# R. Becket Ebitz, PhD

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### **EDUCATION AND POSITIONS:**

**CV Starr Fellow** Mentor: Dr. Timothy Buschman 2015-present

Princeton University, Princeton Neuroscience Institute, Princeton, NJ

**Postdoctoral Fellow** Mentor: Dr. Tirin Moore 2013-present

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, and Research Methods

## FELLOWSHIPS AND AWARDS:

2015-present	CV Starr Foundation Fellowship, Princeton University
2014-present	NIMH National Research Service Award (F32)
2014, 2016	Travel Awards, Gordon Conference, Neurobiology of Cognition
2013-14	Stanford Vision Training Program Postdoctoral Fellowship (T32)
2010-11	Preparing Future Faculty Fellowship, Duke University
2009-10	Ruth K. Broad Foundation Research 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 USA, Discovery Young Scientists Challenge

### **RESEARCH PAPERS:**

- **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), 628-640.
- **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.,** Moore, T. (in revision). "FEF microstimulation modulates the pupil light reflex."
- **Ebitz, R. B.,** Albarran, E., & Moore, T. (in preparation). "Exploration flattens prefrontal target selectivity, enhances learning in network states and behavior."

## **RECENT & SELECTED TALKS:**

"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 chalk talk series, University of Pennsylvania.
- "Altered balance between top-down and bottom-up saccade control across exploration and exploitation." (July 2016). Gordon Research Seminar, Newry, ME.
- "Frontal eye field dynamics differ between explore and exploit states." (March 2016). Workshop on Executive Flexibility, COSYNE, Snowbird, UT.
- "Exploration flattens prefrontal target selectivity, enhances learning in network states and behavior." (February 2016). Main meeting, COSYNE, Salt Lake City, UT.
- "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.,** Moore, T., & Buschman, T. (November 2016). "Altered balance between top-down and bottom-up control across exploration and exploitation." Poster presented at 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." Poster presented at the Gordon Research Conference, Newry, ME.
- **Ebitz, R.B.,** & Moore, T. (June 2016). "Altered balance between top-down and bottom-up saccade control across exploration and exploitation." Poster presented at the 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." Poster presented at 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." Poster presented at Society for Neuroscience, Washington, DC.
- **Ebitz, R. B.**, Albarran, E., Soltani, A. & Moore, T. (July 2014). "Uncertainty and exploration in the frontal eye field." Poster presented at the 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." Poster presented at COSYNE, Salt Lake City, UT.
- **Ebitz, R. B.**, & Platt, M. L. (November 2013). "Pupil constriction betrays the locus of attention." Poster presented at Society for Neuroscience, San Diego, CA.
- **Ebitz, R. B.**, & Platt, M. L. (February 2012). "Neuronal activity in anterior cingulate cortex predicts susceptibility to distraction." Poster presented at COSYNE, Salt Lake City, UT.
- **Ebitz, R. B.**, & Platt, M. L. (November 2011). "Oxytocin blunts social distraction." Poster presented at Society for Neuroscience, Washington, DC.
- **Ebitz, R. B.**, Watson, K. K., Platt, M. L. (November 2008). "Oxytocin administration affects valuation of social images." Poster presented at the Society for Neuroscience, Washington, DC.

Hendler, T., Singer, N., **Ebitz, R.B.**, Ungerleider, L., Grillon, C. (2007). "Aware and unaware mechanisms for anxiety related threat bias: Insights from binocular rivalry." Poster presented at the Cognitive Neuroscience Society Annual Meeting, New York City, NY.

## COMMENTARIES & PRESS COVERAGE:

"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: Frontiers in Neuroscience, Scientific Reports, COSYNE meeting

Professional Membership, Society for Neuroscience, 2005-present

Workshop co-organizer (with Tim Buschman), "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

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 (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:

Lu Yang (2014-2015, masters student) Eddy Albarran (2013-2014, now a PhD student at Stanford University)