.** & Jonides, J. Neural correlates of shifting representational
states in short-term memory. *Annual Meeting of the Society for
Neuroscience*; San Diego, CA, November 2013.
- 2012 **Nee, D.E.** & Jonides, J. Neural evidence for a 3-state model of visual
short-term memory. *Annual Meeting of the Society for Neuroscience*; New
Orleans, LA, October 2012.

Posters

- 2015 Lorenc, E.S., Sreenivasan, K.K., **Nee, D.E.**, Vandenbroucke, A.R., &
D'Esposito, M. Distractor resistance for precise visual working memory.
Annual Meeting of the Society for Neuroscience; Chicago, IL, October, 2015.

- 2015 Vandembroucke, A.R., Lorenc, E.S., **Nee, D.E.**, De Lange, F.P., & D'Esposito, M. The neural correlates of unattended working memory representations. *Annual Meeting of the Society for Neuroscience*; Chicago, IL, October, 2015.
- 2015 **Nee, D.E.** & D'Esposito, M. Evidence for a hierarchical functional organization of the lateral prefrontal cortex. *Annual Meeting of the Organization for Human Brain Mapping*; Honolulu, HI, June, 2015.
- 2014 Jahn, A., Alexander, W., **Nee, D.E.**, & Brown, J.W. Pain, congruency, and surprise: Prediction violation across domains in the anterior cingulate cortex. *Annual Meeting of the Society for Neuroscience*; Washington, DC, November, 2014.
- 2014 **Nee, D.E.** & D'Esposito, M. The organization of prefrontal cortex by content and control. *Annual Meeting of the Cognitive Neuroscience Society*; Boston, MA, April 2014.
- 2013 Jahn, A., **Nee, D.E.**, Alexander, W., & Brown, J.W. Distinct regions of anterior cingulate cortex signal prediction and outcome evaluation. *Annual Meeting of the Society for Neuroscience*; San Diego, CA, November 2013.
- 2013 **Nee, D.E.**, Jahn, A., & Brown, J.W. Prefrontal cortex organization: Dissociating effects of temporal abstraction, relational abstraction, and integration with fMRI. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco, CA, April 2013.
- 2013 Jahn, A., Alexander, W., **Nee, D.E.**, & Brown, J.W. Pain, congruency, and surprise: Prediction violation across domains in the anterior cingulate cortex. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco, CA, April 2013.
- 2012 **Nee, D.E.**, Brown, J.W., Askren, M.K., Berman, M.G., Demiralp, E., Krawitz, A., & Jonides, J. A meta-analysis of executive components of working memory. *Annual Meeting of the Cognitive Neuroscience Society*; Chicago, IL, April 2012.
- 2012 Eich, T.S., **Nee, D.E.**, Insel, C., Malapani, C., & Smith, E.E. Neural correlates of cognitive control over working memory in schizophrenia. Poster presented at the *Annual Meeting of the Cognitive Neuroscience Society*; Chicago, IL, April 2012.
- 2012 Jahn, A., **Nee, D.E.**, & Brown, J.W. Anterior cingulate cortex signals multiple predicted response outcomes. *Annual Meeting of the Cognitive Neuroscience Society*; Chicago, IL, April 2012.

- 2011 **Nee, D.E.** & Brown, J.W. Dissociable frontal-striatal and frontal-parietal networks involved in updating goals and sub-goals in working memory. *Annual Meeting of the Society for Neuroscience*; Washington, D.C., November 2011.
- 2011 Jahn, A., **Nee, D.E.**, & Brown, J.W. The neural basis of predicting outcomes of planned actions. *Annual Meeting of the Society for Neuroscience*; Washington, D.C., November 2011.
- 2011 **Nee, D.E.**, Kastner, S., & Brown, J.W. Neural evidence for a retrieval-based model of conflict adaptation. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco, CA, April 2011.
- 2010 **Nee, D.E.**, & Jonides, J. Short-term memory: Distinguishing the region of direct access from the activated portion of long-term memory. *Annual Meeting of the Cognitive Neuroscience Society*; Montreal, Canada, April 2010.
- 2010 Berman, M.G., Peltier, S., **Nee, D.E.**, Kross, E., Deldin, P., & Jonides J. Depression, rumination, and the default network. *Annual Meeting of the Cognitive Neuroscience Society*; Montreal, Canada, April 2010.
- 2009 **Nee, D.E.**, Kastner, S., & Brown, J.W. Functional heterogeneity of conflict, error, and task-switching effects within medial prefrontal cortex. *Annual Meeting of the Society for Neuroscience*; Chicago, IL, October, 2009.
- 2009 **Nee, D.E.**, & Brown, J.W. Shared control mechanisms of conflict adaptation and switching in the intra-parietal sulcus. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco, CA, April 2009.
- 2009 Berman, M.G., **Nee, D.E.**, Deldin, P., Casement, M., Kim, H.S., Jaeggi, S., Buschkuhl, M., Behnke, C., Bissett, P., & Jonides, J. (2009). A chronometric analysis of cognition in depression. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco, CA, April 2009.
- 2008 **Nee, D.E.**, & Jonides, J. Attentionally-mediated visual suppression produces object-specific inhibition. *Annual Meeting of the Society for Neuroscience*; Washington, D.C., November, 2008.
- 2008 **Nee, D.E.**, & Jonides, J. Neural mechanisms of retrieval from short-term memory. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco, CA, April 2008.
- 2007 **Nee, D.E.**, & Jonides, J. Dissociable neural mechanisms of interference-resolution: Perception and memory. *Annual Meeting of the Cognitive Neuroscience Society*; New York, NY, May 2007.

- 2006 Bissett, P., **Nee, D.E.**, Jonides, J. Interference mechanisms for response production and memory representations. *Annual Meeting of the Psychonomic Society*; Houston, Texas, November, 2006.
- 2006 **Nee, D.E.**, Berman, M.G., & Jonides, J. The role of the left inferior frontal gyrus in resolving proactive interference as revealed by fMRI. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco, CA, April 2006.
- 2005 Berman, M.G., **Nee, D.E.**, & Jonides, J. Fatiguing executive function. *Annual Meeting of the Psychonomic Society*; Toronto, Canada, November, 2005.
- 2005 **Nee, D.E.**, Jonides, J., Sylvester, C.Y.C., Christiansen, J., Thomas, A., & Salthouse, T.A. Age differences in brain activation in the trail making task. *Annual Meeting of the Cognitive Neuroscience Society*; New York NY, April 2005.
- 2004 **Nee, D.E.**, & Jonides, J. Dissociating information-suppression during encoding versus working memory. *Annual Meeting of the Psychonomic Society*; Minneapolis, MN, November 2004.
- 2004 Wager, T.D., Sylvester, C.Y.C., Lacey, S.C., **Nee, D.E.**, Franklin, M., & Jonides, J. Common and unique components in resolving response conflict revealed by fMRI. *Annual Meeting of the Organization for Human Brain Mapping*, June 2004.
- 2004 **Nee, D.E.**, Jonides, J., & Wager, T.D. A meta-analysis of interference-resolution tasks. *Annual Meeting of the Cognitive Neuroscience Society*; San Francisco CA, April 2004.

Teaching Experience

2013, 2015	Introduction to fMRI (Co-Primary Instructor)
2014	Proseminar: Learning and Memory (Guest Lecturer)
2004-2007	Introduction to fMRI (Graduate Student Instructor)
2005-2006	Introduction to Cognitive Psychology (Graduate Student Instructor)
2005	Introduction to Experiment Programming (Primary Instructor)
2005	Introduction to Psychology (Graduate Student Instructor)

Students Mentored (Current Position)

2006-2008	Patrick Bissett (Stanford University, Post-Doc)
2013-2014	Max Wang (Yale University, Masters of Public Health student)
2013-2015	Lara Krisst (University of California, Davis, Graduate Student)

2014-2015

Chelsea Harmon (Columbia University, Graduate Student)

Professional Memberships

Association for Psychological Science
Cognitive Neuroscience Society
Organization for Human Brain Mapping
Society for Neuroscience

Professional Service

Ad-hoc Reviewer: Brain & Cognition
Brain Structure & Function
Cerebral Cortex
Cognition
Cognitive, Affective, & Behavioral Neuroscience
Cortex
European Journal of Neuroscience
Frontiers in Human Neuroscience
Hippocampus
Human Brain Mapping
Journal of Cognitive Neuroscience
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Human Perception and Performance
Journal of Experimental Psychology: Learning, Memory, & Cognition
Journal of Neurophysiology
Journal of Neuroscience
NeuroImage
Neuropsychologia
Proceedings of the National Academy of Sciences
Psychological Science
Psychonomic Bulletin & Review
Quarterly Journal of Experimental Psychology
Schizophrenia Bulletin
Schizophrenia Research
Social, Cognitive, & Affective Neuroscience