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Education

- 2004 The Catholic University of America, Ph.D., Experimental Psychology, (with Distinction)
- 2001 The Catholic University of America, M.A., Experimental Psychology, (with Honors)
- 1997 University of Rochester, B.A., Brain and Cognitive Sciences, (with Honors)
- 1997 University of Rochester, B.A., Psychology

Academic and Professional Experience

- 2015 - Associate Professor, Department of Psychology, The Pennsylvania State University
- 2008 – 2015 Assistant Professor, Department of Psychology, The Pennsylvania State University
- 2012 – Affiliated Faculty, The Center for Brain, Behavior, & Cognition, The Pennsylvania State University
- 2008 – Affiliated Faculty, The Center for Healthy Aging, The Pennsylvania State University
- 2008 – Affiliated Faculty, The Huck Institutes of the Life Sciences & the Intercollege Graduate Degree Program in Neuroscience, The Pennsylvania State University
- 2004 – 2008 Postdoctoral Fellow, CabezaLab, Center for Cognitive Neuroscience, Duke University
- 2004 – 2007 Research Fellow, Center for Aging and Human Development, Duke University Medical Center
- 1999 – 2004 Research Assistant, The Cognitive Aging Lab, The Catholic University of America
- 1999 – 2004 Graduate Student with Prof. James H. Howard, Ph.D., The Catholic University of America
Dissertation title: “Age deficits in implicit sequence learning with response remapping”
Master’s thesis: “Age-related deficits in implicit learning of auditory sequences”
- 1997 – 1999 Research Assistant with Drs. Salvatore Soraci, & Michael Carlin, Ph.Ds., Eunice Kennedy Shriver Center, University of Massachusetts Medical School
- 1996 – 1997 Research Assistant with Prof. James R. Ison, Ph.D., University of Rochester

Funding/Awards

Extramural

National Institute on Aging

R15 AG052903-02

Investigating age-related differences in cognitive and neural representations in associative memory

8/15/2020 – 4/30/2023

Role: co-I; PI: Overman

National Science Foundation

BCS 2000047

Understanding the contribution of individual differences to domain-general and domain-specific components of false memories in both young and older adults

6/1/2020 – 5/31/2024

Role: PI

National Institute on Aging

R21 supplement: Assessing Cognitive and Psychosocial Mechanisms of Useful Field of View Cognitive Training using Ecological Momentary Assessment

2019-2021

PI: Ross; Role: co-I

National Science Foundation

Perceptual and Mnemonic Differences Across Cultures

2019-2021

PI: Gutchess; Role: Consultant

National Institute on Aging

R15AG052903

R15: Elucidating cognitive and neural mechanisms to enhance associative memory in younger and older adults

6/2016 – 6/2020(w/ 1 year no-cost extension)

Role: co-I; PI: Amy Overman

National Science Foundation

BCS1025709

Elucidating the Neural Correlates of False Memories in Young and Older Adults

9/2010 – 4/2016

Role: PI

American Federation for Aging Research

Age-related changes in neural recruitment associated with cognitive control of memory processes

7/01/2010 – 6/30/2012

Role: PI

NIH/NIA T32 AG000029-30

Behavior and Physiology in Aging

Center for Aging and Human Development, Duke University Medical Center

7/11/2004 – 7/10/2007

Post-doctoral Trainee.; PI: Cohen

American Psychological Association Dissertation Award

2004

McDonnell Fellowship, Summer Institute in Cognitive Neuroscience, Dartmouth Medical School

2002

External -Under Review

NIH/NIA RO1

Understanding the neural mechanisms underlying the benefits of unitization on associative memory in young and older adults

submitted 02/2020 (under review)

Role: PI

Intramural

Social Science Research Institute, Penn State University

The effects of attentional variability and probabilistic learning on treatment outcomes in a word-finding therapy for persons with aphasia

2019-2021

PI: Sandburg; Role: co-I

Social Science Research Institute, Penn State University

Enhancement of the Participants Across the LifeSpan (PALS) Database

2015-2017

PI: Sandburg; Role: co-PI

Social Science Research Institute & Center for Healthy Aging, Penn State University

Behavioral, neural and genetic factors influencing motor and cognitive function in healthy older adults

2014 –2018

Role: PI

Social Science Research Institute, Penn State University

Cognitive Function, Neural Correlates and Adherence to Treatment in Adults with Obstructive Sleep Apnea

2012 – 2015

Role: PI

Social Science Research Institute, Penn State University

The translational potential of visual neuroscience in the design of communication supports for individuals with disabilities

2010 – 2014

Role: co-I; PI: Wilkinson

Social Science Research Institute, Penn State University

Skilled Self-labeling in the Doctor-Patient Context

2009 – 2011

Role: co-I

Social Science Research Institute, Penn State University

Establishment of a Senior Research Participant Database.

2009 – 2012

Role: PI

Clinical and Translational Science Institute, Penn State University

Quantitative Multimodal Image Analysis Tools for Brain Development, Aging, and Diseases

2009 – 2011

Role: co-I

Publications

Peer-reviewed journal articles- Published

*denotes mentored, graduate/undergraduate student co-author in Dr. Dennis' lab

61. *Gerger, C. R., Overman, A. A., *Babu, Harini J., Hultman, Chloe E., & Dennis, N.A. (2020). Examining the neural basis of congruent and incongruent configural contexts during associate retrieval. *Journal of Cognitive Neuroscience*. 32(9): 1796-1812.
60. *Bulgarelli, F., Weiss, D., & Dennis, N.A. (2020). Cross-situational statistical learning in younger and older adults. *Aging, Neuropsychology, & Cognition*. DOI: 10.1080/13825585.2020.1759502
59. Gertel, V.H., Karimi, H., Dennis, N.A., Neely, K.A., & Diaz, M.T. (2020). Lexical frequency affects functional activation and accuracy in word naming among older and younger adults. *Psychology & Aging*. 34(4). 536-552.
58. *Gerger, C. R., Neely, K. A., Kurkela, K. A., Diaz, M. T., *Goodman, J. T., Blouch, S. L., Samimy, S., & Dennis, N. A. (2019). Shared neural recruitment across working memory and motor control tasks as a function of task difficulty and age. *Aging, Neuropsychology, & Cognition*. DOI: 10.1080/13825585.2019.1700898
57. Dennis, N.A., Overman, A.A., *Gerger, C.G., *McGraw, K.E., *Rowley, M.A. & *Salerno, J.M. (2019). Different types of associative encoding evoke differential processing in both younger and older adults: Evidence from univariate and multivariate analyses. *Neuropsychologia*. 135(article 107240).
56. *Webb, C.E. & Dennis, N.A. (2020). Memory for the usual: the influence of schemas on memory for non-schematic information in younger and older adults. *Cognitive Neuropsychology*. 7:1-2, 58-74.
55. *Bowman, C.R., *Chamberlain, J.D., & Dennis, N.A. (2019). Sensory representations supporting memory specificity: Age effects on behavioral and neural discriminability. *Journal of Neuroscience*. 39(12): 2265–227
54. Ross, L.A., *Webb, C.E., Whitaker, C., Hicks, J.M., Schmidt, E.L., Samimy, S., Dennis, N.A., & Visscher, K. M. (2019). The effects of useful field of view training on brain activity and connectivity. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*. 74(7): 1152-1162.
53. *Webb, C.E. & Dennis, N.A. (2019). Differentiating true and false schematic memories in older adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*. 74(7):1111-1120.
52. Overman, A.A., *McCormick-Huhn, J.M., Dennis, N.A., Steinsiek, A.B., & Cesar, L.B. (2019). Same face, same place, different memory: Manner of presentation modulates the associative deficit in older adults. *Aging, Neuropsychology, & Cognition*. 26:1, 44-57.
51. Dennis, N.A. & *Turney, I.C. (2018). The influence of perceptual similarity and individual differences on false memories in aging. *Neurobiology of Aging*. 62:221-230.
50. Overman, A.A., *McCormick-Huhn, J.M., Dennis, N.A., Salerno, J.M., Giglio, A.P. (2018). Older adults' associative memory is modified by manner of presentation at encoding and retrieval. *Psychology and Aging*. 33(1), 82-92.
49. *McCormick-Huhn, J.M., Hui, C., Wyble, B.P., & Dennis, N.A. (2018). Using attribute amnesia to test the limits of hyper-binding and associative deficits in working memory. *Psychology and Aging*. 33(1), 165-175.
48. *McCormick-Huhn, J.M., *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.
47. *Bowman, C.R. *Sine, S. & Dennis, N.A. (2017). Modulation of target recollection and recollection rejection networks due to retrieval facilitation and interference. *Learning & Memory*. 24:607–611.
 46. Neely, K.A., Samimy, S., Blouch, S.L., Chennavasib, A., Diaz, M.T., & Dennis, N.A. (2017). Memory-guided force control in healthy younger and older adults. *Experimental Brain Research*. 235(8): 2473–2482.
 45. Geib, B.R., Stanley, M.L., Dennis, N.A., Woldorff, M. & Cabeza, R. (2017). From hippocampus to whole-brain: The role of integrative processing in episodic memory retrieval. *Human Brain Mapping*. 38(4): 2242–2259.
 44. *Turney, I.C. & Dennis, N.A. (2017). Elucidating the neural correlates of related false memories using a systematic measure of perceptual relatedness. *NeuroImage*, 146: 940-950.
 43. *Grant, A. & Dennis, N.A. (2017). Increased processing speed in young adult bilinguals: Evidence from source memory judgments. *Bilingualism: Language and Cognition*. 20(2): 327–336.
 42. *Turney, I.C., Dennis, N.A. Maillet, D., & Rajah, M.N. (2017). Exploring the influence of encoding format on subsequent memory. *Memory*, 25(5): 686-696.
 41. *Webb, C.E., *Turney, I.C. & Dennis, N.A. (2016). What's the Gist? The influence of schemas on the neural correlates underlying true and false memories. *Neuropsychologia*. 93: 61-75.
 40. *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.
 39. *Rizio, A.A. & Dennis, N.A. (2016). Recollection after inhibition: The effects of intentional forgetting on the neural correlates of retrieval. *Cognitive Neuroscience*. DOI: 10.1080/17588928.2016.1154522
 38. Kurkela, K.A & Dennis, N.A. (2016) Event-related fMRI studies of false memories: An activation Likelihood Estimation meta-analysis. *Neuropsychologia*. 81: 149-167.
 37. Wilkinson, K.M., Dennis, N.A., *Webb, C.E., Therrien, M., Stadtman, M., Farmer, J., Leach, R., Warrenfeltz, M., Zeuner, C. (2015). Neural Activity Associated with Visual Search for Line Drawings on AAC Displays: An Exploration of the Use of fMRI. *Augmentative and Alternative Communication*. 31(4): 310-324.
 36. Dennis, N.A., *Turney, I.C., *Webb, C.E., Overman, A.A. (2015). The effects of item familiarity on the neural correlates of successful associative memory encoding. *Cognitive, Affective, & Behavioral Neuroscience*. 15(4): 889-900.
 35. *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.
 34. *Venkatesan, U.M., Dennis, N. A., & Hillary, F. (2015). Chronology and chronicity of

- altered resting-state functional connectivity after traumatic brain injury. *Journal of Neurotrauma*. 32(4):252-64. PMID: PMC4347859
33. *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.
 32. *Grant, A., Dennis, N.A. & Li, P. (2014). Cognitive control, cognitive reserve and memory in the aging bilingual brain. *Frontiers in Psychology*. 5:1401. PMID: PMC4253532
 31. Dennis, N.A., *Johnson, C.E. & Peterson, K.M. (2014) Neural correlates underlying true and false associative memories. *Brain and Cognition*. 88: 65-72.
 30. *Rizio, A.A. & Dennis, N.A. (2014). The cognitive control of memory: Age differences in the neural correlates of successful remembering and intentional forgetting. *PLOS One*. 1(9): 1-12. PMID: PMC3901730
 29. Dennis, N.A., *Bowman, C.R. & Peterson, K.M. (2014). Neural correlates mediating false recollection in older adults: Evidence for individual differences. *Neurobiology of Aging*. 35: 395-407.
 28. *Rizio, A.A. & Dennis, N.A. (2013). The neural correlates of cognitive control: Successful remembering and intentional forgetting. *Journal of Cognitive Neuroscience*. 25(2): 297-312.
 27. Dennis, N.A. & Peterson K.M. (2013). Neural correlates mediating age differences in episodic memories: Evidence from BOLD contrasts and connectivity analyses. *Psychologia*. 55(2): 112-130.
 26. Butler, A.C., Dennis, N.A., & Marsh, E.J. (2012). Inferring facts from fiction: Reading correct and incorrect information affects memory for related information. *Memory*, 20 (5): 487-498. PMID: PMC3393771
 25. 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.
 24. Dennis, N.A. & Cabeza, R. (2011). Age-related dedifferentiation in implicit and explicit learning systems. *Neurobiology of Aging*, 32(12): 2318.e17-30. PMID: PMC2923680
 23. Dennis, N.A., Cabeza, R., Need, A., Waters-Metenier, S., Goldstein, D. & LaBar, K.S. (2011) Brain-derived neurotrophic factor Val66Met polymorphism and hippocampal activation during episodic encoding and retrieval tasks. *Hippocampus*, 21(9): 980-989. PMID: PMC3010486
 22. Madden, D.J., Costello, M.C., Dennis, N.A., Davis, S.W., Shepler, A.N., Spaniol, J., Bucur, B., & Cabeza, R. (2010) Adult age differences in functional connectivity during executive control. *NeuroImage*, 52: 643–657. PMID: PMC2902259
 21. Dennis, N.A., Browndyke, J.N., Stokes, J., Need, A., Burke, J.R., Welsh-Bohmer, K., & Cabeza, R. (2010). Temporal lobe functional activity and connectivity in young adult APOE e4 carriers. *Alzheimer's & Dementia*, 6: 303-311. PMID: PMC2891943
 20. Dennis, N.A., Need, A., LaBar, K.S., Waters-Metenier, S., Cirulli, E.T., Kragel, J, Goldstein, D.B., & Cabeza, R. (2010). *COMT* Val^{108/158}Met genotype affects neural but not cognitive processing in healthy young adults. *Cerebral Cortex*, 20: 672-683. PMID: PMC2906653

19. Daselaar, S.M., Prince, S.E., Dennis, N.A., Hayes, S.M., Kim, H., & Cabeza, R. (2009). Posterior midline and ventral parietal activity is associated with retrieval success and encoding failure. *Frontiers in Human Neuroscience*, 3:1-10. PMID: PMC2726033
18. Prince, S.E., Dennis, N.A., & Cabeza, R. (2009). Encoding and Retrieving Faces and Places: Distinguishing Process- and Stimulus-Specific Differences in Brain Activity. *Neuropsychologia*. 47(11): 2282-9. PMID: PMC2697120
17. Davis, S.W., Dennis, N.A., Buchler, N.G., White, L.E., Madden, D.J., & Cabeza, R. (2009). Assessing the effects of aging on long white matter tracts using diffusion tensor tractography. *NeuroImage*. 46(2): 530-41. PMID: PMC2775533
16. Madden, D.J., Spaniol, J., Costello, M., Bucur, B., White, L., Cabeza, R., Davis, S.W., Dennis, N.A., Provenzale, & Huettel, S.A. (2009). Cerebral white matter integrity mediates adult age differences in cognitive performance. *Journal of Cognitive Neuroscience* 21(2): 289-302. PMID: PMC2676336
15. Howard, J.H., Jr., Howard, D.V., Dennis, N.A., & Kelly, A.J. (2008). Implicit learning of predictive relationships in three-event visual sequences by young and old adults. *Journal of Experimental Psychology: Learning, Memory, & Cognition*. 34(5): 1139-1157. PMID: PMC2546574
14. Dennis, N.A., Hayes, S.M., Prince, S.E., Madden, D.J., Huettel, S.A., & Cabeza, R. (2008). Effects of aging on the neural correlates of successful item and source memory encoding. *Journal of Experimental Psychology: Learning, Memory, & Cognition*. 34(4): 791-808. PMID: PMC2752883
13. Dennis, N.A., Kim, H., & Cabeza, R. (2008). Age-related differences in brain activity during true and false memory retrieval. *Journal of Cognitive Neuroscience*. 20(8): 1390-1402. PMID: PMC3114875
12. Davis, S.W., Dennis, N.A., Fleck, M., Daselaar, S.M., & Cabeza, R. (2008). Que PASA?: the posterior-anterior shift in aging. *Cerebral Cortex*. 18(5): 1201-1209. PMID: PMC2760260
11. Howard, D.V., Howard, J.H., Jr., Dennis, N.A., LaVine, S., & Valentino, K. (2008). Aging and implicit learning of a simple association. *Journal of Gerontology B: Psychological Sciences*. 63(2): 100-105.
10. Dennis, N.A., Kim, H., & Cabeza, R. (2007). Effects of aging on true and false memory formation: an fMRI study. *Neuropsychologia*. 45(14): 3157-3166.
9. Howard, J.H., Jr., Howard, D.V., Dennis, N.A., & Yankovich, H. (2007). Event timing and age-deficits in higher-order sequence learning. *Aging, Neuropsychology, and Cognition*. 14(6): 647-668.
8. Dennis, N.A., Daselaar, S., & Cabeza, R. (2007). Effects of aging on transient and sustained successful memory encoding activity. *Neurobiology of Aging*. 28(11): 1749-1758. PMID: PMC3681865
7. Dennis, N.A., Howard, J.H., Jr., & Howard, D.V. (2006). Implicit sequence learning without motor sequencing in young and old adults. *Experimental Brain Research*. 175(1): 153-64.
6. Howard, J.H., Jr., Howard, D.V., Dennis, N.A., Yankovich, H., & Vaidya, C.J. (2004). Implicit spatial contextual learning in healthy aging. *Neuropsychology*, 18(1): 124-134. PMID: PMC1224740
5. Dennis, N.A., Howard, J.H., Jr., & Howard, D.V. (2003). Age-related deficits in learning sequences of spoken words. *Journal of Gerontology B: Psychological Sciences*, 58: 224-227.

4. Carlin, M.T., Soraci, S.A., Strawbridge, C.P., Dennis, N.A., Loiselle, R., Chechile, N.A. (2003). Detection of changes in naturalistic scenes: Evidence of intelligence-related differences. *American Journal on Mental Retardation*, 108(3): 181-193.
3. Mackay, H.A., Soraci, S.A., Carlin, M.T., Dennis, N.A., & Strawbridge, C.P. (2002). Guiding visual attention during acquisition of matching to sample. *American Journal on Mental Retardation*, 107(6): 445-454.
2. Carlin, M.T., Soraci, S.A., Dennis, N.A., Strawbridge, C., & Chechile, N.A. (2002). Guided visual search in individuals with mental retardation. *American Journal on Mental Retardation*, 107(4): 237-251.
1. Carlin, M.T., Soraci, S.A., Dennis, N.A., Chechile, N.A., & Loiselle, R.C. (2001). Enhancing free recall rates of individuals with mental retardation. *American Journal on Mental Retardation*, 106(4): 314-326.

Papers under review and in prep (in prep= analyses complete and >50% writing completed)

- *Chamberlain, J.D., *Turney, I.C., *Goodman, J.T., Hakun, J.G., & Dennis, N.A. (under review). Fornix white matter microstructure differentially predicts false recollection rates in older and younger adults.
- *Elbich, D.B., *Webb, C.A., & Dennis, N.A. (under review). The Influence of Item Familiarization on the Neural Discriminability of Associative Memory during Encoding and Retrieval.
- Kurkela, K., *Carpenter, C. M., *Babu, H. J., *Chamberlain, J.D., & Dennis, N. A. (under review). The effect of memory cue duration on directed forgetting performance in healthy aging.
- *Webb, C. E., *Carpenter, C., *Babu, H., Overman, A. A., & Dennis, N. A. (in prep). Interference from contextual similarity negatively affects associative memory performance across age.

Book Chapters

6. Dennis, N.A., Gutchess, A.H., & Thomas, A.K. (2020). Overview of Models of Cognitive Aging. *The Cambridge Handbook of Cognitive Aging*. Cambridge University Press.
5. Dennis, N.A. & *McCormick-Huhn, J.M. (2018). Item and associative memory decline in healthy aging. Phelps & Davachi (Eds.), *The Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience: Learning & Memory*. Wiley-Blackwell.
4. Dennis, N. A., *Bowman, C. R., & *Turney, I. (2015). Neural correlates of false memories. In Audrey Duarte, Donna Rose Addis, & Morgan Barense (Eds.), *The Cognitive Neuroscience of Human Memory*. Wiley-Blackwell.
3. Cabeza, R. & Dennis, N.A. (2012). Frontal lobes and aging: Deterioration and compensation. In Stuss, D.T., & Knight, R.T. (Eds.). *Principles of Frontal Lobe Function, 2nd Edition* (pp.628-652). New York: Oxford University Press.
2. Dennis, N.A. & Cabeza, R. (2008). Neuroimaging of Healthy Cognitive Aging. In F.E.M. Craik & T.

Salthouse (Eds.): *Handbook of Aging and Cognition, 3rd Edition*. (pp. 1-55). New York: Psychological Press.

1. Daselaar, S., Dennis, N., & Cabeza, R. (2007). Ageing: age-related changes in episodic and working memory. In S. Rombouts, F. Barkhof, and P. Scheltens (Eds.): *Clinical Applications of Functional Brain MRI* (pp. 115-147). New York: Oxford University Press.

Conference Talks

*denotes mentored, graduate student

#denotes Keynote Address or Symposium Organizer

Dennis, N.A. (2020). Age deficits in neural discriminability and its relationship to memory. *Symposium Talk scheduled to be presented at the 2020 Cognitive Aging Conference, Atlanta, GA.* (Symposium: Neural Pattern Analysis and Brain Aging) *canceled due to COVID-19

#Dennis, N.A. (2020.) The true story of false memories: The role of the hippocampus in episodic memory. *Keynote Address to the Scranton Brain and Behavior Conference, Scranton University.*

Dennis, N.A. (2019). Age deficits in neural discriminability and its relationship to memory. *Symposium Talk presented at the 2019 Memory Disorders Research Society, New York, New York* (Symposium: Using pattern analysis approaches to elucidate neural mechanisms of age-related memory decline.

Dennis, N.A. (2019). How configural differences in item-item associations influences the neural representation of information and its relationship to subsequent memory. *Talk presented at the 2019 International Society for Behavioral Neuroscience, Taormina, Sicily.*

#Dennis, N.A. (2018). Aging's response to increases in task difficulty: common neural mechanisms underlying motor control and working memory. *Talk presented at the 2018 International Society for Behavioral Neuroscience, Anchorage, Alaska* [Symposium Co-Organizer with Kristen Kennedy: Individual Difference factors in Neural Modulation and Adaptive Plasticity in Normal and Pathological Aging]

*Bowman, C.R., *Webb, C.E., *Chamberlain, J., Kurkela, K. & Dennis, N.A. (2018). Investigating dedifferentiation in visual cortex underlying false memories in aging. *Symposium Talk presented at the 25th Annual Cognitive Neuroscience Society Meeting, Boston, MA.* (Symposium: Neural dedifferentiation and age-related cognitive decline).

#Dennis, N. A. (2017). Oh the place you'll go: Insights from a Memory researcher. *Keynote Address to the Women in Science, Math & Technology Conference, Millersville University.*

Dennis, N.A. (2017). False memories and aging: Modulation of middle & superior temporal gyrus activity. *Talk presented at the 2017 Memory Disorders Research Society, Chicago, Illinois.*

#Dennis, N.A. (2016). The influence of gist processing to both true and false memories. *Talk presented at the 2016 International Conference of Memory, Budapest, Hungary.* [Symposium Co-Organizer with Angela Gutches: Factors that enhance and disrupt memory]

Dennis, N.A. (2016). The influence of gist processing to both true and false memories. *Talk presented at the International Society for Behavioral Neuroscience, Dubrovnik, Croatia.*

#Dennis, N.A. (2016). Memory is in the details. *Talk presented at the 2016 Cognitive Aging Conference,*

Atlanta Georgia as part of a Festschrift for Drs. Darlene & James Howard Jr. (Organizer of Festschrift)

*Turney, I.C., *Johnson, C.E., & Dennis, N.A. (2014). Exploring the neural correlates of true and false memory for conceptual pictures in older adults. *Talk presented at the 2014 Society for Neuroscience Conference, Washington, D.C.*

*Johnson, C.E., *Turney, I.C., & Dennis, N.A. (2014). Examining the influence of thematic information on retrieval success. *Talk presented at the 2014 Society for Neuroscience Conference, Washington, D.C.*

Dennis, N.A. (2014). Exploring the neural correlates of true and false memory for conceptual pictures in young and older adults. *Talk presented at the 2014 International Society for Behavioral Neuroscience, Amsterdam, The Netherlands*

Dennis, N.A. (2012). Investigating the neural correlates mediating true and false memories in aging. *Talk presented at the 2012 International Society for Behavioral Neuroscience, Half Moon Bay, CA.*

#Dennis, N.A. (2011). *Oh the places you'll go. How do I get there...And what do I do when I get there?* Psi Chi Conference Keynote Speaker, Rider University.

Conference Presentations (posters) (selected 2010-present)(not all-inclusive)

*denotes mentored, graduate/undergraduate student co-author

*Gerver, C. R., Overman, A. A., Cowan, J., Jenkins, C., & Dennis, N. A. (2020). Encoding-retrieval congruency affects the neural processing of associative recollection in older adults. *Poster to be presented at the 2020 Cognitive Aging Conference, Atlanta, GA. *postponed due to COVID-2019*

*Elbich, D., Adams, R., Kveraga, K., & Dennis, N.A. (2020) Discriminability of Neural Patterns within the Magnocellular and Parvocellular Visual Pathways. *Poster presented at the 2020 Cognitive Neuroscience Society Annual Meeting, Boston, MA.*

*Chamberlain, J. D., *Turney, I. C., Dennis, N. A. (2020). Neural Discriminability Increases in Older Adults Following Cognitive Training to Reduce False Memories. *Poster to be presented at the 2020 Cognitive Aging and Cognition conference, Atlanta, GA *postponed due to COVID-2019*

*Chamberlain, J. D., Dennis, N. A. (2020). Encoding-retrieval Similarity of Perceptually Related Items and Their Relation to False Memories in Aging. *Poster presented at the upcoming Cognitive Neuroscience Society's Annual Meeting, Boston, MA*

*Babu, H., *Carpenter, C., *Webb, C. E., Overman, A. A., & Dennis, N. A. (2020). Contextual interference negatively impacts associative memory across age. *Poster to be presented at the 2020 Cognitive Aging Conference, Atlanta, GA. *postponed due to COVID-2019*

*Carpenter, C.M., *Babu, H.J., Kurkela, K. A., & Dennis, N.A. (2020). The effect of memory cue duration on directed forgetting performance in healthy aging. *Poster to be presented at the 2020 Cognitive Aging Conference, Atlanta, GA. *postponed due to COVID-2019*

*Gerver, C. R., Overman, A. A., Cowan, J., Jenkins, C., *Kautz, B., *Long, M., *Seo, M. S., & Dennis, N. A. (2020). Manipulating associative encoding strategy impacts neural discriminability at encoding and retrieval. *Poster presented at the 2020 Cognitive Neuroscience Society*

Annual Meeting, Boston, MA.

- *Chamberlain, J. D., Hultman, C., *Martinez, V., *Carpenter, C., Overman, A.A., Dennis, N.A. (2019). Configuration Manipulation Impacts Neural Patterns in Medial Temporal Lobe in Associative Memory Retrieval. *Poster presented at the 2019 Cognitive Neuroscience Society's Annual Meeting, San Francisco, CA*
- *Chamberlain, J. D., *Gray, C., McGraw, K., *Babu, H., Overman, A.A, Dennis, N.A. (2019). The Influence of Memory Performance on Neural Representations Supporting Associative Retrieval. *Poster presented at the 2019 Cognitive Neuroscience Society's Annual Meeting, San Francisco, CA*
- *Gray, C. R., Overman, A. A., McGraw, K. E., Rowley, M. A., Salerno, J. M., Hultman, C. E., & Dennis, N. A. (2019). Neural encoding differences between younger and older adults in associative memory. *Poster presented at the 2019 Dallas Aging and Cognition Conference, Dallas, TX.*
- *Webb, C. E. & Dennis, N. A. (2018). Differentiating true and false schematic memory in older adults. *Poster presented at the 2018 Cognitive Aging Conference, Atlanta, GA.*
- *Webb, C. E., Whitaker, C., Hicks, J. M., Schmidt, E. L., Samimy, S. Dennis, N. A. & Visscher, K. M (2018). Exploring the effects of speed of processing training on brain activity and connectivity. *Poster presented at the 2018 Cognitive Neuroscience Society Conference, Boston, MA.*
- *Bowman, C. B., *Webb, C. E., *Chamberlain, J., & Dennis, N. A. (2018). Age differences in neural pattern similarity associated with false recognition. *Poster presented at the 2018 Cognitive Neuroscience Society Conference, Boston, MA.*
- *Chamberlain, J. D., *Turney, I., *Goodman, J., Hakun, J., Dennis, N.A. (2018). Understanding the Relationship between False Memory and White Matter in Younger and Older Adults. *Poster presented at the 2018 Cognitive Aging Conference, Atlanta, GA*
- *McCormick-Huhn, J. M., *Gray, C. R., *Iriondo, H., *Babu, H. J., *Richardson, H., & Dennis, N. A. (2018). Using perceptual manipulations as a new approach for promoting unitization in older adults. *Poster presented at the 2018 Cognitive Aging Conference, Atlanta, GA.*
- *McGraw, K. E., *Rowley, M. A., *Salerno, J. M., *Giglio, A. P., *Gray, C. R., Overman, A. A., & Dennis, N. A. (2018). Neural Encoding Differences in Older Adults' Associative Memory. *Poster presented at the 2018 Cognitive Aging Conference, Atlanta, GA.*
- *Gray, C. R., Rowley, M. A., McGraw, K. E., Salerno, J. M., Giglio, A. P., Overman, A. A., & Dennis, N. A. (2018). Effect of Congruency Between Encoding and Retrieval on Associative Retrieval. *Poster presented at the 2018 Cognitive Neuroscience Society Annual Meeting, Boston, MA*
- *Turney, I.C., Hakun, J.G., Kirchoff, B.A., Dennis, N.A. (2018). Investigating neural effects of memory training to reduce false memories in older adults. *Poster presented at the 2018 Cognitive Aging Conference, Atlanta, GA.*
- *Turney, I.C., Hakun, J.G., Kirchoff, B.A., Dennis, N.A. (2018). Investigating neural effects of memory training to reduce false memories in older adults. *Poster presented at the 2018 Cognitive Neuroscience Conference, Boston, MA.*
- *Webb, C. E., Dennis, N. A. Effects of contextual schemas on memory (2017). *Poster presented at the 2017 American Psychological Society Conference, Boston, MA.*

- *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 International Conference of 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 Cognitive Aging Conference, Atlanta, Georgia.*
- *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 Cognitive Neuroscience Society Annual Meeting, New York, NY, USA.*
- *Webb, C.E., Visscher, K.M., Dennis, N.A., Ross, L.A. (2016). Changes in neural substrates results from speed of processing training in older adults. *Poster presented at the 2016 Cognitive Aging Conference, Atlanta, GA.*
- *Webb, C.E. & Dennis, N.A. (2016). Examining the role of schemas in retrieval success. *Poster presented at the 2016 Cognitive Neuroscience Society Conference, New York, NY.*
- *Turney, I.C., & Dennis, N.A. (2016). A Systematic measure of perceptual relatedness in false. *Poster presented at the 2016 Cognitive Neuroscience Conference, New York, NY.*
- *Turney, I.C., Kurkela, K.A., & Dennis, N.A., (2016). Age-related changes in the role of perceptual overlap in false memories. *Poster presented at the Cognitive Aging Conference, Atlanta, GA.*
- *Huhn III, J.M., Dennis, N.A., Steinsiek, A.B., Overman, A. (2016). Not all associations age equally: Presentation format affects associative binding in older adults. *Poster presented at the Cognitive Aging Conference, Atlanta, Georgia.*
- Kurkela, K. A. & Dennis, N.A. (April, 2016), Event-related fMRI studies of false memory: an activation likelihood estimation meta-analysis. *Poster to be presented at the Cognitive Neuroscience Society Annual Meeting, New York, NY, USA.*
- *Grant, A. & Dennis, N.A. (2015). “Speeded Source Memory Performance in Young Adult Bilinguals” *Poster presented at the Association for Psychological Science Conference, New York City.*
- *Bowman, C.R. & Dennis, N.A. (2015). Recall-to-reject: The neural correlates of false memory suppression using true recollection. *Poster presented at the 22nd Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*
- Overman, A.A., Dennis, N.A., Steinsiek, A., & Cesar, L. (2015). Same Face, Same Place, Different Memory: Item and contextual binding in older and younger adults. *Poster presented at the North Carolina Cognition Group Conference, Elon, NC.*
- *Rizio, A.A. & Dennis, N.A. (2014). Cognitive control of memory and motor response: A comparison of networks supporting active inhibition. *Poster presented at the 21st Annual Cognitive Neuroscience Society Conference, Boston, MA.*
- *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 21st Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

- *Johnson, C.E., *Turney, I.C., & Dennis, N.A. (2014). Exploring the neural correlates of true and false memory for conceptual pictures. *Poster presented at the 21st Annual Cognitive Neuroscience Society Conference, Cognitive Neuroscience Society, Boston, MA.*
- *Rizio, A.A., *Hoagey, D.A., & Dennis, N.A. (2014). Anticipating Inhibitory Control: The Effectiveness of Cue Placement in the Directed Forgetting Paradigm. *Poster presented at the 2014 Cognitive Aging Conference, Atlanta, GA.*
- *Turney, I.C., Maillet, D., *Johnson, C.E., Dennis, N.A., Rajah, M.N. (2014). Exploring the influence of encoding format on subsequent memory for related information in older and younger adults. *Poster presented at the 2014 Cognitive Aging Conference, Atlanta GA.*
- *Johnson, C.E., Peterson, K.M., & Dennis, N.A. (2014). Exploring the neural correlates of item familiarization in novelty detection of relational information. *Poster presented at the 20th Annual Cognitive Neuroscience Society Conference, Cognitive Neuroscience Society, San Francisco, CA.*
- *Bowman, C.R. & Dennis, N.A. (2013). The neural correlates mediating age deficits in novelty detection. *Poster presented at the 20th Annual Cognitive Neuroscience Society Conference, Cognitive Neuroscience Society, San Francisco, CA.*
- Peterson, K.M., *Johnson, C.E., & Dennis, N.A. (2013). The effects of item familiarity on the neural correlates of successful relational memory encoding. *Poster presented at the 20th Annual Cognitive Neuroscience Society Conference, Cognitive Neuroscience Society, San Francisco, CA.*
- *Franklin, R. G., Dennis, N. A., & Adams, R. (2013). The Role of Mentalizing in Face Memory. *Poster presented at Social Affective Neuroscience Conference.*
- *Rizio, A.A., & Dennis, N.A. (2012). The cognitive control of memory: Age differences in the neural correlates of successful remembering and intentional forgetting. *Poster presented at the 2012 Cognitive Aging Conference, Atlanta, GA.*
- *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.*
- *Rizio, A.A., & Dennis, N.A. (2012). Age differences in the retrieval of previously forgetting information: The neural correlates of intentional forgetting and inhibitory control. *Poster presented at the 19th Annual Conference of the Cognitive Neuroscience Society, Chicago, IL.*
- *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 19th Annual Cognitive Neuroscience Society Meeting, Chicago, IL.*
- *Rizio, A. A. & Dennis, N.A. (2011). The neural correlates of cognitive control: Successful remembering and intentional forgetting. *Poster presented at the 41st Annual Society for Neuroscience Conference, Washington, D.C.*
- *Bowman, C.R., Vandekar, S.N. & Dennis, N.A. (2011). Neural correlates mediating true and false recollection. *Poster presented at the 41st Annual Society for Neuroscience Conference, Washington, D.C.*
- Bulter, A. C., Dennis, N.A. & Marsh, E. (2011). Inferring Facts From Fiction: Reading Correct and

Incorrect Information Affects Memory for Related Information. Poster presented at the 52nd Annual Meeting of the Psychonomic Society, Seattle, Washington.

*Rizio, A. A., Dennis, N.A., & Cabeza, R. (2010). Learning while remembering: neural correlates of successful encoding during retrieval in young and older adults. *Poster presented at the 13th Cognitive Aging Conference, Atlanta, GA.*

Professional Service

Panel Member, Cognitive Neuroscience Panel, NSF (2020 -)

Conference Organizer, 2019 International Society for Behavioural Neuroscience Annual Conference in Taormina, Sicily

Festschrift Organizer for Drs. Darlene & James Howard Jr., 2017 Cognitive Aging Conference, Atlanta Georgia

Treasurer, International Society for Behavioural Neuroscience: (elected 2016-2018; re-elected 2018-2020) *remaining in office through 2021 due to COVID-19

Panel Member, NIH Learning and Memory, Language, Communication and Related Neurosciences panel (F01B) (2016 - 2019)
Reviewer for BCS at NSF

Editorial Boards:

Aging Neuropsychology & Cognition, Editor-in-Chief, (incoming June 2020-

Aging Neuropsychology & Cognition, Consulting Editor, 2018-2020

Memory, Associate Editor, 2015-present

Ad hoc Reviewer: *Cerebral Cortex* • *Journal of Experimental Psychology: Learning Memory & Cognition* • *NeuroImage* • *Neurobiology of Aging* • *Psychology & Aging* • *Journal of Cognitive Neuroscience* • *Neuropsychologia* • *Neuroscience & Behavioral Reviews* • *Brain Research* • *Hippocampus* • *Cognitive, Affective, & Behavioral Neuroscience* • *Aging, Neuropsychology & Cognition* • *Cortex* • *Memory* • *Journal of Geriatric Psychiatry and Neurology* • *Experimental Aging Research* • *Brain Imaging and Behavior* • *Cognition & Emotion* • *Psychological Science* • *Cognitive Neuroscience* • *Journal of Neuroscience* [abbreviated list]

National Science Foundation

American Federation for Aging Research

National Institute of Health

Director of the Participants Across the Life (PALS) Database, Center for Healthy Aging, Penn State University, (2008-present)

Membership in Professional Organizations

Memory Disorders Research Society (elected society; elected 2017)

International Society for Behavioural Neuroscience (elected society; elected 2011)

Psychonomic Society (Fellow)

Society for Neuroscience

Cognitive Neuroscience Society

American Psychological Association (Div 20 member)

Non-Conference Invited Talks (selected 2009-present)

- October 2018. Memory As We Age. Recorded talk given to Aging Centers of Pennsylvania.
- October 2017. Memory As We Age. The Center for Healthy Aging Lecture Series, Penn State University.
- April 2017. What Do I Need to Know About Graduate School Applications? Professional Development talk to Psychology majors at Elon University.
- April 2017. I Get the Gist: understanding the neural basis of false memories across the lifespan. Center for Cognitive Neuroscience, Duke University.
- November 2016. The cognitive and neural basis of false memories in young and older adults. Department of Psychology, Brandeis University.
- September 2016. Memory in Healthy Aging. Osher Lifelong Learning Institute at Penn State. State College, PA.
- May 2014. False Memories and Cognitive Control: Studies from the CANLAB. The Center for Brain, Behavioral, & Cognition, Penn State University.
- October 2013. How remembering changes as we age. The Becoming Center, Philadelphia PA.
- October 2013. Why do we remember things that never happened? Understanding false memories. Department of Psychology, Bucknell University.
- August 2013. Tailoring Memory Making: Memory in Healthy Aging. The Center for Healthy Aging Lecture Series, Penn State University.
- June 2013. False Memories in Aging. McGill Centre for Studies in Aging and the Douglas Brain Imaging Centre, Montreal, Canada.
- March 2010. Contributions of Genetic Neuroimaging to the Study of Memory. Social, Life, and Engineering Sciences Imaging Center (SLEIC), Penn State University.
- April 2009. Cognitive Aging: Insights through neuroimaging. Departmental Area, Department of Psychology, Penn State University.
- April 2009. Cognitive Aging: Insights through neuroimaging. Gerontology Center, Penn State University.

Teaching Experience (2012-present)

- 2020(Spring) Learning and Memory (Psych 452), Penn State University
- 2020(Spring) Senior Seminar: False Memory & Eyewitness Testimony (Psych 490), Penn State University
- 2019(Fall) Learning and Memory (Psych 452), Penn State University
- 2019(Spring) Learning and Memory (Psych 452), Penn State University
- 2018(Fall) Graduate Proseminar in Cognitive Psychology, (Psych 524), Penn State University
- 2018(Fall) Learning and Memory (Psych 452), Penn State University
- 2018(Spring) Learning and Memory (Psych 452), Penn State University
- 2017(Fall) Learning and Memory (Psych 452), Penn State University
- 2017(Fall) Senior Seminar: False Memory & Eyewitness Testimony (Psych 490), Penn State University
- 2016(Fall) Graduate Proseminar in Cognitive Psychology, (Psych 524), Penn State University
- 2016(Fall) Learning and Memory (Psych 452), Penn State University
- 2016(Spring) Graduate Seminar: Cognitive Neuroscience of Memory & Aging, (Psych 525), Penn State University
- 2016(Spring) Learning and Memory (Psych 452), Penn State University
- 2015(Spring) Senior Seminar: False Memory & Eyewitness Testimony (Psych 490), Penn State University
- 2015(Spring) Learning and Memory (Psych 452), Penn State University
- 2014(Spring) Senior Seminar: False Memory & Eyewitness Testimony (Psych 490), Penn State University
- 2014(Spring) Learning and Memory (Psych 452), Penn State University
- 2013(Fall) Learning and Memory (Psych 452), Penn State University
- 2013(Spring) Learning and Memory (Psych 452), Penn State University
- 2012(Fall) Graduate Seminar: Cognitive Neuroscience of Memory, (Psych 525), Penn State University
- 2012(Fall) Learning and Memory (Psych 452), Penn State University
- 2012(Spring) Learning and Memory (Psych 452), Penn State University

Student Mentorship

Dissertation Committee

Current

Victoria Gertel (Member)
Dan Elbich (Co-chair)
Kaitlyn Clarke (Member; CSD)
Gina Mathew (Member; BBH)
Courtney Gerver (Chair)
Jordan Chamberlain (Chair)
Kaitlin Reigler (Member)
Ryan O'Donnell (Member)

Past

Stephen Strayer (Member; BBH)
Cory Potts (Member)
Sarah Winter (Member)
John McCormick-Huhn (Chair)
Christina Webb (Chair)
Indira Turney (Chair)
Umesh Venkatesan (Member)
Angela Grant (Member)
Anthony Nelson (Member)
Caitlin Bowman (Chair)
Avery Rizio (Chair)
Christopher Stevens (Member)
Kathy Chiou (Member)
Robert Franklin (Member)
Matthew Zawadzki (Member)

Masters Committee

Current

Garrett Thomas (member)

Past

Courtney Gerver (chair)
Nate Hall (member)
Sarah Winter (member)
Victoria Gertel (member)
Troy Steiner (member)
Einat Brenner (member)
Rachel Barrier (Member)
Christina Webb (Chair)
Indira Turney (Chair)
Caitlin Bowman (Chair)
Avery Rizio (Chair)
Umesh Venkatesan (Member)
Victoria Merritt (Member)
Anthony Nelson (Member)
Christopher Stevens (Member)
Chase Coehlo (Member)

Psychology Breadth Project Advisor (graduate)

Current

Ryan O'Donnell

Past

Umesh Venkatesan

Angela Grant

Anthony Nelson

Emily Coyle

Cari Bogulski

Christopher Stevens

Honors Thesis Advisor (Undergraduate)

Current

Bianka Onwumbiko

Past

Casey Ryan

Shalome Sine

Alexandra Manbeck

William Crozier

Courtney Allen

Ethan Zimmerman

Deepa Ramsey

Jonathan Harris