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EMPLOYMENT

Maryland Neuroimaging Center
Faculty Research Scientist

College Park, MD
August 2018

Johns Hopkins University
Research Scientist

Baltimore, MD
2016-2018

Johns Hopkins University
Post-Doctoral Fellow

Baltimore, MD
2012-2016

EDUCATION

Georgetown University
Ph.D., Neuroscience (Advisor: Guinevere Eden)
Dissertation: The Neural Substrates Underlying Both Reading and Spelling

Washington, D.C.
2012

Michigan State University
B.S., *magna cum laude*, Physiology/Psychology

East Lansing, MI
2003

JOURNAL PUBLICATIONS

In Review Articles

1. **Purcell, J.J.**, Wiley, R.W., and Rapp, B Re-Learning to Be Different: Increased Neural Differentiation Supports Post-stroke Language Recovery. (In Review) *NeuroImage Clinical*.

Peer Reviewed Articles

1. Ellenblum, G., **Purcell, J.J.**, Song, X., and Rapp, B. (In Press) How are reading and spelling networks different from other networks? Evidence from resting-state fMRI. *Cognitive Neuroscience*. https://doi.org/10.1162/jocn_a_01405
2. **Purcell, J.J.** and Rapp, B (2018) Using a novel Local Heterogeneity Regression method to index orthographic lexical representations. *Neuroimage*. <https://doi.org/10.1016/j.neuroimage.2018.07.063>
3. **Purcell, J.J.**, Sebastian, R., Leigh, R., Jarso, S., Davis, C., Posner, J., Wright, A., Hillis, A.E. (2017) Recovery of Orthographic processing in left PCA stroke: A longitudinal fMRI study. *Cortex*. <http://dx.doi.org/10.1016/j.cortex.2017.03.022>
4. **Purcell, J. J.**, Jiang, X., Eden G. F. (2017) Shared Neuronal Representations for Spelling and Reading. *Neuroimage*. <http://dx.doi.org/10.1016/j.neuroimage.2016.12.054>
5. Sebastian, R., Long, C., **Purcell, J. J.**, Faria, A. V., Lindquist, M., Jarso, S., Hillis, A. E. (2016). Imaging network level language recovery after left PCA stroke. *Restorative Neurology and Neuroscience*, 34 (4), 473-89. <https://doi.org/10.3233/RNN-150621>

6. Rapp, B., Purcell, J. J., Hillis, A. E., Capasso, R., & Miceli, G. (2015). Neural bases of orthographic long-term memory and working memory in dysgraphia. *Brain*. <http://doi.org/10.1093/brain/awv348>
7. Purcell, J. J., Shea, J., & Rapp, B. (2014). Beyond the visual word form area: the orthography-semantics interface in spelling and reading. *Cognitive Neuropsychology*, 31(5-6), 482–510. <http://doi.org/10.1080/02643294.2014.909399>
8. Purcell, J. J., & Rapp, B. (2013). Identifying functional reorganization of spelling networks: an individual peak probability comparison approach. *Frontiers in Psychology*, 4:964. <http://doi.org/10.3389/fpsyg.2013.00964>
9. Purcell, J. J., Turkeltaub, P. E., Eden, G. F., & Rapp, B. (2011). Examining the central and peripheral processes of written word production through meta-analysis. *Frontiers in Psychology*, 2:239. <http://doi.org/10.3389/fpsyg.2011.00239>
10. Purcell, J. J., Napoliello, E. M., & Eden, G. F. (2011). A combined fMRI study of typed spelling and reading. *Neuroimage*, 55(2), 750–762. <http://doi.org/10.1016/j.neuroimage.2010.11.042>

BOOK CHAPTER PUBLICATIONS

1. Purcell, J. J. & Rapp, B. Disorder of Written Expression (2017). In Wenzel, A. E. (Ed.) *The SAGE Encyclopedia of Abnormal and Clinical Psychology*. Thousand Oaks, CA: SAGE Publications.
2. Rapp, B. & Purcell, J. J. Understanding how we produce written words: Lessons from the brain (2016). In Rueschemeyer, S. & Gaskell, M. G. (Ed.). *The Oxford Handbook of Psycholinguistics* (1st ed.). New York, NY: Oxford University Press
3. Purcell, J. J., Schubert, T. M., Hillis, A. E. (2015). Acquired Impairments in Reading. In Hillis, A. E (Ed.). *Integrating Cognitive Neuropsychology, Neurology, and Rehabilitation*. (pp. 3-23) New York, NY: Psychology Press. ISBN 1317498348

CONFERENCE PRESENTATIONS: RESEARCH

Oral Presentations

1. Purcell, J. J., and Rapp, B. (2018). Using local neural heterogeneity to both predict and track in language recovery. Academy of Aphasia 56th Annual Meeting, Montreal, Canada
2. Purcell, J. J., and Rapp, B. (2016). Using a novel Local Heterogeneity Regression method to index orthographic lexical representations. The Society for Neuroscience, San Diego, CA, USA
3. Purcell, J. J., Wiley, B, and Rapp, B. Using the local heterogeneity of neural responses to index the integrity of representations and track recovery of function (2016). Academy of Aphasia 54th Annual Meeting, Llandudno, Wales, UK
4. Purcell, J. J., Capasso, R., Miceli, G., and Rapp, B. (2014). Distinct neuroanatomical correlates for orthographic working memory and orthographic long term memory. The Society for Neuroscience, Washington D.C., USA
5. Purcell, J. J and Rapp, B. (2013). Functional reorganization of the orthographic processing network subsequent to neural injury: evidence from fMRI. The Academy of Aphasia, Lucerne, Switzerland

Poster Presentations (Select)

1. Purcell, J. J. and Rapp B. (2019). Re-Learning to Be Different: Increased Neural Differentiation Supports Post-stroke Language Recovery. Cognitive Neuroscience Society, San Francisco, MA, USA
2. Purcell, J. J. and Rapp B. (2017). Using a novel Local Heterogeneity Regression method to index orthographic representations in reading. Academy of Aphasia 55th Annual Meeting. Baltimore, MD, USA

3. **Purcell, J. J.** and Rapp B. (2015). The neural basis of learning to spell again: An fMRI study of spelling training in acquired dysgraphia. *Front. Psychol.* Academy of Aphasia 53rd Annual Meeting. Tucson, AZ, USA
4. **Purcell, J. J.** and Rapp, B. (2015). Recovering orthographic knowledge: Contributions of the ventral and dorsal components of the orthographic processing network. Society for the Neurobiology of Language 7th Annual Meeting. Chicago, IL, USA
5. **Purcell, J. J.** and Rapp, B. (2013). Identifying functional reorganization of spelling networks: An Individual Peak Probability Comparison Approach. The Society for the Neurobiology of Language, San Diego, CA, USA
6. **Purcell, J. J.**, Jiang, X. and Eden, G. (2012). Shared Neuronal Representations for Spelling and Reading. *Human Brain Mapping*, Beijing, China
7. **Purcell J. J.**, Rapp B, Turkeltaub P, and Eden G (2011). Activation Likelihood Estimation (ALE) Meta-analysis of Written Spelling. *Human Brain Mapping*, Quebec City, Canada
8. **Purcell J. J.**, Napoliello E, Jiang X and Eden G (2010). Shared neural representations for word reading and spelling in the VWFA. Society for Neuroscience/Neurobiology of Language, San Diego, CA, USA
9. **Purcell J. J.**, Napoliello E and Eden G (2009). Functional neuroanatomical co-localization for reading and spelling: An fMRI study. Society for Neuroscience/Neurobiology of Language, Chicago, IL, USA

TEACHING EXPERIENCE

Emory-Tibet Science Initiative

Course Instructor: Cognitive Neuroscience

<https://tibet.emory.edu/emory-tibet-science-initiative/index.html>

Description: Teach cognitive neuroscience (through lecture and interactive sessions) to Tibetan monks at a Tibetan monastery in India (3 weeks).

Drepung Gomang, India

Summer 2019

Johns Hopkins University

Course Co-organizer & Instructor: Cognitive Neuroscience: Exploring the Living Brain

Description: Undergraduate flipped-classroom course with pre-recorded lectures for on-line viewing and small-classroom interactive sessions.

Baltimore, MD

Spring 2016/17/18

Course Organizer & Instructor: Windows to the Mind: A Survey of Neuroimaging Methods

Description: Undergraduate small-classroom course with in-class lectures and computer based interactive exercises.

Fall 2017

Georgetown University

Guest Lecturer: Written Language and the Brain

Description: Invited lecture for graduate-level Neurobiology of Language Course

Washington, D.C.

Spring 2012 & 2014

Course Organizer & Instructor: Intro to Human Cognitive Psych. Experimental Design

Description: Graduate-level interactive computer lab class.

Spring 2009-2011

Course Organizer & Instructor: Gross Human Neuroanatomy 3-day Workshop

Description: Graduate-level interactive gross neuroanatomy lab class.

Summer 2008-2011

Teaching assistant: Gross Human Neuroanatomy

Description: Medical School and graduate-level interactive gross neuroanatomy lab class.

Spring 2006-2011

CONFERENCE PRESENTATIONS: TEACHING

Poster Presentation

Rapp, B, Park, S, **Purcell, J. J.**, Reese, M. (2017). Teaching cognitive neuroscience: Transformation from large lecture class to small active learning groups. Cognitive Neuroscience Society Annual Meeting. San Francisco, CA, USA

PROFESSIONAL AWARDS

Teaching Technology Fellowship “Building Interactive Online Resources for Active Learning in Cognitive Neuroscience” Johns Hopkins University, Krieger School of Arts and Sciences	2018
Deans Science Post-Doctoral Teaching Fellowship Johns Hopkins University, Krieger School of Arts and Sciences	2017
Ruth L. Kirschstein Pre-Doctoral National Research Service Award National Institute of Deafness & Other Communication Disorders, National Institutes of Health	2009-2012
Graduate Student Travel Fellowship Neuroethics, Legal, & Social Issues workshop. Santa Ana Pueblo, New Mexico	2009
Graduate tuition & stipend fellowship Georgetown University Interdisciplinary Program in Neuroscience	2005-2007

UNDERGRADUATE STUDENT MENTOR EXPERIENCE

• Gianni Petrozzino, Johns Hopkins University	2019 (Spring)
• Delaney Ubellacker: Undergraduate, Johns Hopkins University	2017-19 (Fall/Spring)
• Natalie Moss: Undergraduate, Johns Hopkins University	2017-18 (Fall/Spring)
• Ting Yu Wu: Undergraduate, Johns Hopkins University	2016-17 (Fall/Spring)
• Ian McCandliss: Undergraduate, Johns Hopkins University	2016 (Summer)
• Chloe Haviland: Undergraduate, Johns Hopkins University	2015-16 (Fall/Spring)
• Noel Turner: Undergraduate, Johns Hopkins University	2013 (Fall/Spring)

PROFESSIONAL SERVICE

Requested Reviewer for the following journals (12 reviews in total):

- Cortex
- Human Brain Mapping
- Frontiers in Psychology
- Cerebral Cortex
- PLOS ONE
- Neuroimage

PUBLIC OUTREACH TALKS

Calvert Library Participated in a Dyslexia Expert Panel.	Prince Frederick, MD May 8, 2019
University of Virginia Participated in a workshop with the “The Tribe” a group of nonspeaking autistic adults.	Charlottesville, VA November 3, 2018
Baltimore Polytechnic Institute High School Introduction to Human Cognition and Brain	Baltimore, MD March, 18, 2016
Edward A. Myerberg Senior Center How to foster neuro-cognitive health in the ageing brain.	Baltimore, MD November 11, 2015

REFERENCES

Guinevere Eden, PhD

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