

## Emily L. Coderre, Ph.D.

### Postdoctoral Fellow

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### EDUCATION AND RESEARCH EXPERIENCE

- 2013 – present     **Postdoctoral Fellow**  
Division of Cognitive Neurology/Neuropsychology  
Department of Neurology  
Johns Hopkins University School of Medicine, Baltimore, MD
- 2009 – 2012     **Ph.D., Cognitive Psychology**  
University of Nottingham, UK  
Thesis: *Exploring the Cognitive Effects of Bilingualism: Neuroimaging Investigations of Lexical Processing, Executive Control, and the Bilingual Advantage*  
Supervisors: Walter van Heuven and Kathy Conklin
- 2011 – 2012     **Guest Researcher**  
Brain Imaging and Modeling Section, National Institute of Deafness and Other Communication Disorders (NIDCD)  
National Institutes of Health (NIH), Bethesda, MD  
Host: Barry Horwitz  
Project Title: *Mapping the Bilingual Executive Control Network*
- 2008 – 2009     **M.Sc., with Distinction, Cognitive Neuroscience and Neuroimaging**  
University of Nottingham, UK  
Thesis: *SOA Manipulations of the Stroop Task: Behavioural and ERP Evidence*
- 2007 – 2008     **Research Project Manager**  
Clinical Neuroscience Research Unit  
University of Vermont; Burlington, VT
- 2006 – 2007     **Research Coordinator**  
Clinical Neuroscience Research Unit  
University of Vermont; Burlington, VT
- 2002 – 2006     **B.A., cum laude, Psychology**  
University of Vermont; Burlington, VT  
Thesis: *A Brain fMRI Study of Language Processing in Native Japanese Speakers*

## PEER-REVIEWED PUBLICATIONS

- Coderre, E.L.**, Smith, J., van Heuven, W.J.B. & Horwitz, B. (2015). The Functional Overlap of Executive Control and Language Processing in Bilinguals. *Bilingualism: Language and Cognition*. doi:10.1017/S1366728915000188.
- Ledoux, K., **Coderre, E. L.**, Bosley, L.V., Buz, E. Gangopadhyay, I., & Gordon, B. (2015). The Concurrent Use of Three Implicit Measures (Eye Movements, Pupillometry, and Event-Related Potentials) To Assess Receptive Vocabulary Knowledge in Normal Adults. *Behavior Research Methods*. doi 10.3758/s13428-015-0571-6.
- Coderre, E.L.** & van Heuven, W.J.B. (2014). The Effect of Script Similarity on Executive Control in Bilinguals. *Frontiers in Psychology*, 5(1070), 1-16.
- Coderre, E.L.** & van Heuven, W.J.B. (2014). Electrophysiological Explorations of the Bilingual Advantage: Evidence from a Stroop Task. *PloS One*,9(7), e103424.
- Coderre, E.L.** & van Heuven, W.J.B. (2013). Modulations of the Executive Control Network by Stimulus Onset Asynchrony in a Stroop Task. *BMC Neuroscience*, 14(79), 1-18.
- Coderre, E.L.**, van Heuven, W. & Conklin, K. (2013). The Timing and Magnitude of Stroop Interference in Monolinguals and Bilinguals. *Bilingualism: Language and Cognition* 16(2), 420-441.
- Newhouse, P., Kellar, K., Aisen, P., White, H., Wesnes, K., **Coderre, E.L.**, Pfaff, A., Wilkins, H., Howard, D. & Levin, E.D. (2012). Nicotine Treatment of Mild Cognitive Impairment: A Six-Month Double-Blind Pilot Clinical Trial. *Neurology*, 78, 91-101.
- van Heuven, W.J.B., Conklin, K., **Coderre, E.L.**, Guo, T., & Dijkstra, T. (2011). The Influence of Script Similarity on Intralingual and Interlingual Stroop Effects in Trilinguals. *Frontiers in Psychology*, 2, 1-15.
- Coderre, E.L.**, Conklin, K., van Heuven, W. J.B. (2011). Electrophysiological Measures of Conflict Detection and Resolution in the Stroop Task. *Brain Research*, 1413, 51-59.
- Newhouse, P.A., Dumas, J., Wilkins, H., **Coderre, E.L.**, Sites, C.K., Naylor, M., Benkelfat, C. & Young, S.N. (2010). Estrogen Treatment Impairs Cognitive Performance Following Psychosocial Stress and Monoamine Depletion in Postmenopausal Women. *Menopause: The Journal of the North American Menopause Society*, 17(4), 860-873.
- Coderre, E.L.**, Filippi, C., Newhouse, P. & Dumas, J. (2009). Ichi, Ni, Three, Four: Neural Representation of Kana, Kanji and Arabic Numbers in Native Japanese Speakers. *Brain and Cognition*, 70(3), 289-296.
- Coderre, E.L.**, Filippi, C., Newhouse, P. & Dumas, J. (2008). The Stroop Effect in Kana and Kanji Scripts in Native Japanese Speakers: An fMRI Study. *Brain and Language*, 107(2), 124-132.

## BOOK CHAPTERS

- Coderre, E.L.** & Dien, J. (Under Review). Electroencephalogram. In *The SAGE Encyclopedia of Abnormal and Clinical Psychology*.
- van Heuven, W.J.B. & **Coderre, E.L.** (2015). Orthographic Processing in Bilinguals. In J. Schwieter (Ed.), *The Cambridge Handbook of Bilingual Processing* (pp. 308-326). UK: Cambridge University Press.
- Coderre, E.L.** (2015). The Neuroscience of Bilingualism: Cross-Linguistic Influences and Cognitive Effects. In J.E. Warnick & D. Landis (Eds.), *Neuroscience in Intercultural Contexts* (pp. 73-116). New York: Springer.

## COMMENTARIES AND PERSPECTIVES

- van Heuven, W.J.B. & **Coderre, E.L.** (2015). A call for sophisticated statistical approaches and neuroimaging techniques to study the bilingual advantage. *Cortex*. doi:10.1016/j.cortex.2015.08.006.
- Plante, T.B., Iberri, D.J., & **Coderre, E.L.** (2015). Building a modern journal club: The Wiki Journal Club experience. *Journal of Graduate Medical Education*, 7(3), 341-343.

## RESEARCH SUPPORT

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| 2015-2017 | Distinguished Science of Learning Fellowship<br>Science of Learning Institute, Johns Hopkins University<br>Project Title: <i>An Interdisciplinary Approach to Improving Reading Comprehension in High-Functioning Individuals with Autism</i><br>Mentors: Barry Gordon (Department of Neurology), Nancy Madden (School of Education) |
| 2005      | Undergraduate Research Endeavors Competitive Awards (URECA!) Grant, University of Vermont  |
| 2005      | Hughes Endeavor for Life Science Excellence (HELIX) Grant, University of Vermont   |

## HONORS, AWARDS, AND FELLOWSHIPS

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| 2015 | Travel Award<br>American Neurological Association<br>For attendance at the 2015 American Neurological Association Meeting, Chicago, Illinois  |
| 2011 | Building Experience and Skills Travel Scholarship (BESTS)<br>Graduate School, University of Nottingham<br>Funding for two months of living and travel expenses during research visit to the National Institutes of Health (NIH) |
| 2011 | Brain Travel Grant  |

- For attendance at the 2011 Workshop on Bilingualism, Aix-en-Provence, France
- 2011 Experimental Psychology Society Grindley Grant  
For attendance at the 2011 Cognitive Neuroscience Society Meeting, San Francisco, California
- 2010 Postgraduate Conference Award: Best Presentation  
School of Psychology  
University of Nottingham
- 2010 Graduate School Travel Prize, University of Nottingham  
For attendance at the 2010 Donostia Workshop on Neurobilingualism, San Sebastian, Spain
- 2010 Brain Travel Grant  
For attendance at the 2010 Meeting of the Cognitive Neuroscience Society, Montreal, Canada
- 2008 – 2012 Friends of the University of Nottingham: America Scholarship
- 2007 Visiting Fellowship Program in Functional MRI  
Athinoula A. Martinos Center for Biomedical Imaging  
Boston, MA
- 2006 Phi Beta Kappa, University of Vermont
- 2003 – 2006 John Dewey Honors Program Scholar  
University of Vermont

## TEACHING EXPERIENCE

- 2014 Teaching Fellow  
Collaborative Teaching Fellows Program, Johns Hopkins University  
Goucher College, Towson, MD  
Psychology 252: Quantitative Research Methods  
Instructor: Dara Friedman-Wheeler, Ph.D.
- 2014 Guest Lecturer  
Goucher College, Towson, MD  
Psychology 202: Human Learning and Memory  
Instructor: Jennifer McCabe, Ph.D.  
Topic: Alzheimer's Disease
- 2009 – 2011 Tutor for subsidiary students, University of Nottingham, UK  
Modules: Cognitive Psychology, Biological Psychology
- 2009 – 2011 Demonstrator: Psychology Research Methods (1<sup>st</sup> year Psychology module), University of Nottingham, UK
- 2010 Demonstrator: Prism Adaptation (2<sup>nd</sup> year Psychology module), University of Nottingham, UK

## PROFESSIONAL MEMBERSHIPS

- 2015- Full Member, International Society for Autism Research
- 2015- Member, Association for Women in Science
- 2015- Affiliate Member, National Postdoctoral Association
- 2013- Associate Member, Psychonomic Society
- 2013- Member, Women in Cognitive Science (WiCS)
- 2011- Member, Society for the Neurobiology of Language
- 2007- Member, Cognitive Neuroscience Society

## PROFESSIONAL ACTIVITIES

- 2015- Advisory Editor, Behavioral Sciences Section, *SpringerPlus*
- 2015 Review Committee, Collaborative Teaching Fellows Program, Professional Development Office, Johns Hopkins Medical Institutions
- 2015 Postdoc Scientific Review Committee, Johns Hopkins Postdoctoral Association
- 2015 Intern, Professional Development Office, Johns Hopkins Medical Institutions  
Panel Title: *Career Options for Diverse PhDs*
- 2010- Peer reviewer for *Journal of Cognitive Neuroscience; Cerebral Cortex; Cognition; Human Brain Mapping; PlosOne; Frontiers; Neuropsychologia; Bilingualism: Language and Cognition; Journal of Autism and Developmental Disorders*

## NEUROIMAGING HARDWARE EXPERIENCE

- fMRI*: Philips and Siemens systems
- EEG*: EGI systems

## PROGRAMMING, EXPERIMENTAL, AND OFFICE SOFTWARE EXPERIENCE

- Programming*: Matlab, Python, Java
- Statistical software*: R for Statistical Computing, SPSS
- EEG software*: NetStation, EEGLab
- MRI software*: SPM, Marsbar, Pickatlas, BrainVoyager
- Experimental software*: E-Prime, Presentation, DMDX
- Reference software*: Mendeley, Endnote, LaTeX, BibTeX
- Graphical Software*: GIMP
- Microsoft Office Software*: Excel, Word, Powerpoint

## CLINICAL AND NEUROPSYCHOLOGICAL TESTING EXPERIENCE

- Autism Diagnostic Observation Schedule (ADOS-2)
- Kaufman Brief Intelligence Test (K-BIT)
- Picture Peabody Vocabulary Test (PPVT)

Wide Ranging Achievement Test (WRAT)  
Mini-Mental State Exam (MMSE)

#### INVITED TALKS

- Coderre, E.L. (2015). Electrophysiological measures of semantic processing in autism. Presented at the Language Processing Brown Bag seminar, Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL.
- Coderre, E.L., van Heuven, W.J.B. & Conklin, K. (2012). Lexical Processing is Delayed by 100 ms in a Second Language. Presented at the Boston University Conference on Language Development, Boston, MA.
- Coderre, E.L., Conklin, K., & van Heuven, W.J.B. (2011). Exploring the Cognitive Effects of Bilingualism: Neuroimaging Investigations of Lexical Processing, Executive Control and the Bilingual Advantage. Presented at the weekly meeting of the Center for Language Science, Pennsylvania State University, State College, PA.
- Coderre, E.L., van Heuven, W.J.B. & Conklin, K. (2011). Automaticity and Speed of Lexical Processing in the First and Second Language. Presented at the 18<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.

#### SELECTED CONFERENCE PRESENTATIONS

- Coderre, E.L., Cohn, N., Slipher, S., Chernenok, M., Ledoux, K. & Gordon, B. (2015). Visual vs. linguistic narrative processing in individuals with autism spectrum disorders. Poster presented at the **Annual Meeting of the Society for the Neurobiology of Language, Chicago, Illinois.**
- Coderre, E.L., Chernenok, M., O'Grady, J., Bosley, L., Gordon, B., & Ledoux, K. (2015). Event-related potentials as implicit measures of vocabulary in individuals with autism. Poster presented at the **American Neurological Association's 2015 Annual Meeting, Chicago, Illinois.**
- Coderre, E.L., Chernenok, M., O'Grady, J., Bosley, L., Gordon, B., & Ledoux, K. (2015). Implicit measures of receptive vocabulary knowledge in low-functioning individuals with autism. Poster presented at the **International Meeting for Autism Research, Salt Lake City, Utah.**
- Coderre, E.L., Gordon, B. & Ledoux, K. (2015). Identifying the cognitive locus of deficits in connectivity during lexico-semantic processing in autism. Poster presented at the **22<sup>nd</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, California.**
- Coderre, E., Fisher, Z., Gordon, B., & Ledoux, K. (2014). Electrophysiological measurements of letter-sound correspondence in a low-functioning individual with autism. Poster presented at the **American Neurological Association's 2014 Annual Meeting, Baltimore, Maryland.**
- Coderre, E., Gordon, B., & Ledoux, K. (2014). Neural connectivity during semantic

processing of pictures and spoken words in autism spectrum disorders. Poster presented at the **21<sup>st</sup> Annual Meeting of the Cognitive Neuroscience Society, Boston, Massachusetts.**

Coderre, E., Bosley, L., Chernenok, M., Gordon, B., & Ledoux, K. (2013). Modeling implicit measures of receptive vocabulary knowledge in normal adults. Poster presented at the **2013 Annual Meeting of the Psychonomic Society, Toronto, Ontario, Canada.**

Coderre, E., van Heuven, W.J.B. & Conklin, K. (2011). Reduced proficiency in a second language leads to delays in early lexical processing. Poster presented at the **Neurobiology of Language Conference, Annapolis, Maryland.**

Coderre, E., van Heuven, W. & Conklin, K. (2010). Lexical access and executive control in monolinguals and bilinguals. Poster presented at the **Architectures and Mechanisms of Language Processing (AMLaP) Conference, York, UK.**