

# KATHERINE BOTTENHORN

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## EDUCATION

### GRADUATE: FLORIDA INTERNATIONAL UNIVERSITY

AUGUST 2015 TO PRESENT

Cognitive Neuroscience doctoral program, Department of Psychology

MASTER'S THESIS entitled *A multimodal analysis of the habenula using high-field 7T resting state functional connectivity and meta-analytic coactivation data*

### BACHELORS: AUBURN UNIVERSITY

GRADUATED MAY 2015

BACHELOR OF ARTS in Chemistry & Psychology

Summa cum laude, University Honors Scholar

HONORS THESIS entitled *Functional connectivity of the human hypothalamus*

## RESEARCH EXPERIENCE

### FLORIDA INTERNATIONAL UNIVERSITY – NEUROINFORMATICS AND BRAIN CONNECTIVITY LABORATORY

CURRENT

Currently engaged in several independent projects: investigating the functional connectivity of the human habenula, a region that exerts a modulatory effect on dopaminergic midbrain regions in error monitoring; assessing neural networks underlying real-world behavior in naturalistic functional neuroimaging paradigms.

*Principal Investigator:* DR. ANGELA LAIRD

### AUBURN UNIVERSITY – COGNITIVE AND AFFECTIVE NEUROSCIENCE LABORATORY

NOV 2012 TO MAY 2015

Collected and processed MR imaging data. Completed an independent project investigating the connectivity of the human hypothalamus using meta-analytic connectivity modeling, probabilistic tractography, and resting state fMRI.

*Principal Investigator:* DR. JENNIFER ROBINSON

### UNIVERSITY OF CINCINNATI – BEN-JONATHAN LABORATORY

JUNE 2013 TO AUG 2013

Assisted with a project focused on determining the expression and treatment utility of dopamine receptors in head and neck cancer. Assessed DRD1 expression and response to various PDE5 inhibitors and dopamine-1 receptor agonists.

*Principal Investigator:* DR. NIRA BEN-JONATHAN

### AUBURN UNIVERSITY – MEMORY, ATTENTION, & DECISION LABORATORY

JAN 2012 TO NOV 2012

Coded and transcribed collected data, administered various cognitive assessments for a study of the interplay of stress and working memory in decision-making.

*Principal Investigator:* DR. ANA FRANCO-WATKINS

## HONORS & AWARDS

Auburn University College of Science and Mathematics Undergraduate Research Fellowship	2014 to 2015
Auburn University Opportunities for Undergraduate Research in the College of Liberal Arts	2014 to 2015
University of Cincinnati Summer Undergraduate Research Fellowship	2013
Auburn University College of Sciences and Mathematics Dean's List	2011 to 2015
Auburn University National Scholars' Presidential Scholarship	2011 to 2015
National Merit Scholar	2011

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## PUBLICATIONS

- Bottenhorn, K. L., Laird, A. R., Robinson, J. L. (in prep.) Connectivity of the human hypothalamus using meta-analytic connectivity modeling and ultra-high field magnetic resonance imaging.
- Bottenhorn, K. L., Flannery, J., Riedel, M. C., Eickhoff, S. B., Sutherland, M. T., Laird, A. R. (in prep.) Cooperating yet distinct brain networks engaged during naturalistic paradigms: A meta-analysis of functional neuroimaging data.
- Bottenhorn, K. L., Robinson, J. L., Flannery, J., Sutherland, M. T., Laird, A. R. (in prep.) A multimodal connectivity investigation of the habenula using high-field 7T resting state and meta-analytic co-activation data.
- Robinson, J. L., Barron, D. S., Kirby, L. A. J., Bottenhorn, K. L., Hill, A. C., Murphy, J. E., ... Fox, P. T. (2015). Neurofunctional topography of the human hippocampus. *Human Brain Mapping*, 36(12), 5018–37.

## PRESENTATIONS

- Bottenhorn, K. L., Robinson, J. L., Flannery, J., Riedel, M., Yanes, J., Sutherland, M., & Laird, A. R., (2016, March). Resting state functional connectivity of the human habenula using ultra-high field, high-resolution imaging at 7T. Oral presentation given at Florida International University's Graduate Student Scholarly Forum, Miami, FL, USA.
- Bottenhorn, K. L., Laird, A. R., & Robinson, J. L., (2015, October). Connectivity of the human hypothalamus: An integration of meta-analytic connectivity modeling and ultra high-field MR data. Oral presentation given at BrainHack–Miami 2015, Miami, FL, USA.
- Bottenhorn, K. L., & Robinson, J. L., (2015, April). Connectivity of the human hypothalamus using ultra-high field, high-resolution imaging at 7T. Oral presentation at Auburn University's annual Research Week, Auburn, AL, USA.

## POSTERS

- Bottenhorn, K. L., Sutherland, M. T., Laird, A. R. (2016, June). Naturalistic paradigms in fMRI research: An ALE meta-analysis. Poster presented at the annual conference of the Organization for Human Brain Mapping, Geneva, Switzerland.
- Bottenhorn, K., Salo, T., Reidel, M., & Laird, A. R. (2015, November). Gender differences in emotional processing: a BrainMap meta-analysis. Poster presented at Florida International University's Women, Sexuality, and Gender Student Association's conference, Miami, FL, USA.
- Bottenhorn, K. L., & Robinson, J. L. (2015, June). Functional connectivity of the human hypothalamus: A meta-analytic and ultra-high field magnetic resonance imaging study. Poster presented at the annual conference of the Organization for Human Brain Mapping, Honolulu, HI, USA.
- Bottenhorn, K. L., & Robinson, J. L. (2014, June). Functional connectivity of the human hypothalamus using meta-analytic connectivity modeling. Poster presented at the annual conference of the Organization for Human Brain Mapping, Hamburg, Germany.
- Bottenhorn, K. L., & Robinson, J. L. (2014, April). Functional connectivity of the human hypothalamus using meta-analytic connectivity modeling. Poster presented at Auburn University's annual Research Week, Auburn, AL.
- Bottenhorn, K. L., Tuttle, R., & Ben-Jonathan, N. (2013, August). Dopamine receptor agonists suppress viability of head and neck cancer cells. Poster presented at the University of Cincinnati Summer Undergraduate Research Fellowship Poster Presentation, Cincinnati, OH, USA.

## ADDITIONAL QUALIFICATIONS & TRAINING

- Fluent in English, conversational in Spanish.
- Certified by the Collaborative Institutional Training Initiative for the protection of human subjects in biomedical research.
- Novice in Python, Java, bash
- Completed Software Carpentry Workshops in Git, Python, & Unix (August 2016)
- Attended Nipype Workshop and Hackweek at the Massachusetts Institute of Technology (March 2017)
- Experienced in MR data processing including FSL tools to investigate functional and structural connectivity from resting-state fMRI and diffusion-weighted MRI, respectively.
- Laboratory skills include cell line growth & treatment, PCR & rt-PCR, RNA extraction, electrophoresis, & Western Blotting.