R. Becket Ebitz, PhD

Department of Neuroscience
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EDUCATION AND POSITIONS:

Research Associate Mentor: Dr. Ben Hayden 2017-present
University of Rochester, Department of Brain and Cognitive Sciences, Rochester, NY
University of Minnesota, Department of Neuroscience, Minneapolis, MN

CV Starr Fellow Mentors: Drs. Tim Buschman, Jon Cohen 2015-2017
Princeton University, Princeton Neuroscience Institute, Princeton, NJ

Postdoctoral Fellow Mentor: Dr. Tirin Moore 2013-2017
Stanford University & HHMI, Neurobiology Department, Stanford, CA

Ph.D. in Neurobiology Mentor: Dr. Michael Platt 2007-2013
Duke University, Neurobiology Department, Durham, NC
Certificate in Cognitive Neuroscience, Center for Cognitive Neuroscience
Dissertation: *Determinants of distraction in the rhesus macaque.*

Research Assistant Mentor: Dr. Leslie Ungerleider 2005-2007
National Institutes of Health, Bethesda, MD

B.A. *(cum laude)* 2001-2005
Simon's Rock College, Great Barrington, MA
Concentrations: Biology, Psychology, Research Methods

FELLOWSHIPS AND AWARDS:

2015-2017	CV Starr Foundation Fellowship, Princeton University
2014-2017	NIMH National Research Service Award (F32)
2014, 2016	Travel Awards, Gordon Conference, Neurobiology of Cognition
2013-14	Stanford Vision Training Program Fellowship
2010-11	Preparing Future Faculty Fellowship, Duke University
2009-10	Ruth K. Broad Foundation Fellowship, Duke University
2007-11	James B. Duke Fellowship, Duke University
2005-07	Intramural Research Training Award, NIMH
2003-05	Robert M. Hutchins Scholarship, Simon's Rock College
2001-03	Acceleration to Excellence Scholarship, Simon's Rock College
1999	8th place in the US, Discovery Young Scientists Challenge

Research Papers:

Ebitz, R. B., Albarran, E., & Moore, T. (in press, 2017). "Exploration disrupts choice predictive signals and alters population dynamics in prefrontal cortex." *Neuron.*

Ebitz, R. B., Moore, T. (2017). "FEF microstimulation modulates the pupil light reflex." *Journal of Neuroscience 37 (19),* 5008-18.

Ebitz, R. B., Platt, M. L. (2015). "Neuronal activity in primate dorsal anterior cingulate cortex signals task conflict and predicts adjustments in pupil-linked arousal." *Neuron 85(3)*, 628-40.

Ebitz, R. B., Pearson, J., Platt, M. L. (2014). "Pupil size and social vigilance in rhesus macaques." *Frontiers in Neuroscience 8(100).*

Pearson, J., Watson, K. K., Klein, J., **Ebitz, R. B.**, & Platt, M. L. (2013). Individual differences in social information gathering revealed through Bayesian hierarchical models. *Frontiers in Neuroscience 7(165).*

Ebitz, R. B., Watson, K. K., & Platt, M. L. (2013). "Oxytocin reduces social vigilance in rhesus macaques." *Proceedings of the National Academy of Sciences, 110(28),* 11630-5.

Chang, S. W., Barter, J. W., **Ebitz, R. B.**, Watson, K. K., & Platt, M.L. (2012). "Inhaled oxytocin amplifies both vicarious reinforcement and self reinforcement in rhesus macaques (Macaca mulatta)." *Proceedings of the National Academy of Sciences, 109(3),* 959-964.

Reviews and Previews:

Ebitz, R. B., Hayden, B. (2016). "Dorsal anterior cingulate: A Rorschach test for cognitive neuroscience." *Nature Neuroscience, 19*, 1278–1279.

Ebitz, R. B., Platt, M. L. (2013). "An evolutionary perspective on the behavioral consequences of exogenous oxytocin delivery." *Frontiers in Behavioral Neuroscience 2(225).*

Research Papers in Progress:

Ebitz, R.B., Buschman, T.J., Moore, T. (in preparation). "Bottom-up salience drives choice during exploration via disruptions in prefrontal control dynamics."

Ebitz, R.B., Cohen, J.D., Buschman, T.J. (in preparation). "Control mechanisms for flexibility in a changing world."

Recent & Selected Talks:

"Exploration for learning in brain and behavior." (January 2017). Charles River Analytics, Cambridge, MA.

"Social vigilance in the rhesus macaque." (November 2016). Neuroscience and Social Decision-Making seminar series, Princeton University.

"Exploration in brain and behavior." (October 2016). Computational Neuroscience Initiative talk series, University of Pennsylvania.

"Altered balance between top-down and bottom-up saccade control across exploration and exploitation." (July 2016). Gordon Research Seminar on the Neurobiology of Cognition.

"Frontal eye field dynamics differ between explore and exploit states." (March 2016). Workshop on Executive Flexibility, COSYNE workshops.

"Exploration flattens prefrontal target selectivity, enhances learning in network states and behavior." (February 2016). COSYNE main meeting.

"Frontal eye field microstimulation modulates the pupil light reflex." (May 2015). Math, Monkeys, & Machines seminar series, Stanford University.

"Target selectivity in the frontal eye fields is blunted during exploratory choice." (January 2015). Math, Monkeys, & Machines seminar series, Stanford University.

"Frontal eye field target selectivity is blunted during exploration." (December 2014). Memory, Attention, and Decision-Making seminar series, Stanford University.

"Exploration, distraction, and saccadic selection in rhesus macaques." (November 2014). Department of Neuroscience, Columbia University.

"Exploration, distraction, and saccadic selection in rhesus macaques." (November 2014). Department of Brain and Cognitive Sciences, University of Rochester.

"Social vigilance and oxytocin." (June 2014). Translational oxytocin research group meeting, Stanford University Medical School.

"dACC neurons signal salient, task-irrelevant stimuli and predict behavioral adjustment." (October 2012). Society for Neuroscience, New Orleans, LA.

"Determinants of distraction in the rhesus macaque." (July 2012). Neurobiology Department, Northwestern University.

"Social attentive control: How neural filtering and neuromodulatory regulation help you ignore salient faces." (May 2012). Decision Making Across the Disciplines Conference, Duke Center for Interdisciplinary Decision Sciences.

Invited presentations at the lab meetings of Nathaniel Daw (Princeton, 2016), Carlos Brody (Princeton, 2015), Jon Cohen (Princeton, 2015), Justin Gardiner (Stanford, 2015), Bill Newsome (Stanford, 2014), and Sam McClure (Stanford, 2013).

MEETING ABSTRACTS/POSTERS:

Ebitz, R.B., Cohen, J.D., & Buschman, T. (November 2017). "Control mechanisms for flexibility in a changing world." Society for Neuroscience, Washington, DC.

Ebitz, R.B., Buschman, T., & Moore, T. (June 2017). "Exploration via transient disruptions in prefrontal control." Reinforcement Learning and Decision-Making, Ann Arbor, MI.

Ebitz, R.B., Moore, T., & Buschman, T. (February 2017). "Bottom-up salience drives choice during exploration." COSYNE, Salt Lake City, UT.

Ebitz, R.B., Moore, T., & Buschman, T. (November 2016). "Altered balance between top-down and bottom-up control across exploration and exploitation." Society for Neuroscience, San Diego, CA.

Ebitz, R.B., & Moore, T. (July 2016). "Altered balance between top-down and bottom-up saccade control across exploration and exploitation." Gordon Research Conference on the Neurobiology of Cognition, Newry, ME.

Ebitz, R.B., & Moore, T. (June 2016). "Altered balance between top-down and bottom-up saccade control across exploration and exploitation." Future of Visual Attention workshop, Center for Visual Science, University of Rochester.

Ebitz, R. B., & Moore, T. (November 2015). "Modulation of the pupil light reflex by frontal eye field microstimulation." Society for Neuroscience, Chicago, IL.

Ebitz, R. B., Albarran, E., Soltani, A. & Moore, T. (November 2014). "Target selectivity in the frontal eye field (FEF) is blunted during exploratory choice." Society for Neuroscience, Washington, DC.

Ebitz, R. B., Albarran, E., Soltani, A. & Moore, T. (July 2014). "Uncertainty and exploration in the frontal eye field." Gordon Research Conference on the Neurobiology of Cognition, Newry, ME.

Ebitz, R. B., Albarran, E., Soltani, A. & Moore, T. (February 2014). "Attention and uncertainty during reward contingency learning." COSYNE, Salt Lake City, UT.

Ebitz, R. B., & Platt, M. L. (November 2013). "Pupil constriction betrays the locus of attention." Society for Neuroscience, San Diego, CA.

Ebitz, R. B., & Platt, M. L. (February 2012). "Neuronal activity in anterior cingulate cortex predicts susceptibility to distraction." COSYNE, Salt Lake City, UT.

Ebitz, R. B., & Platt, M. L. (November 2011). "Oxytocin blunts social distraction." Society for Neuroscience, Washington, DC.

Ebitz, R. B., Watson, K. K., Platt, M. L. (November 2008). "Oxytocin administration affects valuation of social images." Society for Neuroscience, Washington, DC.

COMMENTARIES & PRESS COVERAGE:

Binda, P. & Gamlin, P. D. (2017). "Renewed attention on the Pupil Light Reflex." Commentary on "FEF microstimulation modulates the pupil light reflex." *Trends in Neuroscience* Spotlight article.

Shenhav, A. & Botvinick, M. (2015). "Uncovering a Missing Link in Anterior Cingulate Research." Commentary on "Neuronal activity in primate dorsal anterior cingulate cortex signals task conflict and predicts adjustments in pupil-linked arousal." *Neuron 85(3),* pp. 455-7.

"The Science of Love: What Are You Looking At?" Write-up of "Oxytocin reduces social vigilance in rhesus macaques." in October 10, 2013 *Cell: Select* column. *Cell, 155,* p. 263.

OTHER PROFESSIONAL ACTIVITIES:

Invited Reviewer: *Nature Neuroscience*, *Scientific Reports, Frontiers in Neuroscience,* COSYNE meeting

Professional Membership, *Society for Neuroscience*, 2005-present

Workshop organizer, "Executive Flexibility", March 2016
COSYNE workshops, Snowbird, UT

Co-organizer, *Maths, Monkeys & Machines* interdisciplinary seminar series, 2014-2015
Stanford University, Stanford, CA

Discussant, *Gordon Research Seminar on Neurobiology of Cognition*, June 2014
Gordon Research Conferences, Newry, ME

Attendee, *Bay Area Ophthalmology Course*, July 2013
Bay Area Ophthalmology Consortium, Stanford Medicine, Stanford, CA

Workshop leader and volunteer, *Brain Awareness Week*, 2010-2013
Durham, NC & Raleigh, NC

Organizer, *Social Neuroscience Journal Club*, 2011-2012
Duke University, Durham, NC

Consortium member, *Neuroscience Graduate Student Consortium*, 2011
Duke University, Durham, NC

Invited participant, *Neuroscience, Juries, Decision-Making short course*, 2011
Duke University Law School, Durham, NC

TEACHING/MENTORING:

Instructor/Section Leader:
Neuroscience Junior Tutorial (2 sessions), Princeton University, 2016
Launch into Pharmacology (2 sessions, summer intensive), Duke University, 2011
Biological Bases of Behavior (2 sections), Duke University, 2010

Guest Instructor:
Principles of Cognitive Neuroscience (graduate course), Duke University, 2012
Introduction to Biology, Guilford College, Greensboro, NC, 2010
Sensory Systems, Guilford College, Greensboro, NC, 2010

Teaching Assistant:
Brain and Behavior, Duke University Medical School, 2009

Research assistants mentored:
Cindy Tu (summer 2017, now a research assistant at NYU)
Lu Yang (2014-2015, masters student at Stanford University)
Eddy Albarran (2013-2014, now a PhD student at Stanford University)

Coursework taken with a substantial focus on teaching:
Foundations in College Teaching (Duke, Fall 2009, GS 302)
Colloquium on the Academic Profession (Duke, Fall 2010, GS 300)
Seminar in Teaching College Biology (Duke, Fall 2010, BIO 390)