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2017-present **Postdoctoral Research Associate**
Institute for Learning & Brain Sciences - University of Washington
PIs: Andrea Stocco, PhD; Chantel Pratt, PhD; Rajesh Rao, PhD

2015-2017 **Postdoctoral Research Associate**
Duke Institute for Brain Sciences - Duke University
Johnson Laboratory - PI: Elizabeth Johnson, PhD

Center for Cognitive Neuroscience - Duke University
Motivated Memory Laboratory - PI: R. Alison Adcock, MD PhD

Education

2012-2015 **PhD - Psychology & Neuroscience**
Certificate in Cognitive Neuroscience
Duke University, Durham, NC
Dissertation: *Cognitive Neurostimulation: Learning to Volitionally
Invigorate Mesolimbic Reward Network Activation*

Committee: R. Alison Adcock, MD PhD (*advisor*)
Timothy Strauman, PhD
Scott Huettel, PhD
Nan-Kuei Chen, PhD

2009-2012 **MA - Psychology & Neuroscience**
Duke University, Durham, NC

2007 **BS - Brain, Behavior, & Cognitive Science**
University of Michigan, Ann Arbor, MI
University Honors; Minor - Philosophy of Mind
Research Advisor: Oliver Schultheiss, PhD

Publications

MacDuffie KM, **MacInnes JJ**, Dickerson KC, Scult MA, Beaty RE, Eddington KM, Strauman TJ, Adcock RA. Motivating Engagement in Cognitive Therapy Strategies Using Real-Time fMRI Neurofeedback. (*submitted*)

MacInnes JJ, Iqbal, S, Pearson, J, Johnson EN. Wearable Eye-tracking for Research: Automated dynamic gaze mapping and accuracy/precision comparisons across devices. (*in review*)

MacInnes JJ*, Dickerson KC*. (2018) Real-time Functional Magnetic Resonance Imaging. *Encyclopedia of Life Sciences* (*in-press*)

MacInnes JJ*, Dickerson KC*, Chen N, Adcock RA. (2016) Cognitive Neurostimulation: Learning to Volitionally Sustain Ventral Tegmental Area Activation. *Neuron*, 89(6)

Ballard IC, Murty VP, Carter RM, **MacInnes JJ**, Huettel SA, Adcock RA. (2011) Dorsolateral prefrontal cortex drives mesolimbic dopaminergic regions to initiate motivated behaviors. *Journal of Neuroscience*, 31(28):10340-46

Schultheiss OC, Patalakh M, Rawolle M, Liening S, **MacInnes JJ**. (2011) Referential competence is associated with congruence between implicit and explicit motivation. *Journal of Research in Personality*, 45, 59-70

Carter RM*, **MacInnes JJ***, Huettel SA, Adcock RA. (2009) Activation in the VTA and nucleus accumbens increases in anticipation of both gains and losses. *Frontiers in Behavioral Neuroscience*. (3) 21

-Commentary in: Seo, H (2010) Ambivalent Dopamine. *Frontiers in Neuroscience*, 4

* co-lead authors

Abstracts & Presentations

Hakimi S, **MacInnes JJ**, Dickerson KC, Adcock RA. Modeling VTA Learning from Real-time fMRI Neurofeedback. *Real-time Functional Imaging and Neurofeedback*, 2017

Dickerson KC, MacDuffie KE, **MacInnes JJ**, Eddington KM, Strauman TJ, Adcock RA. Using Real-time Neurofeedback as a Tool for Demonstrating Therapeutic Efficacy. *Real-time Functional Imaging and Neurofeedback*, 2017

Hagg A, Sladky R, Kirschner M, Herdener M, Koush Y, **MacInnes JJ**, Dickerson KC, Chen NK, Adcock RA, Young K, Yao S, Becker B, Emmert K, Van De Ville D, Haller S, Scheerer H, Bruhl A, Fukuda M, Weiskopf N, Scharnowski F. Pre-training Localizer Activity Predicts Real-time fMRI Neurofeedback Learning Success. *Real-time Functional Imaging and Neurofeedback*, 2017

MacInnes J. Mapping the Geographic Spread of Collaborations Across Duke University. *Scholars@Duke Data Visualization Challenge*, Duke Research Computing, 2017 ***First Place Winner**

Dickerson KC, **MacInnes J**, Chen N, Adcock RA. Cognitive Neurostimulation of the Dopamine System. *American College of Neuropsychopharmacology*, 2016

Iqbal S, **MacInnes J**. Dynamic Object-Gaze Tracking with OpenCV. *PyData Carolinas*, 2016

MacDuffie KM, Dickerson KC, **MacInnes J**, Eddington KM, Strauman TJ, Adcock RA. Real-time fMRI Neurofeedback Motivates Engagement of Cognitive Strategies for Depression. *Society for Neuroscience*, 2016 ***selected as SFN Hot Topic of 2016**

MacDuffie KM, **MacInnes J**, Dickerson KC, Scult MA, Beaty RE, Eddington KM, Strauman TJ, Adcock RA. Motivating Engagement in Cognitive Therapy Strategies Using Real-Time fMRI Neurofeedback. *Association for Psychological Science*, 2016

MacInnes J, Wardle ME, Johnson EN. Facial Fixations: How Visual Exploration Varies Across Artistic Depictions of Faces. *European Conference on Visual Perception: Visual Science of the Arts Conference*, 2016

Johnson EN, **MacInnes J**, Iqbal S, Wardle ME, Pearson JM. Gaze Meets Space: Mapping Natural Viewing Behavior in the Gallery. *European Conference on Visual Perception: Visual Science of the Arts Conference*, 2016

MacInnes J*, Dickerson KC*, Adcock RA. Cognitive Neurostimulation: Learning to volitionally sustain ventral tegmental area activation. *Real-time Functional Imaging & Neurofeedback*, 2015

MacInnes J*, Dickerson KC*, Adcock RA. Cognitive Neurostimulation: Learning to volitionally sustain ventral tegmental area activation. *Translational Neuroscience*, 2014

MacInnes J*, Dickerson KC*, Adcock RA. Behavioral neurostimulation: Sustained activation of the human dopaminergic midbrain using real-time fMRI. *Society for Neuroscience Annual Meeting*, 2013

Dickerson KC*, **MacInnes J***, Adcock RA. Sustained activation of the human dopaminergic midbrain using real-time fMRI. *Mechanisms of Motivation, Cognition, and Aging Interactions Annual Meeting*, 2013

Carter RM, **MacInnes J**, Winecoff A, Adcock RA, Huettel SA. Distribution analysis of fMRI contrasts in social and affective tasks. *Social and Affective Neuroscience Society Annual Meeting*, 2013

MacInnes J, Adcock RA. Intentional activation of the human dopaminergic midbrain: Experimental foundations for therapeutic behavioral neurostimulation. *National Academy of Sciences: Kavli Frontiers of Science Symposia, 2011*

MacInnes J, MacDuffie K, Adcock RA. Instructed salience modulates reward-motivated enhancements in item and relational memory. *Cognitive Neuroscience Society Annual Meeting, 2011*

MacInnes J, MacDuffie K, Adcock RA. Differential impact of reward motivation on item versus source memory. *Society of Neuroscience Annual Meeting, 2010*

MacDuffie K, Murty V, **MacInnes J**, Johnson B, Adcock RA. Motivated word-list encoding: Valence or value? *Duke University Center for Neuroeconomic Studies Annual Retreat, 2010*

Ballard I, Murty V, **MacInnes J**, Carter RM, Huettel S, Adcock RA. Prefrontal origin of reward information in the mesolimbic dopamine system. *Cognitive Neuroscience Society Annual Meeting, 2010*

MacInnes J, Carter RM, Adcock RA, Huettel S. Rewards earned for others – An fMRI study of the neural correlates of altruism. *Cognitive Neuroscience Society Annual Meeting, 2009*

MacInnes J, Rouse E, Figueroa S, Ely S, Adcock RA. Pupillary indices of successful reward-motivated learning. *Soc. for Neuroscience Annual Meeting, 2008*

MacInnes J, Rouse E, Figueroa S, Ely S, Adcock RA. Pupil responses to reward cues as predictors of long-term memory for associated images. *Center for Neuroeconomics Annual Meeting, Duke University, 2008*

* co-lead authors

Teaching

courses

Functional Magnetic Resonance Imaging

Spring 2016 - Graduate Course, Duke University

Introduction to Cognitive Neuroscience

Summer 2014 - Duke University

guest lectures

fMRI Methods in Cognitive Neuroscience

Summer 2016 - Undergraduate Intro to Cognitive Neuroscience, Duke University

Cognitive Neurostimulation of Effective Learning States

Fall 2014 - Duke University

Real-time fMRI and Applications

Spring 2013 - fMRI methods group, Duke University

Physiological De-noising of fMRI data

Spring 2013 - fMRI methods group, Duke University

Advanced Imaging Analyses

Spring 2012 - Undergraduate fMRI course, Duke University

Real-time fMRI and MVPA

Fall 2011 - Graduate fMRI course, Duke University

K-Space and MR Physics

Fall 2011 - Graduate fMRI course, Duke University

teaching asst.

Biological Basis of Behavior

Spring 2013 - Undergraduate course, Duke University

Functional Magnetic Resonance Imaging

Spring 2012 - Undergraduate course, Duke University

Functional Magnetic Resonance Imaging

Fall 2011 - Graduate course, Duke University

recognitions & memberships

2017 - 1st Place, Scholars@Duke Data Visualization Competition

2016-2017 - Brain Awareness Week exhibit planner, volunteer

2015 - Real-Time Functional Imaging & Neurofeedback Student Travel Award

2015 - Duke Graduate School Travel Award

2009-2013 - James B. Duke Graduate Fellowship

2011-2012 - Board of Directors, Design - Brain Awareness week

2010 - NSF Fellow - East Asia & Pacific Summer Institutes

2008, 2010 - Society for Neuroscience member

2009 - NSF Graduate Research Fellowship - Honorable Mention

2008-2009 - Cognitive Neuroscience Society member

2005-2007 - University Honors – University of Michigan

2006-2007 - Undergraduate Psychological Society member – University of Michigan

2002-2007 - Michigan Competitive Scholarship

2002 - Ruth M. Butler Community Service Award