

Brice Alan Kuhl, Ph.D.

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ACADEMIC POSITIONS

2012 - present Assistant Professor, Department of Psychology, New York University

EDUCATION & TRAINING

2009 - 2012 Postdoctoral Research Fellow, Department of Psychology, Yale University,
Advisor: Marvin M. Chun
2003 - 2009 Ph.D., Stanford University, Psychology (Cognitive Neuroscience),
Dissertation: *Competitive remembering: Neural systems for overcoming
interference in episodic memory*, Advisor: Anthony D. Wagner
1997 - 2001 A.B., Kenyon College, Psychology (Cum Laude, Departmental Highest Honors)

FELLOWSHIPS, HONORS, AND AWARDS

Whitehead Fellowship for Junior Faculty in Biomedical and Biological Sciences, 2014-2015
Ruth L. Kirschstein National Research Service Award for Postdoctoral Fellows, 2010-2012
Department of Psychology Excellence in Graduate Teaching Award, Stanford University, 2008
National Science Foundation Graduate Student Fellowship, 2004-2007
Phi Beta Kappa, 2001

RESEARCH SUPPORT

NIH-NINDS (1R01NS089729)

Brice A. Kuhl, PI 09/30/2014 – 07/31/2019
Neural mechanisms for reducing interference during episodic memory formation
Impact score: 17, Percentile: 4.0

NYU Whitehead Fellowship for Junior Faculty in Biomedical and Biological Sciences

Brice A. Kuhl, PI 09/01/2014 – 08/31/2015
Reconstructing faces from patterns of brain activity

PUBLICATIONS

Under Review

Johnson, M.K., **Kuhl, B.A.**, Mitchell, K.J., Ankudowich, E., & Durbin, K.A. (under review). Age-related differences in the neural basis of the subjective vividness of memories: Evidence from multivoxel pattern classification.

Richter, F.R., Chanals, A.J.H., & **Kuhl, B.A.** (under review). Predicting the integration of overlapping memories by decoding neural states during learning.

Journal Articles

- Kuhl, B.A.**, & Chun, M.M. (2014). Successful remembering elicits event-specific activity patterns in lateral parietal cortex. *Journal of Neuroscience*, *34*, 8051-8060.
- Cowen, A.S., Chun, M.M. & **Kuhl, B.A.** (2014). Neural portraits of perception: Reconstructing face images from evoked brain activity. *NeuroImage*, *94*, 12-22.
- Favila, S.E., & **Kuhl, B.A.** (2014). Stimulating memory consolidation. *Nature Neuroscience* (News and Views), *17*, 151–152.
- Kuhl, B.A.**, Johnson, M.K. & Chun, M.M. (2013). Dissociable neural mechanisms for goal-directed versus incidental memory reactivation. *Journal of Neuroscience*, *33*, 16099–16109.
- Ward, E.J., Chun, M.M. & **Kuhl, B.A.** (2013). Repetition suppression and multi-voxel pattern similarity differentially track implicit and explicit visual memory. *Journal of Neuroscience*, *33*, 14749-14757.
- Kuhl, B.A.**, & Chun, M.M. (2012). Attending to the present when remembering the past. *Neuron* (Previews), *75*, 944–947.
- Kuhl, B.A.**, Bainbridge, W.A., & Chun, M.M. (2012). Neural reactivation reveals mechanisms of memory updating. *Journal of Neuroscience*, *32*, 3453–3461.
- Kuhl, B.A.**, Rissman, J., & Wagner, A.D. (2012). Multi-voxel patterns of visual category representation during episodic encoding are predictive of subsequent memory. *Neuropsychologia*, *50*, 458–469.
- Kuhl, B.A.**, & Anderson, M.C. (2011). More is not always better: paradoxical effects of repetition on semantic accessibility. *Psychonomic Bulletin & Review*, *18*, 964–972.
- Kuhl, B.A.**, Rissman, J., Chun, M.M., & Wagner, A.D. (2011). Fidelity of neural reactivation reveals competition between memories. *Proceedings of the National Academy of Sciences: USA*, *108*, 5903–5908.
- Anderson, M.C., Reinholz, J., **Kuhl, B.A.**, & Mayr, U. (2011). Intentional suppression of unwanted memories grows more difficult as we age. *Psychology and Aging*, *26*, 397–405.
- Kuhl, B.A.**, Shah, A.T., DuBrow S., & Wagner, A.D. (2010). Resistance to forgetting associated with hippocampus-mediated reactivation during new learning. *Nature Neuroscience*, *13*, 501–506.
- Kuhl, B.A.**, Kahn, I, Dudukovic, N.M., & Wagner, A.D. (2008). Overcoming suppression in order to remember: Contributions from anterior cingulate and ventrolateral prefrontal cortex. *Cognitive, Affective, & Behavioral Neuroscience*, *8*, 211-221.
- Kuhl, B.A.**, Dudukovic, N.M., Kahn, I, & Wagner, A.D. (2007). Decreased demands on cognitive control reveal the neural processing benefits of forgetting. *Nature Neuroscience*, *10*, 908-914.
- Anderson M.C., Ochsner, K., **Kuhl, B.**, Cooper, J., Robertson, E., Gabrieli, S.W., Glover, G.H., & Gabrieli, J.D.E. (2004). Neural systems underlying the suppression of unwanted memories. *Science*, *303*, 232-235.

Chapters

Kuhl, B.A., & Chun, M.M. (2014). Memory and attention. In A.C. Nobre & S. Kastner (Eds.) *The Oxford Handbook of Attention*, (pp. 806-836). Oxford University Press.

Dudukovic, N.M., & **Kuhl, B.A.** (2013). Forgetting and amnesia. In Biswas-Diener R & Diener E (Eds.), *Noba textbook series: Psychology*. Champaign, IL: DEF Publishers. DOI: <http://www.nobaproject.com>

Levy, B.J., **Kuhl, B.A.**, & Wagner, A.D. (2010). The functional neuroimaging of forgetting. In S. Della Sala (Ed.), *Forgetting*, pp. 135–163. Hove and New York: Psychology Press.

Kuhl, B.A., & Wagner, A.D. (2009). Forgetting and Retrieval. In G. G. Berntson & J. T. Cacioppo (Eds.). *Handbook of Neuroscience for the Behavioral Sciences*. John Wiley and Sons.

Race, E.A., **Kuhl, B.A.**, Badre, D., & Wagner, A.D. (2009). The dynamic interplay between cognitive control and memory. In M. S. Gazzaniga (Ed.), *The Cognitive Neurosciences IV*, pp. 705–724. Cambridge, MA: MIT Press.

Kuhl, B.A., & Wagner, A.D. (2009). Strategic control of memory. In L. Squire et al. (Eds.). *The New Encyclopedia of Neuroscience*, 9, 437-444.

INVITED TALKS

Upcoming

New York University, Advances in Memory Systems Meeting, May 2015
University of Texas at Austin, Conference on Learning and Memory, April 2015
Princeton University, Cognitive Area Meeting, February 2015
Stanford University, Center for Mind, Brain and Computation, November 2014

Past

New York University, Weizmann Institute of Science Meeting, March 2014
New York University, Advances in Memory Systems Meeting, April 2013
Columbia University, Cognitive Area Meeting, November 2012
University of California, Irvine, Center for the Neurobiology of Learning & Memory, March 2012
University of Pennsylvania, Department of Psychology, February 2012
New York University, Department of Psychology, February 2012
Johns Hopkins University, Department of Psychology, January 2012
Rice University, Department of Psychology, January 2012
Carnegie Mellon University, Department of Psychology, December 2011
Columbia University, fMRI Methods Workshop, October 2011
Columbia University, Cognitive Area Meeting, March 2011

CONFERENCE PRESENTATIONS

Upcoming

Chanales, A.J.H., **Kuhl, B.A.** (submitted). Decoding route learning from medial temporal and medial parietal activity patterns. *Society for Neuroscience*.

Lee, H., Cowen, A.S., **Kuhl, B.A.** (submitted). Decoding face retrieval and reconstructing face perception from activity patterns in posterior parietal cortex. *Society for Neuroscience*.

Favila, S.E., Chanales, A.J.H., **Kuhl, B.A.** (submitted). High discrimination demands reduce interference during later learning. *Society for Neuroscience*.

Richter, F.R., Chanales, A.J.H., **Kuhl, B.A.** (submitted). Predicting the integration of older and newer experiences. *Society for Neuroscience*.

Past

Richter, F.R., Chanales, A.J.H., **Kuhl, B.A.** (2013). Encoding, retrieval, and integration of visual memories: Distributed representations of mnemonic state and content. *Society for Neuroscience Abstracts*.

Kuhl, B.A., & Chun, M.M. (2012). Effects of visual memory reactivation on subsequent recognition. *Society for Neuroscience Abstracts*.

Kuhl, B.A., Johnson, M.K., & Chun, M.M. (2012). Incidental memory reactivation during retrieval promotes future remembering. *Cognitive Neuroscience Society*.

Kuhl, B.A., Johnson, M.K., & Chun, M.M. (2012). Incidental reactivation of visual event features promotes long-term remembering. *Vision Science Society Abstracts*.

Kuhl, B.A., Cartmell, S.C.D., & Chun, M.M. (2011). Multi-voxel pattern analysis reveals dynamic tradeoffs between reactivating the past and encoding the present. *Society for Neuroscience Abstracts*.

Kuhl, B.A., Bainbridge, W.A., & Chun, M.M. (2011). Decoding retrieval of competing visual memories from neural reactivation. *Vision Science Society Abstracts*.

Kuhl, B.A., Bainbridge, W.A., & Chun, M.M. (2010). Acquiring new memories in the face of competition from prior learning. *Society for Neuroscience Abstracts*.

Kuhl, B.A., Rissman, J., Chun, M.M., & Wagner, A.D. (2010). Selective remembering: multivoxel pattern analysis of cortical reactivation during retrieval of visual images. *Vision Science Society Abstracts*.

Kuhl, B.A., Rissman, J., Chun, M.M., & Wagner, A.D. (2009). Competitive reactivation of episodic memories assessed via multivoxel pattern analysis. *Society for Neuroscience Abstracts*.

Kuhl, B.A., Shah, A.T., DuBrow, S., & Wagner, A.D. (2008). The gains and losses of remembering amidst reward and interference: Prefrontal and mesolimbic contributions. *Society for Neuroscience Abstracts*.

Kuhl, B.A., Shah, A.T., DuBrow, S., & Wagner, A.D. (2008). Reward- and interference based modulations of memory: Joint contributions of prefrontal and mesolimbic structures. Paper presented at the Bay Area Memory Meeting.

Kuhl, B.A., Chen, J., & Wagner, A.D. (2007). Cognitive control and episodic retrieval: Electrophysiological measures of the components and consequences of selective remembering. *Abstracts of the Cognitive Neuroscience Society*.

Kuhl, B.A., Chen, J., & Wagner, A.D. (2006). Multimodal imaging of prefrontal and parietal cortical contributions to conflict resolution during episodic retrieval. *Society for Neuroscience Abstracts*.

Kuhl, B.A., Kahn, I., Dudukovic, N.M., & Wagner, A.D. (2006). Prefrontal and parietal cortical mechanisms that resolve mnemonic competition during retrieval. Paper presented at the 4th International Conference on Memory.

Kuhl, B.A., Kahn, I., Dudukovic, N.M., & Wagner, A.D. (2005). Forgetting and remembering during competitive memory retrieval: Prefrontal and parietal cortical mechanisms impact episodic memory suppression and recovery. *Society for Neuroscience Abstracts*.

Kuhl, B.A., Kahn, I., Dudukovic, N.M., & Wagner, A.D. (2005). Forgetting and remembering during competitive memory retrieval: Prefrontal and parietal mechanisms impact episodic memory suppression and recovery. Paper presented at the Bay Area Memory Meeting.

Kuhl, B.A., Kahn, I., Dudukovic, N.M., & Wagner, A.D. (2005). Resolving interference in episodic memory: Neurobiological mechanisms recruited during competitive retrieval attempts and memory suppression. *Abstracts of the Cognitive Neuroscience Society*.

Anderson, M.C., Ochsner, K., Gabrieli, J., **Kuhl, B.**, Cooper, J., Robertson, E., & Glover, G. (2003). Neural systems underlying the suppression of unwanted memories. *Society for Neuroscience Abstracts*.

Anderson, M.C., Ochsner, K., Gabrieli, J.D.E., **Kuhl, B.**, Cooper, J., Robertson, E., & Glover, G. (2003). Neural systems underlying the suppression of unwanted memories. Talk presented at the annual meeting of the Psychonomic Society.

Kuhl, B.A., & Anderson, M.C. (2002). Semantic satiation: Diminished accessibility following prolonged repetition. Poster presented at the Cognitive Science Association for Interdisciplinary Learning.

Kuhl, B.A., & Anderson, M.C. (2002). Inhibitory mechanisms underlying semantic satiation. Poster presented at the American Psychological Society.

Kuhl, B.A., & Anderson, M.C. (2002) Inhibitory processes in semantic satiation. Poster presented at the annual meeting of the Western Psychological Association.

Kuhl, B.A., & Anderson, M.C. (2002). Semantic satiation revisited: A new methodology for examining the effects of prolonged vocal repetition. Poster presented at the annual meeting of the Northwest Cognition and Memory Association.

Kuhl, B.A., & Stoltzfus, E.R. (2002). Retrieval-induced forgetting of positive and negative events for dysphoric and non-dysphoric participants. Poster presented at the annual meeting of the American Psychological Society.

TEACHING EXPERIENCE

Lab in Human Cognition (undergraduate), Instructor, New York University, 2013-present

Memory Reactivation (graduate), Instructor, New York University, 2012

Cognitive Neuroscience (undergraduate), Co-Instructor, Stanford University, 2005-2006

Introduction to Learning & Memory (undergraduate), TA & Guest Lecturer, Stanford, 2005-2007

Introduction to Statistical Methods (undergraduate), Head TA, Stanford University, 2005-2006

Statistical Analysis in Psychology (undergraduate), TA, Kenyon College, 2001

ACADEMIC SERVICE

Cognition & Perception Colloquium Co-Organizer, New York University, Psychology, 2014-2015

Educational Policy Committee, New York University, Psychology, 2013-2015

Center for Brain Imaging Protocol Review Committee, New York University, 2012-2013

Graduate Admissions Committee, New York University, Psychology, 2012-2013

Summer Research College Advisor, Stanford University, 2007

Graduate Admissions Committee, Stanford University, Psychology, 2005, 2008

Faculty Search Committee, Stanford University, Psychology, 2006-2007

Cognitive Seminar Committee, Stanford University, Psychology, 2005-2006

ACADEMIC ADVISING

Postdoctoral Fellows

Franziska Richter 2013-present

Doctoral Students

Serra Favila 2013-present

Hongmi Lee 2013-present

Avi Chanales 2014-present

Undergraduate and Postgraduate Researchers

Nayaab Bakshi 2013-present

Avi Chanales 2012-2014

Zara Chaudhury 2013-2014

Ashima Oza 2013-present

Rosalie Samide 2014-present

PROFESSIONAL MEMBERSHIPS

Cognitive Neuroscience Society

Memory Disorders Research Society

Society for Neuroscience

Vision Sciences Society

AD HOC REVIEWER

Acta Psychologica

Current Biology

Frontiers in Human Neuroscience

Journal of Experimental Psychology: General

Journal of Cognitive Neuroscience

Nature Neuroscience

Neurobiology of Learning and Memory

PNAS

Cerebral Cortex

Experimental Psychology

Hippocampus

Journal of Neuroscience

Memory & Cognition

Neuropsychologia

NeuroImage

Trends in Cognitive Sciences