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Personal

Born: May 7, 1969, St. Louis, MO
Citizenship: USA
Married to Jessica A. Wachter, Ph.D.
Children:
 Nathan Abraham, April 26, 2006
 Joseph Morris, February 29, 2008
 Benjamin Aryeh, January 25, 2011

Professional

- 2004 — present, Professor, Department of Psychology, University of Pennsylvania
- 2000 — 2004, Associate Professor, Department of Psychology and Center for Complex Systems, Brandeis University.
- 1994 — 2000, Assistant Professor, Department of Psychology and National Center for Complex Systems, Brandeis University

Education

- 1989 B. A., Case Western Reserve University.
- 1993 Ph.D., University of Toronto (Psychology); (Ph.D. Thesis: *Interactions between item, associative, and serial order information*, B. B. Mur-

dock, chair).

- 1993–1994 Postdoctoral Fellow, Harvard University (Psychology). Individual National Research Service Award (N.I.H. Grant NS09559, Sponsor: W. K. Estes)

Honors, Awards, Professional Activities

- Troland Award, *National Academy of Sciences*, 2010.
- Fellow, *Society of Experimental Psychologists*, 2008
- Fellow, *American Psychological Society*, 2010
- Director of graduate studies, Psychology Graduate Group, University of Pennsylvania, 2008-2011
- Chair of the 2010 meeting of the *Society of Experimental Psychologists*
- Member, BBBP-4 (Cognition and Perception) study section, *Centers for Scientific Review, National Institutes of Health*, 2003–2007
- Associate Editor: *Cognitive Psychology*, 2005 – 2009
- Associate Editor: *Memory & Cognition*, 2001 – 2005
- Consulting Editor: *Journal of Experimental Psychology: General*, 2008 – 2010
- Consulting Editor: *Journal of Mathematical Psychology*, 2012 –
- Consulting Editor: *Psychonomic Bulletin & Review*, 2005 – 2007.
- Consulting Editor: *Memory & Cognition*, 1997 – 2001.
- Consulting Editor: *Journal of Experimental Psychology: Learning, Memory and Cognition*, 1999 – 2001.
- Member, Advisory Board, Princeton Neuroscience Institute, 2012
- Member, Advisory Panel. Doris Duke Charitable Foundation, 2005
- Member, Advisory Panel. N.I.H. Silvio O. Conte Center for Neuroscience Research: Cognitive and Neural Mechanisms of Conflict and Control (Princeton University), 2003
- N.S.F. / N.I.H. panel “Collaborative Research in Computational Neuroscience”, 2002
- Bernstein Fellow, Brandeis University, 1998-1999
- N.I.M.H. First Award, 1996
- Featured Alumnus – Centennial Celebration of the University of Toronto Graduate Program in Psychology, 1997

- Plenary address – 40th Annual Meeting of the Society for Mathematical Psychology, Irvine, CA, 2007
- Organizer – 39th Annual Meeting of the Society for Mathematical Psychology, 2006
- Founder and Organizer of the 1st, 2nd, 3rd, 5th, 6th, and 7th Annual Meetings of the Context and Episodic Memory Symposium.
- Plenary address – Computational Cognitive Neuroscience Conference, Houston, 2006
- Invited symposium – Society for Neuroscience, Washington, D.C., 2005
- Invited address – American Psychological Society, Chicago, 2004
- **Invited Colloquia:** Albert Einstein College of Medicine, Albert Ludwigs Universitat (Freiburg), Carnegie Mellon University, Boston University, Brown University, California Institute of Technology, Columbia University (Psychology), Columbia University (Neuroscience), Courant Institute, Dartmouth College, Harvard University, Indiana University, Johns Hopkins University, Max Planck Institute-Berlin, Monell research institute, Montreal Neurological Institute, McGill University, New York University, Northwestern University, Ohio State University, Princeton University, Rutgers University, Salk Institute, Shriver Center, Syracuse University, Thomas Jefferson University, Tufts University, Donders Institute, Nijmegen, Netherlands, Stanford University, University of Delaware, University of Massachusetts at Amherst, University of Toronto, U.C. Irvine, U.C. San Diego, U.C.L.A. School of Medicine, U.C.L.A. Psychology, U.C. Davis, Williams College, Yale University.
- **Professional Society Memberships:** Psychonomic Society, Society for Neuroscience, Memory Disorders Research Society, Society for Cognitive Neuroscience, Society for Mathematical Psychology

Current Grant Support

- NIH Grant 4RO1 MH55687 *Associative Processes in Episodic Memory*. M. J. Kahana, P.I. May 1, 2011 – Feb 28, 2016. \$288,707 annual direct costs.
- NSF grant 1058886 *Retrieved Context Models of Episodic Memory*. M. J. Kahana, P.I. June 1, 2011– May 31, 2014. \$94,510 annual direct costs.
- NIH Grant 2RO1 MH61975 *Electrophysiology of Spatial Cognition*. M. J. Kahana, P.I. Sept 26, 2007 – July 31, 2013. \$252,687 annual direct costs.

Completed Grant Support

- NIH Grant 1R21 NS067316 *Intracranial EEG for Neuronal Oscillatory Contingency during Cognitive Tasks*. M. J. Kahana, P.I. September 30, 2009 – August 31, 2011. \$163,228 annual direct costs.
- NIH Grant R90 DA023424 *Integrated Interdisciplinary Training in Computational Neuroscience*. M. J. Kahana, P.I. September 30, 2006 – July 31, 2011. \$296,519 annual direct costs.
- NIH Grant T90 DA022763 *Integrated Interdisciplinary Training in Computational Neuroscience*. M. J. Kahana, P.I. September 30, 2006 – July 31, 2011. \$166,888 annual direct costs.
- NIH Grant 2R01 MH68404 *Short Term Visual Episodic Recognition Memory*, R. Sekuler, P.I., M. J. Kahana, Co-I. June 6 2009 – June 5, 2011.
- Dana Foundation Grant *Intracranial EEG for Theta Rhythm Contingency During Cognitive Tasks*. December, 2007 – February, 2011. \$100,000 annual direct costs.
- NIH Grant 3R01 MH55687 *Associative Processes in Episodic Memory*. M. J. Kahana, P.I. February 1, 2007 – Jan 30, 2011.
- NSF grant SBE 0354378 Subproject 14 on Science of Learning Center Grant *CELEST: A Center for Learning in Education, Science, and Technology*. S. Grossberg P.I. October 1, 2004 – September 30, 2009.
- NIH Grant R01 MH68404 *Short Term Visual Episodic Recognition Memory*, R. Sekuler, P.I., M. J. Kahana, Co-P.I.. April 1, 2004 – March 31, 2009.
- Swartz Foundation Grant 2004/10-04 *Electrophysiology of Human Memory Formation*. M. J. Kahana P.I. November 28, 2003 – November 27, 2004.
- NIH Grant 2R01 MH55687 *Associative Processes in Episodic Memory*. M. J. Kahana, P.I. April 1, 2002 – January 30, 2007.
- NIH Grant R29 MH55687 *Mathematical Models of Human Memory*. M. J. Kahana, P.I., April 1, 1997 – March 30, 2002.
- NIH Grant RO1 MH61975 *Using intracranial recordings to study task-dependent theta..* M. J. Kahana, P.I. December 12, 2001 – December 11, 2006.
- AFOSR Grant F49620-03-1-0376 *Model driven study of visual memory*. R. Sekuler, P.I., M. J. Kahana, Co-P.I.. July 1, 2003 – December 31, 2003.
- NIH Grant R01 AG15852 *Aging and the temporal dynamics of self-initiated recall* A. Wingfield, P.I., M. J. Kahana, Co-P.I. August 1, 1998 – July 30, 2003.

Postdoctoral Supervision

- Dan Kimball, J.D., Ph.D. (Postdoc, 2002 – 2003). Morris Associate Professor, Department of Psychology, *University of Oklahoma*.
- Sean Polyn, Ph.D. (Postdoc, 2005 – 2008). Assistant Professor, Psychology, *Vanderbilt University*.
- Christoph Weidemann, Ph.D. (Postdoc, 2006 – 2010). Assistant Professor, Psychology, *Swansea University*
- Kareem Zaghloul, M.D. Ph.D. (Postdoc, 2007 – 2008). Assistant Professor of Neurosurgery, *National Institutes of Health and George Washington University*.
- Mijail Serruya, M.D., Ph.D. (Postdoc, 2009 – 2011). Assistant Professor, Department of Neurology, *Jefferson Hospital*.
- Brad Lega, M.D. (Postdoc, 2009 – 2011). Chief Resident, Department of Neurosurgery, *University of Pennsylvania*.
- Karl Healey, Ph.D. (Postdoc, 2011 –).

Doctoral Supervision

- Marc W. Howard, Ph.D. (1995 – 2000). Associate Professor, Psychology, *Boston University*. Thesis Title: *Temporal Context in Free Recall*
- Jeremy B. Caplan, Ph.D. (1997 – 2002). Associate Professor, Psychology, *University of Alberta*. Thesis Title: *Serial and navigational learning: behavior, theory and the roles of theta oscillations*.
- Daniel S. Rizzuto, Ph.D. (1997 – 2002). Clinical Affairs Manager, Varian Medical Systems. Thesis Title: *The computational and electrophysiological foundation of item and associative memory*.
- Kelly Addis, Ph.D. (2000 – 2004). Postdoctoral Fellow, Mathematical Psychology, *Indiana University*. Thesis Title: *Constraining models of serial learning*
- Arne D. Ekstrom, Ph.D. (2001 – 2004). Assistant Professor, Psychology and Neuroscience, *University of California, Davis*. Thesis Title: *The Cellular Networks Underlying Human Spatial Navigation*.
- Per Sederberg (2001 – 2006). Assistant Professor, Department of Psychology, *Ohio State University*.
- Grace Hwang, Ph.D. (2002 – 2005). Engineer, Mitre Corporation.
- Marieke van Vugt, Ph.D. (2003 – 2008). Assistant Professor, Cognitive

Science, *University of Groningen*.

- Joshua Jacobs, Ph.D. (2004 – 2008). Assistant Professor, Bioengineering, *Drexel University*.
- Jeremy Manning, Ph.D. (2006 – 2011). Postdoctoral Fellow, *Princeton University*.
- Lynn Lohnas, Ph.D. (2007 – 2012). Postdoctoral Fellow, *New York University*.
- John Burke (2010 –). Neuroscience MD/Ph.D. student, *University of Pennsylvania*.
- Ashwin Ramayya (2011 –). Neuroscience MD/Ph.D. student, *University of Pennsylvania*.
- Nicole Long (2010 –). Psychology Ph.D. student, *University of Pennsylvania*.

Monographs

- Kahana, M. J. (2012). *Foundations of Human Memory*. Oxford University Press.

Working Papers

1. Solway, A., Miller, J. F., and Kahana, M.J. PandaEPL: A library for programming spatial navigation experiments. *Submitted*.
2. Healey, M. K. and Kahana, M. J. Is memory search governed by universal principles or idiosyncratic strategies? *Submitted*.
3. Weidemann, C. T. and Kahana, M. J. Brain activity reflects ‘memory strength’ better than introspective judgments. *Submitted*.
4. Ramayya, A. G., Manning, J. R., Jacobs, J. Friend, I, and Kahana, M. J. Two distinct neuronal mechanisms underlying high frequency power changes in human local field potential recordings. *Submitted*.
5. Huang, J., Kahana, M. J., and Sekuler, R. Similarity effects in name-face recognition: A dual-process, summed-similarity account. *Submitted*.
6. Manning, J., Kahana, M. J., and Sekuler, R. An ideal navigator model of human wayfinding: Learning one’s way around a new town. *In revision*.
7. Jacobs, J., Weidemann, C.T., Miller, J., Solway, A., Wei, X., Sperling, M., Sharan, A. D., Fried, I., and Kahana, M. J. Direct recordings of grid cells in human spatial navigation. *Submitted*.
8. Lohnas, L. J. and Kahana, M. J. The word frequency effect in recall and

recognition. *Submitted*.

9. Lohnas, L. J., and Kahana, M. J. Compound cueing in free recall. *Submitted*.
10. Kahana, M. J. and Adler, M. Note on the power law of forgetting. *In preparation*.
11. Polyn, S. M., Burke, J. F., and Kahana, M. J. Oscillating distraction intervals in free recall: A test of contextual retrieval theory. *Submitted*.

Refereed Journal Articles

1. Miller, J. F., Lazarus, E., Polyn, S. M., and Kahana, M. J. Spatial clustering during memory search. *Journal of Experimental Psychology: Learning, Memory & Cognition*, in press.
2. Morton, N. W., Kahana, M. J., Rosenberg, E. A., Sperling, M. R., Sharan, A. D., and Polyn, S. M. Category-specific neural oscillations predict recall organization during memory search. *Cerebral Cortex*, in press.
3. Serruya, M.D., Sederberg, P.B. , and Kahana, M. J. Power shifts track serial position and modulate encoding in human episodic memory. *Cerebral Cortex*, in press.
- Solway, A., Miller, J. F., and Kahana, M. J. PandaEPL: A library for programming spatial navigation experiments. *Behavior Research Methods*.
4. van Vugt, M. K., Sekuler, R., Wilson, H. R., and Kahana, M. J. Electrophysiological correlates of similarity-based interference in visual working memory. *Journal of Experimental Psychology: General*, in press.
5. Burke, J. F., Zaghoul, K. A., Jacobs, J., Williams, R. B., Sperling, M. R., Sharan, A. D., et al. (2013). Synchronous and asynchronous theta and gamma activity during episodic memory formation. *Journal of Neuroscience*, 33(1), 292–304.
6. Kahana, M. J. and Miller, J. F. (2013). Memory, recall dynamics. In H. Pashler (Ed.), *Encyclopedia of the mind* (vol. 2, pp. 493–497). SAGE Publications.
7. Han, X., Byrne, P., Kahana, M. J., and Becker, S. (2012). When do objects become landmarks? A VR study of the effect of task relevance on spatial memory, *PLoS One*, 7(5), e35940.
8. Manning, J. R. and Kahana, M. J. (2012). Interpreting semantic clustering effects in free recall. *Memory*, 20, 511–517.
9. Manning, J. R., Sperling, M. R., Sharan, A., Rosenberg, E. A., and Kahana, M. J. (2012). Spontaneously reactivated patterns in frontal and

temporal lobe predict semantic clustering during memory search. *Journal of Neuroscience*, 32, 8871–8878.

10. Miller, J. F., Weidemann, C. T., and Kahana, M. J. (2012) Recall termination in free recall. *Memory & Cognition*, 4, 540–550.
11. Solway, A., Murdock, B.B., and Kahana, M.J. (2012). Positional and temporal clustering in serial order memory. *Memory & Cognition*, 40(2), 177–190.
12. van der Meij, R., Kahana, M., and Maris, E. (2012). Phase-amplitude coupling in human ECoG is spatially distributed and phase diverse. *Journal of Neuroscience*, 32, 111–123
13. Zaghoul, K., Weidemann, C. T., Lega, B.C., Jaggi, J., Baltuch, G.H., and Kahana, M. J. Neuronal activity in the human subthalamic nucleus encodes decision conflict during action selection. *Journal of Neuroscience*, 32, 2453–2460.
14. Lega, B. C., Jacobs, J. and Kahana. M. J. (2011). Human hippocampal theta oscillations and the formation of episodic memories. *Hippocampus*, 22(4), 748–761.
15. Lega, B.C., Kahana, M. J., Jaggi, J. Baltuch, G. H. and Zaghoul, K. (2011). Neuronal and oscillatory activity during reward processing in the human ventral striatum. *Neuroreport*, 22, 795–800.
16. Lohnas, L. J., Polyn, S. M., and Kahana, M. J. (2011). Contextual variability in free recall. *Journal of Memory and Language*, 64(3), 249–255.
17. Manning, J. R., Polyn, S. M., Baltuch, G., Litt, B., and Kahana, M. J. (2011). Oscillatory patterns in temporal lobe reveal context reinstatement during memory search. *Proceedings of the National Academy of Sciences, USA*, 108(31), 12893–12897.
18. Maris, E., van Vugt, M. and Kahana, M.J. (2011). Spatially Distributed Patterns of Oscillatory Coupling between High-Frequency Amplitudes and Low-Frequency Phases in Human iEEG. *Neuroimage*, 54, 836–850.
19. Polyn, S. M., Erlikhman, G., and Kahana, M. J. (2011). Semantic cuing and the scale-insensitivity of recency and contiguity. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 37, 766–775.
20. Jacobs, J., Kahana, M. J., Ekstrom, A. D., Mollison, M. V., and Fried, I. (2010). A sense of direction in human entorhinal cortex. *Proceedings of the National Academy of Sciences*, 107, 6487–6492.
21. Sederberg, P. B., Miller, J. F., Howard, M. W., and Kahana, M.J. (2010). The temporal contiguity effect predicts episodic memory performance. *Mem-*

ory & Cognition, 38, 689–699.

22. Jacobs, J. and Kahana, M. J. (2010). Direct brain recordings fuel advances in cognitive electrophysiology. *Trends in Cognitive Science*, 4, 162–171.
23. van Vugt, M.K., Schulze-Bonhage, A., Litt, B., Brandt, A. and Kahana, M.J. (2010). Hippocampal gamma oscillations increase with working memory load, *Journal of Neuroscience*, 30, 2694–2699.
24. Kahana, M. J., Mollison, M. V., and Addis, K. M. (2010). Positional cues in serial learning: The spin-list technique. *Memory & Cognition*, 38, 92–101.
25. Viswanathan, S., Perl, D. R., Visscher, K. M., Kahana, M.J., and Sekuler, R. (2010). Homogeneity computation: How interitem similarity in visual short term memory alters recognition. *Psychonomic Bulletin & Review*, 2010, 17, 59–65.
26. Solway, A., Geller, A. S., Sederberg, P. B., and Kahana, M. J. (2010). Py-Parse: A semiautomated system for scoring spoken recall data. *Behavior Research Methods*, 42, 141–147.
27. Galster, M., Kahana, M. J., Wilson, H. R., and Sekuler, R. (2009). Identity modulates short-term memory for facial emotion. *Cognitive, Affective, and Behavioral Neuroscience*, 9, 973–984.
28. Howard, M. W., Sederberg, P. B., and Kahana, M. J. (2009). Reply to Farrell and Lewandowsky: Recency-contiguity interactions predicted by the temporal context model. *Psychonomic Bulletin & Review*, 15, 973–984.
29. Huang, J., Kahana, M. J., and Sekuler, R. (2009). A task-irrelevant stimulus attribute affects perception and short-term memory. *Memory & Cognition*, 37, 1088–1102.
30. Jacobs, J., Korolev, I. O., Caplan, J. B., Ekstrom, A. D., Litt, B., Baltuch, G., Fried, I, Schulze-Bonhage, A., Madsen, J. R., and Kahana, M.J. (2009). Right Lateralization of Human Brain Oscillations during Navigational Movement and Search. *Journal of Cognitive Neuroscience*, 25, 824–836.
31. Weidemann, C. T., Mollison, M. V., and Kahana, M. J. (2009). Electrophysiological correlates of high-level perception during spatial navigation. *Psychonomic Bulletin & Review*, 16, 313–319.
32. van Vugt, M. K., Schulze-Bonhage, A., Sekuler, R., Litt, B., Brandt, A., Baltuch, G. and Kahana, M. J. (2009). Intracranial electroencephalography reveals two distinct similarity effects during item recognition. *Brain Research*, 1299, 33–44.

33. Manning, J. Jacobs, J. Fried, I. and Kahana, M.J. (2009). Broadband shifts in LFP power spectra are correlated with single-neuron spiking in humans. *Journal of Neuroscience*, 29, 13613–13620.
34. Jacobs, J. and Kahana, M. J. (2009). Neural representations of individual stimuli in humans revealed by gamma-band ECoG activity. *Journal of Neuroscience*, 29, 10203–10214.
35. Polyn, S. M., Norman, K. A., and Kahana, M. J. (2009). Task context and organization in free recall. *Neuropsychologia*, 47, 2158–2163.
36. Seligman, M.E.P. and Kahana, M. J. (2009). Unpacking intuition: A conjecture. *Perspectives on Psychological Science*, 4(4), 399-402.
37. Zaghoul, K. A., Blanco, J. A., Weidemann, C. T., McGill, K., Jaggi, J. L. Baltuch, G. H., and Kahana, M. J. (2009). Human Substantia Nigra Encodes Unexpected Financial Rewards. *Science*, 323, 1496–1499.
38. Polyn, S. M., Norman, K. A. and Kahana, M. J. (2009) A context maintenance and retrieval model of organizational processes in free recall. *Psychological Review*, 116, 129–156.
39. Visscher, K. M., Kahana, M. J., and Sekuler, R. (2009). Trial-to-trial carry-over in auditory short-term memory. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 4, 893–912.
40. Agam, Y., Hyun, J.-S., Danker, J., Zhou, F., Kahana, M. J., and Sekuler, R. (2009). Early neural signatures of visual short-term memory. *Neuroimage*, 2, 531–536.
41. Kahana, M. J., Sederberg, P. B., and Howard, M.W. (2008) Putting short-term memory into context: Reply to Usher and colleagues (2008). (Postscript: Howard, M. W., Kahana, M. J., and Sederberg, P. B. Distinctions between temporal context and short-term store.) *Psychological Review*, 115, 1119–1126.
42. Sederberg, P. B., Howard, M. W., and Kahana, M. J. (2008). A context-based theory of recency and contiguity in free recall. *Psychological Review*, 115, 893–912.
43. Pantelis, P. C., van Vugt, M. K., Sekuler, R., Wilson, H. R., and Kahana, M. J. (2008). Why are some people’s names easier to learn than others? The effects of similarity on memory for face-name associations. *Memory & Cognition*, 36, 1182–1195.
44. Danker, J. Hwang-Grodzins, G., Gauthier, L. Geller, A. Kahana, M.J., and Sekuler, R. (2008). Characterizing the ERP old-new effect in a short-term memory task *Psychophysiology*, 45, 784–793.

45. Serruya, M. D., and Kahana, M. J. (2008). Techniques and Devices to Restore Cognition. *Behavioural Brain Research*, 192, 149–165.
46. Golomb J. D., Pelle J. E., Addis, K. M., Kahana, M. J., and Wingfield A. (2008). Effects of Adult Aging on Utilization of Temporal and Semantic Associations during Free and Serial Recall. *Memory & Cognition*, 36, 947–956.
47. Yotsumoto, Y., McLaughlin, C., Kahana, M. J., and Sekuler, R. (2008). Recognition and position information in working memory for visual textures. *Memory & Cognition*, 36, 282–294.
48. Davis, O., Geller, A.S., Rizzuto, D., and Kahana, M. J. (2008). Temporal associative processes revealed by intrusions in paired-associate recall. *Psychonomic Bulletin & Review*, 15, 64–69.
49. Polyn, S. M. and Kahana, M. J. (2008) Memory search and the neural representation of context. *Trends in Cognitive Science*, 12, 24–30.
50. Sekuler, R. and Kahana, M. J. (2008). A stimulus-oriented approach to memory. *Current Directions in Psychological Science*, 16, 305–310.
51. Geller, A. S. Schleifer, I. Sederberg, P. B., Jacobs, J., and Kahana, M.J. (2007). PyEPL: A Cross-Platform Experiment Programming Library *Behavior Research Methods*, 39 (4).
52. Sederberg, P. B., Schulze-Bonhage, A., Madsen, J. R., Bromfield, E.B., Litt, B., Brandt, A., and Kahana, M.J. (2007). Theta and gamma oscillations distinguish true from false memories. *Psychological Science*, 18, 927-932.
53. Kimball, D. R., Smith, T. A., and Kahana, M.J. (2007). The fSAM model of false recall. *Psychological Review*, 114, 954-993.
54. Howard, M. W., Venkatadass, V., Norman, K. A., and Kahana, M. J. (2007). Associative Processes in Immediate Recency *Memory & Cognition*, 35, 1698-1709.
55. Ekstrom, A., Viskontas, I. Kahana, M.J., Jacobs, J., Upchurch, K. Bookheimer, S., and Fried, I. (2007). Contrasting roles of neural firing rate and local field potentials in human memory. *Hippocampus*, 17, 606-617.
56. Kahana, M.J., Zhou, F., Geller, A., and Sekuler, R. (2007). Lure-similarity affects visual episodic recognition: Detailed tests of a noisy exemplar model. *Memory & Cognition*, 35, 1222-1232.
57. Yotsumoto, Y, Kahana, M. J. Wilson, H. R., and Sekuler, R. (2007). Recognition memory for realistic synthetic faces. *Memory & Cognition*, 35, 1233-1244.

58. Newman, E. L., Caplan, J. B., Kirschen, M. P., Korolev, I.O. Sekuler, R., and Kahana, M. J. (2007). Learning your way around town: Virtual taxi drivers reveal the secrets of navigational learning. *Cognition*, 104, 231-253.
59. van Vugt, M. K., Sederberg, P. B., and Kahana, M. J. (2007). Comparison of spectral analysis methods for characterizing brain oscillations. *J. Neuroscience Methods*, 162, 49-63.
60. Sederberg, P. B., Schulze-Bonhage, A., Madsen, J. R., Bromfield, E. B., McCarthy, D. C., Brandt, A., Tully, M. S., and Kahana, M. J. (2007). Hippocampal and neocortical gamma oscillations predict memory formation in humans. *Cerebral Cortex*, 17, 1190-1196.
61. Visscher, K. A., Kaplan, E. Kahana, M. J., and Sekuler, R. (2007). Auditory Short-Term Memory Behaves Like Visual Short-Term Memory. *PLOS Biology*, 5, 662-672.
62. Monaco, J., Abbott, L., and Kahana, M.J. (2007). Lexico-Semantic Structure and the Word-Frequency Effect. *Learning and Memory*, 14, 204-213.
63. Jacobs, J., Kahana, M. J., Ekstrom, A. D., and Fried, I. (2007). Brain oscillations synchronize single-neuron activity in humans, *J. Neuroscience*, 27, 3839-3844.
64. Sekuler, R., McLaughlin, C., Kahana, M. J., Wingfield, A., and Yotsumoto, Y. (2006). Short-term visual recognition and temporal order memory are both well-preserved in aging. *Psychology and Aging*, 21, 632-637.
65. Howard, M. W., Kahana, M. J., and Wingfield, A. (2006). Aging and contextual binding: modeling recency and lag-recency effects with the Temporal Context Model. *Psychonomic Bulletin & Review*, 13, 439-445.
66. Sederberg, P. B., Gauthier, L. V., Terushkin, V., Miller, J. F., Barnathan, J. A., and Kahana, M. J. (2006). Oscillatory Correlates of the Primacy Effect in Episodic Memory. *Neuroimage*, 32, 1422-1431.
67. Jacobs, J., Hwang, G., Curran, T., and Kahana, M. J. (2006). EEG oscillations and recognition memory: Theta correlates of memory retrieval and decision making. *Neuroimage*, 32, 978-987.
68. Zaromb, F. M., Howard, M. W., Dolan, E. D., Sirotin, Y. B., Tully, M., Wingfield, A., and Kahana, M. J. (2006). Temporal associations and prior list intrusions in free recall. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 32, 792-804.
69. Kahana, M. J. (2006). The cognitive correlates of human brain oscillations. *Journal of Neuroscience*, 26, 1669-1672
70. Rizzuto, D. S., Madsen, J. R., Bromfield, E., Schulze-Bonhage, A., and

- Kahana, M. J. (2006). Phase dynamics of neocortical oscillations during working memory. *Neuroimage*, 31, 1352-1358.
71. Raghavachari, S. Lisman, J. E., Tully, M. Madsen, J. R. Bromfield, E. B., and Kahana, M. J. (2006). Theta oscillations in human cortex during a working memory task: evidence for local generators. *Journal of Neurophysiology*, 95, 1630-1638.
 72. Hwang, G., Jacobs, J., Geller, A., Danker, J., Sekuler, R., and Kahana, M. J. (2005). EEG Correlates of Subvocal Rehearsal in Working Memory *Behavioral and Brain Functions*, 1-20.
 73. Sirotin, Y. B., Kimball, D., and Kahana, M. J. (2005). Going beyond a single list: Semantic-episodic interactions in a large-scale model of episodic recall. *Psychonomic Bulletin & Review*, 12, 787-805.
 74. Kahana, M. J., Rizzuto, D. S., and Schneider, A. R. (2005). Theoretical correlations and measured correlations: Relating recognition and recall in four distributed memory models. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 5, 933-953.
 75. Ekstrom, A. E., Caplan, J. B., Ho, E., Shattuck, K., Fried, I., and Kahana, M. J. (2005). Human Hippocampal Theta Activity During Virtual Navigation. *Hippocampus*, 15, 881-889.
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