

Erika M. Nyhus
Curriculum Vitae

Address

Cognitive, Linguistic, and Psychological Sciences
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Professional Experience

- 2010-present Postdoctoral Research Associate
Brown University
Advisor: David Badre, Ph.D.
- 2007 National Science Foundation East Asia and Pacific Summer Institute
Memory and Language Laboratory
Cognition and Brain Unit
Department of Psychology
University Adelaide, Adelaide, Australia
Supervisor: Simon Dennis, Ph.D.
Topic: ERP and computational modeling of recognition memory
- 2005-2010 Graduate Research Assistant
Electrophysiology Laboratory
Department of Psychology
University of Colorado at Boulder
Supervisor: Tim Curran, Ph.D.
Topic: ERP studies of dual processes in recognition memory
- 2003-2004 Research Assistant (full time, paid)
Cognitive Neuroscience Laboratory
Department of Psychology
University of the Balearic Islands, Palma de Mallorca, Spain
Supervisor: Francisco Barceló, Ph.D.
Topic: ERP studies of executive function
- 2002 Undergraduate Research Fellow
Neurobiology and Anatomy Laboratory
Center for Visual Science
University of Rochester
Supervisor: Edward Freedman, Ph.D.

Topic: Single unit recording of monkey visual cortex

2001-2003 Undergraduate Research Assistant
Cognitive Neuroscience Laboratory
Helen Wills Neuroscience Institute
Department of Psychology
University of California, Berkeley
Supervisor: Robert T. Knight, Ph.D.
Topic: ERP studies of cognition

Education

2010 University of Colorado at Boulder
Major: Cognitive Psychology, Neuroscience, Cognitive Science
Degree: Ph.D.
Dissertation: Theta Oscillations in Top-down Control of Episodic
Memory Retrieval
Advisors: Tim Curran, Ph.D.
Lewis O. Harvey Jr., Ph.D. (chair)

2006 University of Colorado at Boulder
Major: Cognitive Psychology
Degree: M.A.
Advisors: Tim Curran, Ph.D.
Lewis O. Harvey Jr., Ph.D. (chair)

2003 University of California, Berkeley
Major: Psychology
Degree: B.A.
Honors Thesis: Time Perception
Advisor: Robert T. Knight, Ph.D.

2003 University of California, Berkeley
Major: Anthropology
Degree: B.A.

Special Training

2011 National Institute of Mental Health Summer Institute in Cognitive
Neuroscience: Cognitive control and higher cognition
Santa Barbara, CA

2008 The Neuroscience of Memory: Methods and Concepts to Investigate Our
Internal Representation of the World
Program of European Neuroscience Schools, Wales Institute of Cognitive
Neuroscience Summer School, Bangor University, Bangor, Wales

- 2007 EEGLab Workshop, Swartz Center for Computational Neuroscience,
University of California, San Diego, San Diego, CA
- 2006 MATLAB Fundamentals and Programming Techniques, The Mathworks,
Denver, CO
- 2004-2010 Graduate Teacher Training Certification, University of Colorado at
Boulder, CO
- 2002 Insightful Brain
Undergraduate workshop on perception, action, and cognition
University of Rochester
- 2002 Engineering the Eye symposium
University of Rochester

Grants and Awards

- 2010-2011 National Institute of Mental Health postdoctoral training grant
- 2010 Graduate School Dissertation Fellowship
University of Colorado at Boulder
- 2009 Institute of Cognitive Science Student Paper Award
University of Colorado at Boulder
- 2009-2010 Cognitive Program Travel Grant
University of Colorado at Boulder
- 2008-2010 Institute of Cognitive Science Travel Grant
University of Colorado at Boulder
- 2008-2009 Sheryl R. Young Memorial Scholarship
University of Colorado at Boulder
- 2007-2010 Psychology Department Travel Grant
University of Colorado at Boulder
- 2007 National Science Foundation East Asia and Pacific Summer Institute
Fellowship
- 2005 National Science Foundation Graduate Research Fellowship
Honorable Mention
- 2005 United Government of Graduate Students Travel Grant
University of Colorado at Boulder

- 2005 Graduate School Travel Grant
University of Colorado at Boulder
- 2005-2010 Student Research Fund
University of Colorado at Boulder
- 2005-2008 University Fellowship
University of Colorado at Boulder
- 2004 Advanced Allocation Fellowship
University of Colorado at Boulder
- 2002 Departmental Research Fund
University of California, Berkeley
- 2001-2003 Honors
University of California, Berkeley

Peer Reviewed Publications

- Nyhus, E.** & Curran, T. (2012). Midazolam induced amnesia reduces memory for details and affects the ERP correlates of recollection and familiarity. *Journal of Cognitive Neuroscience, 24*, 416-427.
- Snyder, H. R., Hutchison, N., **Nyhus, E.**, Curran, T., Banich, M. T., O'Reilly, R. C., & Munakata, Y. (2010). Neural inhibition enables selection during language processing. *Proceedings of the National Academy of Sciences, 107*, 16483–16488.
- Nyhus, E.** & Curran, T. (2010). Functional role of gamma and theta oscillations in episodic memory. *Neuroscience and Biobehavioral Reviews, 34*, 1023-1035.
- Nyhus, E.** & Curran, T. (2009). Semantic and perceptual effects on recognition memory: Evidence from ERP. *Brain Research, 1283*, 102-114.
- Nyhus, E.** & Barceló, F. (2009). The Wisconsin Card Sorting Test and the cognitive assessment of prefrontal function. *Brain and Cognition, 71*, 437-451.
- Norman, K. A., Tepe, K., **Nyhus, E.**, & Curran, T. (2008). Event-related potential correlates of interference effects on recognition memory. *Psychonomic Bulletin and Review, 15*(1), 36-43.
- Barceló, F., Periañez, J., **Nyhus, E.** (2008). An information theoretical approach to task-switching: Evidence from cognitive brain potentials in humans. *Frontiers in Human Neuroscience, 1*(1).

Projects in Preparation

- Nyhus, E.**, Altamirano, L. J., & Curran, T. (in preparation). Individual differences in executive function updating predict episodic retrieval.
- Nyhus, E.** & Curran, T. (in preparation). Theta oscillations in top-down control of episodic memory retrieval.
- Nyhus, E.**, Dennis, S., & Curran, T. (in preparation). ERP indices of Orthographic and Normative Frequency in Recognition Memory.

Published Abstracts

- Periañez, J. A., **Nyhus, E.**, and Barceló, F. (2005). Context updating and task-switching: An inquiry into the functional value of the novelty P3 potential. *Psychophysiology*, 42, S100.
- Edwards, E., Curtis, C., **Nyhus, E.**, D'Esposito, M., Knight, R. (2002) Combined EEG and fMRI analysis of antisaccade task performance. *Journal of Cognitive Neuroscience*, S155.

Presentations at Conferences and Meetings

- Nyhus, E.**, Badre, D. (2012, April). *Simultaneously recorded EEG and fMRI identifies brain networks related to visually-evoked Gamma oscillatory activity*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, Chicago.
- Nyhus, E.**, Curran, T. (2011, April). *Individual differences in executive function updating predict episodic retrieval*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco.
- Nyhus, E.**, Curran, T. (2011, January). *Theta oscillations in top-down control of memory retrieval*. Poster presented at the annual meeting of the center on Executive Function and Dysfunction, Boulder, CO.
- Nyhus, E.**, Curran, T. (2010, April). *Theta oscillations in top-down control of source memory retrieval*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, Montreal, Canada.
- Snyder, H., Hutchison, N., **Nyhus, E.**, Curran, T., Munakata, Y. (2009, July). *So many options: The roles of neural inhibition and abstract representations in selection*. Poster presented at the annual meeting of the Cognitive Science Society, Amsterdam, Netherlands.
- Nyhus, E.**, Curran, T. (2009, March). *Recollection revealed by its absence: Midazolam-induced amnesia reduces memory for details and the ERP correlate of recollection*. Talk presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco.
- Barceló, F., Periañez, J., **Nyhus, E.** (2008, September). *An information theoretical approach to task-switching: Evidence from cognitive brain potentials in humans*. Talk presented at the International Conference on Cognitive Neuroscience, Bodrum, Turkey.
- Nyhus, E.**, Dennis, S., Curran, T. (2008, September). *ERP indices of orthographic and normative frequency in recognition memory*. Poster presented at the Neuroscience of Memory: Methods and Concepts to Investigate Our Internal Representation of the World Program of European Neuroscience Schools, Wales Institute of Cognitive Neuroscience Summer School, Bangor University, Bangor, Wales.
- Nyhus, E.** (2008, May). *Everything a modeler needs to know about EEG*. Talk presented at the Perceptual Expertise Network Meeting, Banff, Canada.
- Nyhus, E.**, Dennis, S., Curran, T. (2008, April). *ERP indices of orthographic and normative frequency in recognition memory*. Poster presented at the annual Institute for Cognitive Science Poster Session, Boulder, CO.
- Nyhus, E.**, Dennis, S., Curran, T. (2008, April). *ERP indices of orthographic and normative frequency in recognition memory*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco.

- Nyhus, E., Curran, T.** (2008, January). *Insights from ERP and behavioral modeling on a recognition memory task*. Talk presented at the annual Context and Episodic Memory Symposium, Tampa, Florida.
- Nyhus, E., Curran, T.** (2007, July). *Semantic and perceptual contributions to recognition memory*. Talk presented at the annual meeting of the Australian Society for Cognitive Science, Adelaide, Australia.
- Nyhus, E., Curran, T.** (2007, May). *Perceptual processing in recognition memory: An ERP study*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, New York.
- Nyhus, E., Curran, T.** (2007, April). *Perceptual processing in recognition memory: An ERP study*. Poster presented at the annual Institute for Cognitive Science Poster Session, Boulder, CO.
- Nyhus, E., Curran, T.** (2006, April). *Early perceptual processing in recognition memory: An ERP study*. Poster presented at the annual Institute for Cognitive Science Poster Session, Boulder, CO.
- Nyhus, E., Curran, T.** (2005, November). *Early perceptual processing in recognition memory: An ERP study*. Poster presented at the annual meeting of the Society for Neuroscience, Washington, DC.
- Periañez, J., **Nyhus, E.**, Barceló, F. (2005, September). *Context updating and task-switching: an inquiry into the functional value of the novelty P3 potential*. Poster presented at the annual meeting of the International Conference on Cognitive Neuroscience, Havana City, Cuba.
- Periañez, J., **Nyhus, E.**, Barceló, F. (2005, September). *Context updating in oddball and task-switching paradigms: frontal and parietal modulations of the endogenous P3 potential*. Poster presented at the annual meeting of the Society for Psychophysical Research, Lisbon, Portugal.
- Nyhus, E.** (2003, November). *The ten percent myth*. Poster presented at the annual meeting of the Society for Neuroscience, New Orleans.
- Edwards, E., Curtis, C., **Nyhus, E.**, De'Esposito, M., Knight, R.T. (2002, April). *Combined EEG and fMRI analysis of antisaccade task performance*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco.

Invited Colloquia

- Nyhus, E.** (2011, February). *Theta oscillations in top-down control of episodic memory retrieval*. Talk presented at the cognitive program weekly colloquium, University of Massachusetts Amherst.
- Nyhus, E.** (2010, November). *Theta oscillations in top-down control of episodic memory retrieval*. Talk presented at the cognitive program weekly colloquium, Brown University.
- Nyhus, E., Curran, T.** (2010, March). *Theta oscillations in top-down control of source memory retrieval*. Talk presented at the cognitive program weekly colloquium, Boulder, Co.
- Nyhus, E., Curran, T.** (2009, March). *Recollection revealed by its absence: Midazolam-induced amnesia reduces memory for details and the ERP correlate of recollection*. Talk presented at the cognitive program weekly colloquium, Boulder, Co.
- Nyhus, E.** (2008, March). *ERP indices of letter and word frequency in recognition*

memory. Talk presented at the cognitive program weekly colloquium, Boulder, Co.

Nyhus, E., Curran, T, Dennis, S. (2007, July). *ERP assessment of item and context information in recognition memory*. Talk presented at the brain and cognition unit seminar, University of Adelaide, Adelaide, Australia.

Nyhus, E. (2007, March). *Semantic and perceptual contributions to recognition memory*. Talk presented at the cognitive program weekly colloquium, Boulder, Co.

Nyhus, E. (2006, May). *Perceptual processing in recognition memory*. Talk presented at the annual Ekstrand Memorial Convention, Boulder, Co.

Nyhus, E. (2005, May). *Early perceptual processing in recognition memory*. Talk presented at the annual Ekstrand Memorial Convention, Boulder, Co.

Teaching Experience

2009 Course Instructor, Introduction to Cognitive Psychology, University of Colorado at Boulder

2005 Graduate Student Instructor, Introduction to Cognitive Psychology, University of Colorado at Boulder

2004 Graduate Student Instructor, Sensation and Perception, University of Colorado at Boulder

Advising

Undergraduates supervised:

Christopher Bird (completed honors thesis in psychology, 2007)

Megan Freeman (completed honors thesis in psychology, 2009)

Dana Martin, Hallie Kupfer, Kate Madsen Turco (graduate student in Cellular and Molecular Biology at the Centre for Neuroscience and Cell Biology, Portugal)

Skills and Abilities

Experimental presentation software: EPrime

Psychophysiological recording software: NetStation, Brain Vision Recorder

Analyzing software: NetStation, Brain Vision Analyzer, Matlab, EEGLab, SPM8, SPSS

Professional Service

Reviewed papers (Ad Hoc) for the following journals:

Journal of Experimental Psychology: General, Journal of Experimental Psychology: Learning, Memory, and Cognition, Journal of Cognitive Neuroscience, Neuropsychologia, Brain Research, Neuroscience and Biobehavioral Reviews

2008 Judge for the Boulder Valley School District science fair

- 2008-2010 Cognitive Neuroscience Society Student Association Executive Committee, Vice Chair
- 2007-2008 Cognitive Neuroscience Society Student Association Executive Committee, Communications and Marketing Officer
- 2006-2010 Association for Psychological Science Student Representative
- 2010 Senior Reviewer, Association for Psychological Science Student Research Award
- 2007-2009 Reviewer, Association for Psychological Science Student Research Award
- 2007-2010 Reviewer, Association for Psychological Science Student Grant Competition
- 2007-2008 Graduate Learning Opportunities Worldwide Representative, University of Colorado at Boulder
- 2005-2006 Neuroscience Supergroup Coordinator
- 2005-2006 Cognitive Lunch coordinator
- 2005-2010 Assisted undergraduate research day, University of Colorado at Boulder

Professional Affiliations

Cognitive Neuroscience Society
 Society for Neuroscience
 Association for Psychological Science
 American Psychological Association
 PsiChi Honors Society
 Phi Beta Kappa
 Golden Keys

Volunteer Work

- 2011 Development director assistant, Southside Community Land Trust
- 2008-2010 Education program assistant, Bead for Life
- 2006-2008 Program coordinator, All Together Now International