

## Caitlin R. Bowman, Ph.D.

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### Education and Training

- 2015-present Postdoctoral researcher, University of Oregon  
Advisor: Dagmar (Dasa) Zeithamova
- 2010-2015 Ph.D., The Pennsylvania State University  
Advisor: Nancy Dennis
- 2008-2010 Research Assistant, University of Oregon  
Advisors: Michael Anderson, Margaret Sereno
- 2006-2009 B.A., Psychology (with honors), New York University  
Advisors: Lila Davachi, Madeline Heilman

### Fellowships, Honors, and Awards

- 2017 - 2020 Postdoctoral National Research Service Award  
National Institute of Aging
- 2018 Society for Neuroscience Trainee Professional Development Award
- 2016 Enhancing Postdoctoral Experience Award, University of Oregon
- 2015 Penn State Psychology Department Outstanding Graduate Teaching Award
- 2014 APA Dissertation Award
- 2014 Research and Graduate Studies Office Dissertation Award, Penn State
- 2013 Superior Teaching and Research Award, Penn State
- 2011 Kraft Wilson Graduate Fellowship in Social Sciences, Penn State
- 2009 *Magna cum laude*, New York University
- 2009 Founder's Day Award, New York University
- 2006-2009 Deans List, New York University
- 2006-2009 Baird Scholar, New York University

### Publications

#### *Journal articles – published*

Frank, L.E.\*, **Bowman, C.R.\***, & Zeithamova, D. (in press). Differential functional connectivity along the long axis of the hippocampus aligns with differential role in memory specificity and generalization. *Journal of Cognitive Neuroscience*.

**Bowman, C.R.**, Chamberlain, J.C., & Dennis, N.A. (2019). Sensory representations supporting memory specificity: Age effects on behavioral and neural discriminability. *Journal of Neuroscience*, 39(12), 2265-2275.

**Bowman, C.R.** & Zeithamova, D. (2018). Abstract memory representations in the ventromedial prefrontal cortex and hippocampus support concept generalization. *Journal of Neuroscience*, 38(10), 2605-2614.

Huhn, J.M., III, **Bowman, C.R.**, & Dennis, N.A. (2018). Repeated study of items with and without repeated context: aging effects on memory discriminability. *Memory*, 26(5), 603-609.

**Bowman, C.R.\***, Shalome, S.L.\* , & Dennis, N.A. (2017). Modulation of target recollection and recollection rejection networks due to retrieval facilitation and interference. *Learning & Memory*, 24(11), 607-611.

Geiger, A.N.\* , **Bowman, C.R.\***, Clothier, T., Nelson, A.J., & Adams, R.B., Jr. (2017). Witnessing harm to the environment stimulates neural activation in networks associated with empathic responses. *Social Justice Research*.

**Bowman, C.R.**, & Dennis, N.A. (2016). The neural basis of recollection rejection: increases in hippocampal-prefrontal connectivity in the absence of a shared recall-to-reject and target recollection network. *Journal of Cognitive Neuroscience*, 28(8), 1194-1209.

**Bowman, C.R.** & Dennis, N.A. (2015). Age differences in the neural correlates of novelty processing: The effects of item-relatedness. *Brain Research*, 1612, 2-15.

**Bowman, C.R.** & Dennis, N.A. (2015) The neural correlates of correctly rejecting lures during memory retrieval: The role of item-relatedness. *Experimental Brain Research*, 233, 1963-1975.

Dennis, N.A., **Bowman, C.R.**, & Peterson, K.M. (2014) Neural correlates mediating false recollection in older adults. *Neurobiology of Aging*, 35(2), 395-407.

Dennis, N.A., **Bowman, C.R.**, & Vandekar, S.N. (2012) True and phantom recollection: an fMRI investigation of similar and distinct neural correlates and connectivity. *Neuroimage*, 59, 2982-2993.

\*These authors contributed equally to this work.

### *Chapters*

Dennis, N.A., **Bowman, C.R.**, & Turney, I.C. (2015). Functional neuroimaging of false memory. *The Cognitive Neuroscience of Human Memory*. Addis, D.R., Barense, M. & Duarte, A. (eds), Wiley-Blackwell.

Liben, L.S. & **Bowman, C.R.** (2013). The development of memory from a constructivist perspective. *Handbook on the Development of Children's Memory*. Bauer, P. & Fivush, R. (eds), Wiley-Blackwell.

### *Journal articles – submitted*

**Bowman, C.R.** & Zeithamova, D. Training typicality and set size effects on concept generalization and recognition. *PsyArXiv [Preprint]*. Available from: <https://doi.org/10.31234/osf.io/7g2q5>

Ashby, S.R., **Bowman, C.R.**, & Zeithamova, D. Generalization following incidental and intentional category learning. *PsyArXiv [Preprint]*. Available from: <https://doi.org/10.31234/osf.io/x8c9n>

*Journal articles – in preparation*

**Bowman, C.R.**, Iwashita, T. & Zeithamova, D. (in preparation). Tracking the development of specific and generalized representations during concept learning.

**Bowman, C.R.**, Ashby, S.A., & Zeithamova, D. (in preparation). Effects of aging on instructed and spontaneous concept learning.

## **Conference Presentations**

### *Symposia*

Garcia, S., **Bowman, C.R.**, Zeithamova, D. (2018). Different types of negative emotion may impact memory for associations. *California State University Summer Symposium at UCLA, Los Angeles, CA.*

**Bowman, C.R.**, Webb, C.E., Chamberlain, J., Kurkela, K. & Dennis, N.A. (2018). Investigating dedifferentiation in visual cortex underlying false memories in aging. *Presented as part of the Neural dedifferentiation and age-related cognitive decline symposium at the 25<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

Zeithamova, D., Ashby, S.R., **Bowman, C.R.** (2017). Changes in face representations following category learning. *Presented at the Cognitive Science Association for Interdisciplinary Learning annual meeting, Hood River, OR.*

Zeithamova, D., Resnick, A., de Araujo Sanchez, M.A., & **Bowman, C.R.** (2016) No trade-off between memory specificity and memory generalization. *Presented at the 6<sup>th</sup> International Conference on Memory, Budapest, Hungary.*

### *Posters*

**Bowman, C.R.** & Zeithamova, D. (2019). Concept generalization in young and older adults. *Poster presented at the 26<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Iwashita, T., **Bowman, C.R.**, & Zeithamova, D. (2019). Investigating contributions of memory systems to concept generalization using individual differences in cognitive abilities. *Poster presented at the 26<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Frank, L.E., **Bowman, C.R.**, & Zeithamova, D. (2019). Distinct connectivity patterns of anterior and posterior hippocampus. *Poster presented at the 26<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Ashby, S.A., **Bowman, C.R.**, & Zeithamova, D. (2019). Spontaneous generalization following paired-associate training. *Poster presented at the 26<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

**Bowman, C.R.**, Ashby, S.A., & Zeithamova, D. (2018). Effects of aging on spontaneous concept formation. *Poster presented at the 2018 Cognitive Aging Conference, Atlanta, GA.*

**Bowman, C.R.** & Zeithamova, D. (2018). Tracking the development of specific and generalized representations during concept learning. *Poster presented at the 48<sup>th</sup> Annual Society for Neuroscience Conference, San Diego, CA.*

Ashby, S., **Bowman, C.R.**, & Zeithamova D. (2018). Spontaneous generalized memory representations following paired-associates training. *Poster presented at the 48<sup>th</sup> Annual Society for Neuroscience Conference, San Diego, CA.*

Frank, L., **Bowman, C.R.**, & Zeithamova, D. (2018). Distinct connectivity patterns along the hippocampal anterior-posterior axis. *Poster presented at the 48<sup>th</sup> Annual Society for Neuroscience Conference, San Diego, CA.*

**Bowman, C.R.**, Webb, C.E., Chamberlain, J., & Dennis, N.A. (2018). Age differences in pattern similarity associated with false recognition. *Poster presented at the 25<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

**Bowman, C.R.** & Zeithamova, D. (2017). Prototype model correlates in the VMPFC during concept generalization. *Poster presented at the 47<sup>th</sup> Annual Society for Neuroscience Conference, Washington, D.C.*

**Bowman, C.R.** & Zeithamova, D. (2017). Prototype representations in VMPFC and hippocampus during concept generalization. *Poster presented at the 24<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Ashby, S.R., **Bowman, C.R.**, & Zeithamova, D. (2017). Changes in item representations following category learning. *Poster presented at the 24<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Adke, A., **Bowman, C.R.**, & Zeithamova, D. (2017). Aging effects on perceptual and conceptual memory transformations from short-term to long-term memory. *Poster presented at the 24<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

**Bowman, C.R.** & Zeithamova, D. (2016). Neural representations of concepts and exemplars: comparing generalization and recognition. *Poster presented at the 46<sup>th</sup> Annual Society for Neuroscience Conference, San Diego, CA.*

**Bowman, C.R.** & Zeithamova, D. (2016). Flexible use of category representations. *Poster presented at the 6<sup>th</sup> International Conference on Memory, Budapest, Hungary.*

**Bowman, C.R.**, Huhn III, J.M., & Dennis, N.A. (2016). Repeated study of items with and without repeated context: Aging effects on recollection and familiarity. *Poster presented at the 6<sup>th</sup> International Conference on Memory, Budapest, Hungary.*

**Bowman, C.R.** & Dennis, N.A. (2016). Recall-to-reject: Aging effects on the neural correlates of recollection rejection. *Poster presented at the 2016 Cognitive Aging Conference, Atlanta, GA.*

Sine, S., **Bowman, C.R.**, & Dennis, N.A. (2016). The neural correlates of related lure interference on correct recognition and false memory suppression. *Poster presented at the 23<sup>rd</sup> Annual Cognitive Neuroscience Society Meeting, New York, NY.*

**Bowman, C.R.**, & Dennis, N.A. (2015). Recall-to-reject: The neural correlates of false memory suppression using true recollection. *Poster presented at the 22<sup>nd</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

**Bowman, C.R.**, & Dennis, N.A. (2015). Recall-to-reject: The neural correlates of false memory suppression using true recollection. *Poster presented at the Penn State Graduate Exhibition.*

Geiger, N., **Bowman, C.R.**, Clothier, T., Nelson, A.J., Adams, R.B., Jr. (2015). Witnessing harm to the environment stimulates neural activation in empathic networks. *Poster presented at the 4<sup>th</sup> annual Sustainability Psychology preconference for the Society for Personality and Social Psychology, Long Beach, CA.*

**Bowman, C.R.**, Turney, I.C., Dennis, N.A., & Adams, R.B., Jr. (2014). The effects of face age on memory encoding: neural similarities and differences in activity and functional connectivity. *Poster presented at the 21<sup>st</sup> Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

Cárdenas, R.A., Garrido, C.O., **Bowman, C.R.**, & Adams, R.B., Jr. (2014). Gender and caregiving tendencies drive selective sensitivity in the fusiform face area to different aged faces. *Poster presented at the 21<sup>st</sup> Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

**Bowman, C.R.** & Dennis, N.A. (2013). The neural correlates mediating age deficits in novelty detection. *Poster presented at the 20<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

**Bowman, C.R.**, Peterson, K.M. & Dennis, N.A. (2012). The neural correlates mediating true and false recollection in younger and older adults. *Poster presented at the 2012 Cognitive Aging Conference, Atlanta, GA.*

**Bowman, C.R.**, Peterson, K.M. & Dennis, N.A. (2012). The effects of item relatedness on the neural correlates of novelty detection. *Poster presented at the 19<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, Chicago, IL.*

**Bowman, C.R.**, Vandekar, S.N. & Dennis, N.A. (2011). Neural correlates mediating true and false recollection. *Poster presented at the 41<sup>st</sup> Annual Society for Neuroscience Conference, Washington DC.*

Ezzyat, Y., **Bowman, C.R.**, & Davachi, L. (2009). The influence of event perception on long-term memory formation. *Poster presented at the 39<sup>th</sup> Annual Society for Neuroscience Conference, Chicago, IL.*

### **Teaching Experience – Lead Instructor**

*Penn State, University Park (in residence)*

Neurological Bases of Behavior	2014, 2015
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*Penn State, World Campus (online)*

Introduction to Cognitive Psychology	2014
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Research Methods in Psychology	2013
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## Teaching Experience - Teaching Assistantships

### *Penn State University (in residence)*

Graduate level fMRI methods	2013, 2014
<i>Instructor for lab portion of the course</i>	
Psychology of Emotion	2014
Childhood Interventions	2013
Graduate level Social Neuroscience	2013
Research Methods	2012
<i>Instructor for weekly lab portion of the course</i>	
Human Sexuality	2012
Learning and Memory	2011, 2012
<i>Guest lecture: "The cognitive and neural basis of metamemory"</i>	
Senior Seminar	2011
<i>Guest lecture: "The role of memory in expert-level knowledge"</i>	
Cognitive Development	2010

### *New York University (in residence)*

Introduction to Psychology	2009-2010
<i>Instructor for weekly recitation section</i>	

## Outreach

2017- 2019	Apprenticeships in Science & Engineering's Midsummer conference, Corvallis, OR
2017, 2019	Summer Academy to Inspire Learning, Eugene, OR
2018	Brain Awareness Week workshop, Edison Elementary School, Eugene, OR
2017	Memory and aging: Transfer of information from short-term to long-term memory, Community talk given to members of the Osher Lifelong Learning Institute, Eugene, OR
2016	Science Open House, Science Program to Inspire Creativity and Excellence, Eugene, OR
2016	Meet a Scientist, Science Factory, Eugene, OR

## Professional Memberships

American Psychological Association – Society for Neuroscience – Cognitive Neuroscience Society

## Ad-hoc reviewer

*Aging, Neuropsychology, and Cognition – Brain Research – Brain and Cognition – Cognition – Cortex – Entropy – Frontiers in Neuroscience – Journal of Applied Research on Memory and Cognition – Journal of Cognitive Neuroscience – Journal of Experimental Psychology: Learning, Memory, and Cognition – Journal of Gerontology: Psychological Sciences – Journal of Neuroscience – Memory – Neurobiology of Aging – NeuroImage – Psychology and Aging – Quarterly Journal of Experimental Psychology*