

# Nicholas Ketz

## HRL Laboratories Information and System Sciences Lab

Office 3G23  
3011 Malibu Canyon Rd  
Malibu, CA 90265

Phone: (310)317-5351  
Email: [naketz@hrl.com](mailto:naketz@hrl.com)

## Education

PhD. Psychology, Neuroscience, Cognitive Science, University Colorado at Boulder, 2016.

M.A. Psychology, University Colorado at Boulder, 2013.

B.A. Physics, University of Minnesota Twin Cities, 2007.

A.A.S Recording Engineer, McNally Smith College of Music, 2001.

## Research Experience

HRL Laboratories, Information System Sciences Lab, 2016→Present

Post-Doctoral Researcher

Developed closed-loop neural stimulation device to enhance memory replay and consolidation.

Department of Psychology/Neuroscience, University Colorado Boulder, 2010→2016

PhD. Candidate

Working under Dr. Randy O'Reilly in the Computational Cognitive Neuroscience Lab.

Department of Psychology/Neuroscience, New York University, 2007-2010.

Research Assistant

fMRI based work into learning and memory under Dr. Lila Davachi

Department of Psychology, University of Minnesota Twin Cities, 2006-2007

Directed Research

Neural network modeling of fMRI, and ERP data under Dr. Chad Marsolek

Department of Physics and Astronomy, University of Milano Bicocca, Summer 2005

Research Assistant

High energy particle detector development under Dr. Tamaso Taberelli

## Awards

Dosier/Muenzinger Award for Basic Research 2016

David C. Rumelhart Travel Award 2012

National Science Foundation Graduate Research Fellowship, 2011→2014

Ida C. Koran Scholarship, 2004→2007

## Journal Articles

- Ketz, N., Jensen, O., and O'Reilly, R. C. (2015). Thalamic pathways underlying pfc-mtl oscillatory interactions. *Trends in Neurosciences*, 38(1):3–12
- Ketz, N., O'Reilly, R. C., and Curran, T. (2014). Classification aided analysis of oscillatory signatures in controlled retrieval. *NeuroImage*, 85(2):749–60
- Ketz, N., Morkonda, S. G., and O'Reilly, R. C. (2013). Theta coordinated error-driven learning in the hippocampus. *PLoS Comput Biol*, 9(6)
- Depue, B. E., Ketz, N., Mollison, M. V., Nyhus, E., Banich, M. T., and Curran, T. (2013). Erps and neural oscillations during volitional suppression of memory retrieval. *J. Cognitive Neuroscience*, 25(10):1624–1633
- Duncan, K., Ketz, N., Inati, S. J., and Davachi, L. (2012). Evidence for area ca1 as a match/mismatch detector: A high-resolution fmri study of the human hippocampus. *Hippocampus*, 22(3):389–398
- O'Reilly, R. C., Bhattacharyya, R., Howard, M. D., and Ketz, N. (2011). Complementary learning systems. *Cognitive Science*
- Tambini, A., Ketz, N., and Davachi, L. (2010). Enhanced brain correlations during rest are related to memory for recent experiences. *Neuron*, 65:280–290
- Marsolek, C. J., Deason, R. G., Ketz, N. A., Ramanathan, P., Bernat, E. M., Steele, V. R., Patrick, C. J., Verfaellie, M., and Schnyer, D. M. (2010). Identifying objects impairs knowledge of other objects: a relearning explanation for the neural repetition effect. *Neuroimage*, 49:1919–1932

## Conference Proceedings

- Ketz, Nick, Phillips, Matt, Pilly, Praveen. (2017). *Optimized independent component selection for automated EEG artifact removal*. Poster session presented at international conference for the Organization for Human Brain Mapping. Vancouver, British Columbia
- Ketz, Nick, O'Reilly, Randall, Curran, Tim. (2016). *Paired Associate Encoding Influenced by Entrained Theta Power*. Poster session presented at national conference for the Cognitive Neuroscience Society. New York, NY
- Ketz, Nick, O'Reilly, Randall, Curran, Tim. (2015). *Classification aided analysis of oscillatory connectivity during controlled retrieval..* Poster session presented at international conference for the Organization for Human Brain Mapping. Honolulu, HI
- Ketz, Nick, O'Reilly, Randall, Curran, Tim. (2013). *Classification Aided Analysis of Oscillatory Signatures in Controlled Retrieval*. Poster session presented at national conference for the Cognitive Neuroscience Society. San Francisco, CA.
- Ketz, Nick, Gnanasekaran, Srinimish, O'Reilly, Randall. (2012). *Error-driven learning within the Hippocampus; theta rhythm, and novelty based learning signals*. NCPW Abstracts 2012, San Sebastian, Spain
- Ketz, Nick, Gnanasekaran, Srinimish, O'Reilly, Randall. (2012). *Error-driven learning within the Hippocampus; theta rhythm, and novelty based learning signals*. Cosyne Abstracts 2012, Salt Lake City
- Tambini, A., Ketz, N. A., Davachi, L., (October 2009), *Resting state brain activity changes with and predicts memory for recent experiences*. Slide presentation at national conference for the Society for Neuroscience. Chicago, IL
- Duncan, K., Ketz, N. A., Davachi, L., (October 2009), *Match/mismatch calculations in the human hippocampus: A high-resolution fMRI study*. Slide presentation at national conference for the Society for Neuroscience. Chicago, IL
- Duncan, K., Ketz, N. A., Davachi, L., (November 2008), *'Match' And 'mismatch' signals: a high-resolution fMRI study of the human hippocampus*. Poster session presented at national conference for the Society for Neuroscience. Washington, DC

- Duncan, K., Ketz, N. A., Davachi, L., (April 2008), *Relational 'Match' and 'Mismatch' Signals in the Human Hippocampus are Differentially Modulated by Active Maintenance and Perceptual Novelty*. Poster session presented at national conference for the Cognitive Neuroscience Society. San Francisco, CA.
- Marsolek, C. J., Ketz, N. A., Ramanathan, P., Deason, R. G., Davis, S., Verfaellie, M., Schnyer, D. M. (June 2007), *Neural priming effects in fMRI: Integrated fMRI and neurocomputational evidence for what may be reflected*. Poster session presented at Human Brain Mapping Annual Meeting, Chicago, IL
- Ramanathan, P., Ketz, N. A., Deason, R. G., Westerberg, C. E., Marsolek, C. J. (May 2007). *Visual antipriming and priming predicted by neurally plausible models of object identification*. Poster session presented at Cognitive Neuroscience Society Annual Meeting, New York, NY.

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