Erin L. Rich, MD, PhD

erin.rich@berkeley.edu

Assistant Project Scientist
Helen Wills Neuroscience Institute
University of California Berkeley

Professional

2015 – present Assistant Project Scientist, Helen Wills Neuroscience Institute, University of California, Berkeley

2014 – present Affiliate Researcher, Department of Neurological Surgery, University of California, San Francisco

2010 – 2015 Post-doctoral Fellow, University of California, Berkeley
Mentor: Jonathan Wallis, PhD
2014 – 2015 Co-mentor: Edward Chang, MD, UC San Francisco

Education

MD 2010, Mount Sinai School of Medicine, New York, NY
Medical Scientist Training Program (MSTP), 2002 – 2010

PhD 2008, Mount Sinai School of Medicine, New York, NY
Department of Neuroscience

BS 2002, Tufts University, Medford, MA
Majors in Biology and Classical Studies

Awards

2010 Basic Science Best Achievement Award for Paper Published in 2009
2006 Mount Sinai Graduate School Teaching Award
2002 Audrey Butvay Gruss Science Award
2002 Benjamin Brown Scholarship
2001 Poskitt Scholarship for Biology Undergraduate

Research Support

2015 – 2020 K08 Mentored Clinical Scientist Research Development Award, NIH/NIDA, *Multi-Scale Orbitofrontal Networks Underlying Reward Processing*

2012 – 2015 Hilda and Preston Davis Foundation Postdoctoral Fellowship in Eating Disorders Research, *The Role of Limbic and Prefrontal Cortex in Coding Food and Non-food Values*

2005 – 2008 Kirschstein NRSA Predoctoral Fellowship NIH/NIMH, *Prefrontal Cortex Contributions to Behavior Organization*

1999, 2000 Howard Hughes Undergraduate Research Grant

Teaching

2014 Adjunct Instructor, California State University East Bay
Course: Psychopharmacology, Department of Psychology

2007 – 2008 Adjunct Instructor, Stern College for Women of Yeshiva University
Course: Introduction to Statistics

2005 – 2007 Lab Instructor/TA, Mount Sinai Graduate School
Course: Biostatistical Concepts and Methods

2003 – 2010 CPR Instructor/ 2004-2006 Course Coordinator
Course: AHA Basic Care Life Support, Mount Sinai School of Medicine

Memberships and Committees

Society for Neuroscience

2005 – 2007 Mount Sinai MSTP Admissions Committee

2006 – 2008 Mount Sinai Graduate School Steering Committee

Ad Hoc Work, Professional Service and Outreach

Society for Neuroscience 2016 Minisymposium Co-chair, *Neural Mechanisms of Economic Choice*
Development team, STEMM Role Models (*github.com/KirstieJane/STEMMRoleModels*)
Ad-hoc reviewer for Psychiatry Research

Publications in Press and in Preparation

Rich, E.L., Wallis, J.D. Decoding Subjective Decisions from Orbitofrontal Cortex. *Nat Neurosci, In press.*

Rich, E.L., Wallis, J.D. Finding Consistency in the Orbitofrontal Cortex. *Nat Neurosci, In press. Commentary for Xie and Padoa-Schioppa, 2016.*

Rich, E.L., Wallis, J.D. Directionality in Orbitofrontal Local Field Potentials During Outcome Prediction. *In preparation.*

Bibliography

Rich, E.L., Wallis, J.D. Medial-lateral organization of the orbitofrontal cortex. J Cogn Neurosci. 2014 Jul; 26(7):1347-62.

Rich E.L., Wallis, J.D. Prefrontal-Amygdala Interactions Underlying Value Coding. Neuron. 2013 Dec; 80(6):1344-1346.
Commentary for Rudebeck and Murray, 2013.

Perez-Rodriguez, M.M., Hazlett, E.A., **Rich, E.L.**, Ripoll, L.H., Weiner, D.M., Spence, N., Goodman, M., Koenigsberg, H.W., Siever, L.J., New, A.S. Striatal activity in borderline personality disorder with comorbid intermittent explosive disorder: sex differences. J Psychiatr Res. 2012 Jun;46(6):797-804.

Wallis, J.D., **Rich, E.L.** Challenges of Interpreting Frontal Neurons during Value-Based Decision-Making. Front Neurosci. 2011;5:124.

Rich, E.L., Shapiro, M.L. Rat prefrontal cortical neurons selectively code strategy switches. J Neurosci. 2009 Jun:29(22):7208-19.

Bozdagi O, **Rich E**, Tronel S, Sadahiro M, Patterson K, Shapiro ML, Alberini CM, Huntley GW, Salton SR. The neurotrophin-inducible gene Vgf regulates hippocampal function and behavior through a brain-derived neurotrophic factor-dependent mechanism. J Neurosci. 2008 Sept;28(39):9857-69.

Romero, L.M., **Rich, E.L.** Photoperiodically-induced changes in hypothalamic-pituitary-adrenal axis sensitivity in captive house sparrows (*Passer domesticus*). Comp Biochem Physiol A Mol Integr Physiol. 2007 Jun; 147(2):562-8.

Rich, E.L., Shapiro, M.L. Prelimbic/Infralimbic inactivation impairs memory for multiple task switches, but not flexible selection of familiar tasks. J Neurosci. 2007 Apr; 27(17):4747-4755.

Rich, E.L., Romero, L.M. Exposure to chronic stress downregulates corticosterone responses to acute stressors. Am J Physiol Regul Integr Comp Physiol. 2005 Jun; 288(6):R1628-36.

Rich, E.L., Romero, L.M. Daily and photoperiod variations of basal and stress-induced corticosterone concentrations in house sparrows (*Passer domesticus*). J Comp Physiol [B]. 2001 Oct; 11(7):543-7.

Talks and Presentations

Rich, E.L., Wallis, J.D. Competing neural representations of choice alternatives in orbitofrontal cortex during value-based decisions. Society for Neuroscience 2015.

Rich, E.L., Wallis, J.D. Evidence for directionality in orbitofrontal local field potentials. Society for Neuroscience 2014.

Rich, E.L., Wallis, J.D. Spatiotemporal dynamics of value coding in the orbitofrontal cortex. Computational Properties of Prefrontal Cortex Conference 2014. Whistler, Canada.

Rich, E.L., Wallis, J.D. Functional organization of the orbitofrontal cortex. San Francisco VA Medical Center Substance Abuse Seminar 2013. San Francisco, CA.

Rich, E.L., Shapiro, M.L. Prefrontal cortical activity in place and response task switching. Neurobiology of Learning and Memory Winter Conference 2008. Park City, UT.

Rich, E.L., Shapiro, M.L. Prefrontal cortical contributions to behavior organization. Mount Sinai Annual Graduate School Retreat 2008. New York, NY.

Rich, E.L., Shapiro, M.L. Prelimbic/infralimbic inactivation impairs memory for multiple task switches. Mount Sinai Meet the Authors Lecture Series 2007. New York, NY.

Abstracts

Rich, E.L., Wallis, J.D. Decoding subjective decisions from the orbitofrontal cortex. AREADNE 2016 (Scheduled).

Rich, E.L., Wallis, J.D., Dawes, H., Chang, E.F. Encoding of stimulus value estimates in high-frequency epicortical signals in human OFC. Quadriennal Meeting on OFC Function 2015

Chang, E.F., Case, J, Wallis, J.D., **Rich, E.L.** Learned representations of sensory stimulus value in large-scale brain networks. Society for Neuroscience 2015.

Rich, E.L., Wallis, J.D. Evidence for directionality in orbitofrontal local field potentials. COSYNE 2015.

Rich, E.L., Wallis, J.D. Representation of primary and secondary rewards in orbitofrontal cortex. Society for Neuroscience 2013.

Rich, E.L., Wallis, J.D. Prefrontal cortex differentially encodes stimuli and actions associated with rewards or punishment. Society for Neuroscience 2012.

Rich, E.L., Wallis, J.D. Differential effects of positive and negative reinforcement on behavior. Society for Neuroscience 2011.

Rich, E.L., Shapiro, M.L. Strategy switching correlates in rat prelimbic/infralimbic neurons. Society for Neuroscience 2007.

Rich, E.L., Shapiro, M.L. Rat prelimbic/infralimbic areas contribute to multiple strategy switches. Society for Neuroscience 2006.

Rich, E.L., Romero, L.M. Corticosterone response to variable doses of dexamethasone, CRF and ACTH in the European Starling (*Sturnus vulgaris*). Society for Integrative and Comparative Biology 2002.

Romero, L.M., **Rich, E.L.**, Tran, K.D., Nephew, B.C. Regulation of corticosterone release in captive house sparrows. Society for Integrative and Comparative Biology 2002.

Rich, E.L., Romero, L.M. Daily and seasonal variation in basal and stress-induced levels of corticosterone in house sparrows. N.E.U.R.O.N. 2000.