

## **NATHAN S. ROSE**

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### **EMPLOYMENT, TRAINING, & EDUCATION**

- 2016-present: William P. and Hazel B. White Assistant Professor of Psychology;  
Cognition, Brain & Behavior; University of Notre Dame, USA
- 2015-2016: Research Fellow, Cognition & Emotion Research Centre, School of  
Psychology; Australian Catholic University, Melbourne, Australia
- 2013-2015: Research Associate, Postle Lab, Department of Psychiatry, University of  
Wisconsin-Madison, USA
- 2010-2013: Postdoctoral Fellow, Craik & Buchsbaum Labs, Rotman Research Institute  
of Baycrest Centre for Geriatric Care and the Department of Psychology,  
University of Toronto, Canada
- 2010: Ph.D., Psychology, Behavior Brain & Cognition Program, Washington University  
in St. Louis, USA
- 2007: M.A., Psychology, Behavior Brain & Cognition Program, Washington University  
in St. Louis, USA
- 2003: B.S., Psychology, Cum Laude, Aquinas College, Grand Rapids, USA

### **RESEARCH INTERESTS**

- Cognitive psychology/neuropsychology/neuroscience of memory and aging
- Working memory, prospective memory, and episodic memory, in young adults, older adults, Alzheimer's disease, Parkinson's disease, amnesia
- Ecological validity of cognitive assessments and cognitive training, Virtual Reality
- Computational modeling of behavior, noninvasive brain stimulation & neuroimaging

**FUNDED GRANTS & AWARDS**

- 2019-2025 National Science Foundation CAREER Award #1848440, PI: “Targeted Memory Reactivation with Transcranial Magnetic Stimulation”  
USD\$750,883
- 2017-2025 National Institutes of Health - National Institute on Aging UG3/UH3, Co-PI (PI: Cindi Bergeman), “An Integrative Science Approach to Resilience: The Notre Dame Study of Health & Well-being”  
USD\$3,606,252
- 2019-2022 Science of Wellness Initiative Seed Grant, University of Notre Dame, Co-PI (PI: Josh Koen), “Linking longitudinal stress exposure and resilience with Alzheimer’s disease biomarkers”  
USD\$100,000
- 2017-2019 Discovery Grant, Advanced Diagnostics & Therapeutics, University of Notre Dame, Co-PI (PI: Jennifer Hames), “Comparing the Efficacy of a Single-Session Virtual Reality Treatment for Acrophobia to a Gold Standard Treatment or No Treatment”  
USD\$43,354
- 2017-2018 Digital Learning Initiatives, Notre Dame Provost’s Office, PI (CIs: Mike Villano, Jeffrey Bain-Conkin, Paul Turner, GA Radvansky), “Creation of a Virtual Reality Lab for Experiential Learning and Software Development”  
USD\$20,000
- 2017-2018 - FRSP Initiation Grant Program, Notre Dame Research PI (Co-PI GA Radvansky), “Using Interactive Virtual Environments to Explore Memory and Cognition”  
USD\$9,640
- 2015-2018 Australian Research Council Linkage Grant, LP150100140, Co-Investigator (PI: Prof Peter Rendell), “Acting with the Future in Mind”  
AUD\$360,900
- 2016 Research Project Funding, ACU Research Office, Chief Investigator (Co-I Prof Gill Terrett), “Can Neuroimaging be Used for Mind Reading in Younger and Older Adults?”  
AUD\$50,000
- 2015 Early Career Researcher Award, ACU Faculty of Health Sciences, Chief Investigator, “Neural Evidence for Prospective Memory Monitoring in Younger and Older Adults”  
AUD\$10,000

- 2012-2013 Canadian Heart and Stroke Foundation, Centre for Stroke Recovery, Principal Investigator (CIs: Prof Fergus Craik, Prof Gordon Winocur, Prof Brian Levine), “Prospective Memory Functioning in Stroke Survivors”  
CAD\$45,000
- 2011 Kick Start Grant, Centre for Brain Fitness, Baycrest Centre for Geriatric Care, Co-Investigator (PI: Prof Fergus Craik), “Training Prospective Memory with the Virtual Week Video Game”  
CAD\$10,000
- 2012 Canadian Institutes of Health Research – Institute of Aging, Travel Award for the Cognitive Aging Conference  
CAD\$1,000
- 2011 Jack and Rita Catherall Funds for Aging Research  
CAD\$400
- 2011 Age+Prize Award Recognizing Excellence in Aging Research, Canadian Institutes of Health Research – Institute of Aging  
CAD\$500
- 2007 Early Career Researcher Award, Cognitive Aging Conference – Down Under, Adelaide, Australia  
AUD\$500
- 2003 Outstanding Student Award, Department of Psychology, Aquinas College (Awarded to 1 graduating student per Department)
- 2001-2003 Academic All-American, Men’s Varsity Soccer, Aquinas College

#### **GRANTS PENDING OR IN PREPARATION**

- 2025-2030 NIH-NIA R01, PI, “Measuring and Enhancing Older Adults’ Real World Prospective Memory with Transcranial Magnetic Stimulation, and Cognitive Training in Immersive Virtual Reality”
- 2025-2028 NSF SBE BCS Project Grant, “Measuring Prospective Memory with Immersive Virtual Reality, Mobile EEG, and Transcranial Magnetic Stimulation”
- 2025-2030 NIH-NIA R21, PI, “Using Machine-Learning Analysis of Neuroimaging Data and Brain Stimulation to Elucidate Short-Term and Long-Term Memory Deficits in Older Adults with Alzheimer’s Disease Biomarkers”

## REFEREED PUBLICATIONS

\*\*Denotes a project I mentored for a student who was working with me

\*Denotes a project I mentored for a student who was working in another lab

IF = Impact Factor

**H-Index = 31/28, Citations = 4,395 / 2,581 (Google Scholar / Scopus Free Lookup)**

1. **Rose, N.S.**, \*\*Fragette, J., & Reinhart, R.M.G. (in press) “Memory Modulation through Neurostimulation”. Invited Chapter for Ed. Michael Rugg, *Learning and Memory: A Comprehensive Reference, Third Edition, Elsevier Academic Press*.
2. \*\*Xu, C., \*\*Chao, C.M., & **Rose, N.S.** (2024). A Dual-Mechanisms of Control Account of Age-Differences in Working Memory. *Psychology and Aging*, 39(4), 436–455. <https://doi.org/10.1037/pag0000817>. Pre-Registered Report: <https://osf.io/ztqx8/>. IF=3.8
3. **Rose, N.S.** & \*\*Saito, J. (2024). Naturalistic assessments in virtual reality and in real life help resolve the age-prospective memory paradox. *Aging, Neuropsychology, & Cognition*, 1–38. <https://doi.org/10.1080/13825585.2024.2315791>. IF=1.8
4. \*\*Chao, C., Xu, C., Loaiza, V. M., & **Rose, N.S.** (2023). Are latent working memory items retrieved from long-term memory? *Quarterly Journal of Experimental Psychology*, Pre-Registered Report: <https://doi.org/10.31234/osf.io/5rqdh>. IF=2.1
5. \*\*Rhilinger, J., \*\*Xu, C., & **Rose, N.S.** (2023). Are Irrelevant Items Actively Deleted from Visual Working Memory?: No Evidence from Repulsion and Attraction Effects in Dual-Retrocue Tasks. *Attention, Perception, & Psychophysics*. IF=2.157
6. **Rose, N.S.**, \*Doolen, A.C., & \*O’Rear, A.E. (2023). They forgot their “baby”?!: Factors that lead students to forget their cell phone. *Journal of Applied Research on Memory & Cognition*. IF=4.6  
[\*How the Brain Forgets: When Memory Lapses Become Fatal\*](#)
7. **Rose, N.S.**, & \*\*Chao, C.M. (2022). Hippocampal involvement in working memory following refreshing. *Cognitive Neuroscience*. IF=2.55
8. \*\*Yeh, N., \*Kim, S., Payne, J., Koen, J., Kensinger, E., & **Rose, N.S.** (2021). Medial prefrontal cortex has a causal role in selectively enhanced consolidation of emotional memories after a 24-hour delay: A TBS study. *Journal of Neuroscience*. IF=6.709
9. Henry, J.D.; Hering, A.; \*Haines, S.; Grainger, S.A.; \*Koleits, N.; McLennan, S.; Pelly, R.; Doyle, C.; **Rose, N.S.**; Kliegel, M.; & Rendell, P.G. (2021). Acting with the future in mind: Testing competing prospective memory intervention approaches with older adults. *Psychology and Aging*, 36(4), 491. IF=4.359

10. Sheldon, A.D., Saad, E., Sahan, M.I., Meyering, E., Starrett, M.J., LaRocque, J.J., **Rose, N.S.**, & Postle, B.R. (2021). Attention biases competition for visual representation via enhancement of targets and inhibition of nontargets. *Journal of Cognitive Neuroscience*. IF=5.357
11. Bergeman, C. S., Boker, S. M., **Rose, N.**, Bonanno, G. A., & Seeman, T. (2021). Integrative Science Approach to Resilience: The Notre Dame Study of Health & Well-being (NDHWB). *Research in Human Development*, 1-17, IF=4.154
12. **Rose, N.S.** (2020). The Dynamic Processing Model of Working Memory. *Current Directions in Psychological Science*, IF=7.867
13. Henry, J., Grainger, S., Rendell, P., Terrett, G., Kliegel, M., Bugge, M., Ryrie, C., **Rose, N.S.**, (2020). Implementation intentions and prospective memory function in late adulthood. *Psychology and Aging*, IF=4.359
14. \*Haines, S., \*Randall, S.E., Terrett, G., Busija, L., Tatangelo, G., McLennan, S., **Rose, N.S.**, Kliegel, M, Henry, JD, Rendell, PG. (2020). Differences in time-based task characteristics help to explain the age-prospective memory paradox. *Cognition*, IF=4.011
15. **Rose, N.S.**, \*Thomson, H., & Kliegel, M. (2019). No effect of transcranial direct-current stimulation to dorsolateral prefrontal cortex on naturalistic prospective memory in healthy young and older adults. *Journal of Cognitive Enhancement*, IF=2.4.
16. \*\*Yeh, N. & **Rose, N.S.** (2019). How can transcranial magnetic stimulation be used to affect episodic memory?: A systematic review and meta-analysis. *Frontiers in Psychology: Consciousness Research*, IF=4.232, <https://doi.org/10.3389/fpsyg.2019.00993>
17. Gosseries, O., Yu, Q., LaRocque, J.J., Starrett, M.J., **Rose, N.S.**, Cowan, N., & Postle, B.R. (2018). Parietal-occipital interactions underlying control- and representation-related processes in working memory for nonspatial visual features. *Journal of Neuroscience*, 2747-17. IF=6.709
18. \*\*Widhalm, M. & **Rose, N.S.** (2018). How can transcranial magnetic stimulation be used to causally manipulate memory representations in the human brain? *Wiley Interdisciplinary Reviews: Cognitive Science*, e1469. IF=3.476
19. \*Yue, Q., Martin, R.C., Hamilton, A.C., **Rose, N.S.** (2018). Non-perceptual regions in the left inferior parietal lobe support phonological short-term memory: Evidence for a buffer account? *Cerebral Cortex*. IF=5.998
20. \*Hering, A., Kliegel, M., Rendell, P.G., Craik, F.I.M., & **Rose, N.S.** (2018). Prospective memory is a key predictor of functional independence in older adults. *Journal of the International Neuropsychological Society*, 24, 1–6. IF=3.114

21. Rogasch, N.C., Sullivan, C., Thomson, R.H., **Rose, N.S.**, Bailey, N.W., Fitzgerald, P.B., Farzan, F., Hernandez-Pavon, J.C. (2017). Analysing concurrent transcranial magnetic stimulation and electroencephalographic data: a review and introduction to the open-source TESA software. *NeuroImage*, 47, 934-951, DOI:10.1016/j.neuroimage.2016.10.031. IF=7.4
22. Agarwal, P.K., Finley, J.R., **Rose, N.S.**, & Roediger, H.L., (2017). Benefits from retrieval practice are greater for students with low working memory than for students with high working memory. *Memory*, 25, 6, 1-8, DOI:https://doi.org/10.1080/09658211.2016.1220579. IF=2.519
23. **Rose, N.S.**, LaRocque, J., Riggall, A., Gosseries, O., Starrett, M.J., \*Meyering, E.E., & Postle, B.R. (2016). Reactivation of latent working memories with transcranial magnetic stimulation. *Science*, 354, 6316, 1136-1139, DOI:10.1126/science.aah7011. IF=63.714  
[NPR All Things Considered - 'Zap! Magnet Study Offers Fresh Insights Into How Memory Works'](#)
24. Shelton, J.T., Lee, J.H., Scullin, M.K., **Rose, N.S.**, Rendell, P.G., McDaniel, M.A. (2016). Improving prospective memory in healthy older adults and very mild Alzheimer's disease patients. *Journal of the American Geriatric Society*, 64(6), 1307-1312, DOI:10.1111/jgs.14134. IF=7.538
25. **Rose, N.S.**, Rendell, P.G., Hering, A., Bidelman, G.M., Kliegel, M & Craik, F.I.M. (2015). Cognitive and neural plasticity in older adults' prospective memory following training on the virtual week computer game. *Frontiers in Human Neuroscience*, 9. DOI:http://dx.doi.org/10.3389/fnhum.2015.00592. IF=3.473
26. **Rose, N.S.**, Craik, F.I.M. & Buchsbaum, B. (2015). Levels of processing in working memory: Differential involvement of frontotemporal networks. *Journal of Cognitive Neuroscience*, 27, 3, 522–532. DOI:10.1162/jocn\_a\_00738. IF=5.357
27. Craik, F.I.M., **Rose, N.S.**, & Gopie, N. (2015). Recognition without awareness: Encoding and retrieval factors. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 41(5), 1271-1281, DOI:10.1037/xlm0000137. IF=3.14  
[APA Journals Article Spotlight](#)
28. Meltzer, J.A., **Rose, N.S.**, Deschamps, T., Leigh, R.C., Panamsky, L., Silberberg, A., Madani, N., Links, K.A. (2015). Semantic and phonological contributions to immediate and delayed cued sentence recall. *Memory & Cognition*, 44(2), 307-329, DOI:10.3758/s13421-015-0554-y. IF=2.825
29. LaRocque, J.J., Eichenbaum, N.S., Starrett, M.J., **Rose, N.S.**, Emrich, S.M., & Postle, B.R. (2015). The short- and long-term fate of memory items retained outside the focus of attention. *Memory & Cognition*, 43(3): 453-468, DOI:10.3758/s13421-014-0486-y. IF=2.825

30. Terrett, G., **Rose, N.S.**, Henry, J.D., Bailey, P.E., Altgassen, M., Phillips, L.H., Kliegel, M., & Rendell, P.G. (2015). The relationship between prospective memory and episodic future thinking in younger and older adulthood. *Quarterly Journal of Experimental Psychology*, *69*(2), 310-323, DOI:10.1080/17470218.2015.1054294. IF=2.138
31. Cameron, J., Rendell, P.G., Ski, C.F., Kure, C.E., McLennan, S.S., **Rose, N.S.**, Prior, D.L., & Thompson, D.R. (2015). PROspective MEemory Training to improve HEart failUre Self-care (PROMETHEUS): study protocol for a randomised controlled trial. *Trials*, *16*(1), 196, DOI:10.1186/s13063-015-0721-2. IF=1.975
32. **Rose, N.S.**, Luo, L., Bialystok, E., Hering, A., Lau, K., & Craik, F.I.M. (2015). Cognitive processes in the breakfast task: Planning and Monitoring. *Canadian Journal of Experimental Psychology*, *69*(3), 252-263, DOI:10.1037/cep0000054. IF=1.373
33. Lilienthal, L., **Rose, N.S.**, Tamez, E., Myerson, J., & Hale, S. (2015). Individuals with low working memory spans show greater interference from irrelevant information because of poor source monitoring, not greater activation. *Memory & Cognition*, *43*(3), 357-366. DOI:10.3758/s13421-014-0465-3. IF=2.825
34. **Rose, N.S.**, Buchsbaum, B.R., & Craik, F.I.M. (2014). Short-term retention of a single word relies on retrieval from long-term memory when both rehearsal and refreshing are disrupted. *Memory & Cognition*, *42*, 689-700, DOI:10.3758/s13421-014-0398-x. IF=2.825
35. \*Hering, A. Rendell, P., **Rose, N.S.**, Schnitzspahn, K. & Kliegel, M. (2014). Prospective memory training in older adults and its relevance for successful aging. *Psychological Research*, *6*, 892-904, DOI:10.1007/s00426-014-0566-4. IF=2.539
36. Craik, F.I.M. & **Rose, N.S.** (2014). Familiarity and Recollections: Interactions with Larry Jacoby. In (Eds.) D. Stephen Lindsay, Colleen M. Kelley, Andrew P. Yonelinas, Henry L. Roediger, III. *Remembering: Attributions, Processes, and Control in Human Memory*. Psychology Press, pp. 233-251.
37. **Rose, N.S.** (2014). Individual differences in working memory, secondary memory, and fluid intelligence: Evidence from the levels-of-processing span task. *Canadian Journal of Experimental Psychology*, *67*, 260-270, DOI:10.1037/a0034351. IF=1.373
38. Foster, E., **Rose, N.S.**, Rendell, P., & McDaniel, M. (2013). Prospective memory in Parkinson disease during a Virtual Week: Effects of both prospective and retrospective demands. *Neuropsychology*, *27*, 2, 170-181, DOI:http://dx.doi.org/10.1037/a0031946. IF=3.424

39. Zinke, K., Zeintl, M., **Rose, N.S.**, Putzmann, J., Pydde, A., & Kliegel, M. (2013). Working memory training and transfer in older adults: Effects of age, baseline performance, and training gains. *Developmental Psychology*, *50*, 304-315, DOI:<http://dx.doi.org/10.1037/a0032982>. IF=4.497
40. **Rose, N.S.** & Craik, F.I.M. (2012). A processing approach to the working memory/long-term memory distinction: Evidence from a levels-of-processing span task. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *38*, 4, 1019-1029, DOI:<http://dx.doi.org/10.1037/a0026976>. IF=3.14
41. **Rose, N.S.**, Olsen, R.K., Craik, F.I.M., & Rosenbaum, R.S. (2012). Working memory and amnesia: The role of stimulus novelty. *Neuropsychologia*, *50*, 1, 11-18, DOI:10.1016/j.neuropsychologia.2011.10.016. IF=3.302  
[Fox News - 'Paris Hilton's Face Helpful in Study of Memory'](#).
42. Craik, F.I.M. & **Rose, N.S.** (2012). Memory encoding and aging: A neurocognitive perspective. *Neuroscience & Biobehavioral Reviews*, *36*, 1729–1739, DOI:10.1016/j.neubiorev.2011.11.007. IF=9.440
43. Craik, F.I.M. & **Rose, N.S.** (2012). Training cognition: Parallels with physical fitness? *Journal of Applied Research in Memory and Cognition*, *1*, 1, 51-52. DOI:10.1016/j.jarmac.2011.12.001. IF=4.6
44. Reichman, W. & **Rose, N.S.** (2012). History and experience: The direction of Alzheimer's disease. *Menopause*, *19*, 7, 724-734, DOI:10.1097/gme.0b013e31825a28f2. IF=3.361
45. Kliegel, M., Altgassen, M., Hering, A., & **Rose, N.S.** (2011). A process-model based approach to prospective memory impairment in Parkinson's disease. *Neuropsychologia*, *49*, 8, 2166-77, DOI:10.1016/j.neuropsychologia.2011.01.024. IF=3.302
46. Loaiza, V., McCabe, D., Youngblood, J., **Rose, N.S.**, & Myerson, J. (2011). The influence of levels of processing on recall from working memory and delayed recall tasks. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *37*, 5, 1258-63, DOI:10.1037/a0023923. IF=3.14
47. Hale, S., **Rose, N.S.**, Myerson, J., Strube, M. J., Sommers, M., Tye-Murray, N., & Spehar, B. (2011). The structure of working memory abilities across the adult lifespan. *Psychology and Aging*, *26*, 1, 92-110. doi:10.1037/a0021483. IF=4.359
48. Sommers, M., Hale, S., Myerson, J., **Rose, N.S.**, Tye-Murray, N., & Spehar, B. (2011). Spoken discourse comprehension across the adult lifespan. *Ear and Hearing*, *32*, 6, 775-81, DOI:10.1097/AUD.0b013e3182234cf6. IF=3.562



49. Aberle, I., Rendell, P., **Rose, N.S.**, McDaniel, M., & Kliegel, M. (2010). The age-prospective memory paradox: Young adults may not give their best outside of the lab. *Developmental Psychology*, 46, 6, 1444–1453, DOI:<http://dx.doi.org/10.1037/a0020718>. IF=4.497
50. **Rose, N.S.**, Myerson, J., Roediger, III., H.L., & Hale, S. (2010). Similarities and differences between working memory and long-term memory: Evidence from the levels-of-processing span task. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 36, 2, 471-483, DOI:10.1037/a0026976. IF=3.14
51. **Rose, N.S.**, Rendell, P. G., McDaniel, M. A., Aberle, I., & Kliegel, M. (2010). Age and individual differences in prospective memory during a “Virtual Week”: The role of working memory, vigilance, task-regularity, and cue-focality. *Psychology and Aging*, 25, 3, 595-605, DOI:10.1037/a0019771. IF=4.359
52. Reichman, W., Fiocco, A., & **Rose, N.S.** (2010). Exercising the brain to avoid cognitive decline: Examining the evidence. *Future Medicine: Aging Health*, 6, 5, 565-584, DOI:10.2217/ahe.10.54. IF=2.498
53. **Rose, N.S.**, Myerson, J., Sommers, M., & Hale, S. (2009). Are there age differences in the executive component of working memory? Evidence from domain-general interference effects. *Aging, Neuropsychology, and Cognition*, 16, 6, 633-653. DOI: 10.1080/13825580902825238. IF=2.19
54. Tye-Murray, N., Sommers, M., Spehar, B., Myerson, J., Hale, S., & **Rose, N.S.** (2008). Auditory-visual discourse comprehension by older and young adults in favorable and unfavorable conditions. *International Journal of Audiology*, 47, S103-S109, DOI:10.1080/14992020802301662. IF=2.437

#### MANUSCRIPTS UNDER REVIEW

\*Friedman, Brooke; \*Pichot, Rachele; \*Kafafi, Seham; Rose, Nathan; Koen, Joshua; Ammerman, Brooke; Bergeman, C.S. (under review). The Influence of Allostatic Load and APOE on Cortical Thinning,

\*\*Weiler, Joseph, \*\*Alexander, Claire, & **Rose, N.S.** (revision in prep.). How reliable and valid is the “Cognigram” for detecting sports-related concussion?

Hames, J., Villano, M., \*Lam, J., & **Rose, N.S.** (under review). A single-session of virtual reality therapy for acrophobia is as effective as in vivo treatment.

#### MANUSCRIPTS IN PREPARATION

\*\*Xu, C., \*\*Xie, Z., \*\*Widhalm, M., Samaha, J., & **Rose, N.S.** (in prep.). Stimulating Visual Cortex Reactivates Latent Visual Working Memories.

**\*\*Xu, C., \*\*Rhilinger, J.P., \*\*Waner, J., \*\*Metcalf, I. & Rose, N.S.** (in prep.). Causal evidence for the roles of frontal and visual cortex in visual working memory recall of items in or out of focal attention. Pre-registered Report for *Nature Human Behavior*:

**Rose, N.S.** (in prep.) “Neuroscience of Naturalistic Behaviour: How the Brain Supports Prospective Memory in the Real World”. Invited submission by Ed. Sam Gilbert for a special issue in the Cognitive Neuroscience section of *Oxford Open Neuroscience*, Oxford University Press.

\*Nelson, N. A., Bergeman, C. S., & **Rose, N. S.** (in prep.). Cognitive enrichment through emotion regulation (CENTER): A theoretical framework of successful cognitive aging

McDonough, Ian M.; Snyder, Lacey L.; Hyu, Jinshil; Reohr, Paige; Muñoz, Elizabeth; Nelson, Niccole; & **Rose, N.S.** (in prep.) A Review on the Process from which Social Determinants of Health Impact Brain and Cognitive Health in Middle and Older Ages

## INVITED TALKS

- University of Geneva, Switzerland, Interfaculty Center for Gerontology and Vulnerability Studies, July 2024
- University of Leeds, England, International Conference on Working Memory, June 2024
- University of Edinburgh, Scotland, School of Philosophy, Psychology & Language Sciences, March 2024
- Indiana University-Bloomington, Department of Psychological and Brain Sciences, February 2024
- Colorado State University, Department of Psychology, January 2024
- Harvard University and M.I.T.’s joint [Brainmap Seminar](#) series at the Martinos Center for Biomedical Imaging, Massachusetts General Hospital, January 2023
- University of California, Santa Cruz, Department of Psychology, April 2022
- Iowa State University-Ames, Department of Psychology, March 2020
- Apple, Sunnyvale, CA, February 2020
- Exponent (Scientific Research Consulting Firm), Bellevue, WA, January 2020
- University of Michigan, Department of Psychology, December 2019
- Northwestern University, Mesulam Center for Cognitive Neurology and Alzheimer’s Disease, August 2019
- University of Texas-Austin, Department of Psychology, March 2019

- Rice University, Department of Psychology, Houston, January 2019
- Indiana University-Bloomington, Department of Psychology, October 2018
- University of Nevada-Reno, Core Outreach Workshop for EPSCoR grant (U. Nevada-Reno, U. Delaware, and U. Nebraska-Lincoln), July 2018
- University of Colorado-Boulder, Institute of Cognitive Science, March 2018
- Midwestern Psychological Association Meeting (Chicago), Invited Paper, May 2018
- University of Illinois-Chicago, Department of Psychology, December 2017
- Michigan State University, Department of Psychology, East Lansing, September 2017
- University of Wyoming, Laramie, Wyoming, Neuroscience Center, March 2017
- Purdue University, Department of Psychological Sciences, September 2016
- University of Geneva, Switzerland, Keynote Address at the July 2016 International Workshop on Prospective Memory
- Georgia Tech University, Atlanta, Georgia, Department of Psychology, March 2016
- University of North Carolina, Greensboro, Department of Psychology, February 2016
- University of Notre Dame, Department of Psychology, November 2015
- Monash University, Biomedical Imaging and Neuroscience Centre, Melbourne, Australia, June 2015
- Baycrest Hospital Research Rounds, Toronto, Canada, 2013
- Rotman Research Institute, fMRI Rounds, Toronto, Canada, 2013
- Lumos Labs, Inc., San Francisco, USA, 2013: “Cognitive training: A theory, a review, and the future.”
- University of California – Davis, USA, 2011
- Royal Canadian Legion, Toronto, Canada, 2011: “Memory and Aging”
- University of Toronto, Canada, Ebbinghaus Lecture Series, 2010
- University of British Columbia, International Conference on Prospective Memory, Vancouver, Canada, 2010
- University of Michigan, USA, Psychology Department Forum, 2009

### **TEACHING EXPERIENCE**

Neuroscience and Behavior Research Methods for Humans (with experiential learning Lab Tutorials on the acquisition and processing of MRI, TMS, EEG/ERP, and MRI-guided TMS with simultaneous EEG data), Professor, University of Notre Dame, Fall 2022, Fall 2023, Fall 2024 (median composite rating of 4.0/5)

Introduction to Cognitive Neuroscience, Professor, University of Notre Dame, Fall 2018, Spring 2019, Spring 2022, Spring 2023, Spring 2024 (median composite rating of 4.7/5)

Advanced Cognitive Neuroscience (Graduate Seminar), Professor, University of Notre Dame, Fall 2019, Fall 2021 (median composite rating of 4.8/5)

Cognitive Psychology, Professor, University of Notre Dame, Fall 2016, Spring 2017, Fall 2017, Spring 2018, Spring 2019, Spring 2022, Spring 2023, Spring 2024 (median composite rating of 5/5)

Cognitive Psychology, Guest Lecturer, University of Wisconsin-Madison, 2014

Psychological Statistics, Adjunct Professor, Washington University in St. Louis, 2009

Psychology of Aging, Guest Lecturer, Washington University in St. Louis, 2009, 2008

Experimental Psychology, Teaching Assistant, Washington University in St. Louis, 2008

Social Gerontology, Teaching Assistant, Washington University in St. Louis, 2007

### **THESES ADVISED**

2021-present: 1st Year Project and Masters Thesis Advisor, Chenlyngxi Xu, University of Notre Dame, “A Dual-Mechanisms of Control Account of Age-Differences in Working Memory”

2021-2022 – Senior Honors Thesis Advisor for Isaiah Metcalf, University of Notre Dame, College of Science, “*The Effects of Caffeine on Working Memory Capacity and Filtering Efficiency.*” Now a Medical School Student at The Ohio State University

2020-2021 – College of Science Senior Thesis Advisor, Josh Rhilinger, University of Notre Dame, “Are Irrelevant Items Actively Deleted from Visual Working Memory?: No Evidence from Repulsion and Attraction Effects in Dual-Retrocue Tasks.” Now the Neuroimaging Technical Coordinator, Translational Cognitive & Affective Neuroscience Lab, UC-Davis, CA.

2018-2019 – Glynn Family Honors Thesis Advisor, Joseph Weiler, University of Notre Dame, “How reliable and valid is the “Cognigram” for detecting sports-related concussion?”; now an Analyst at McKinsey & Co., Chicago, IL.

2017-2018 – Glynn Family Honors Thesis Advisor, Claire Alexander, University of Notre Dame, “How reliable and valid is the “Cognigram” for detecting sports-related concussion?” Now a Ph.D. student in Neuropsychology (Behavioral Research and Assessment In Neuropsychology (BRAIN) Lab) at Ohio U.

2017-2019 – 1st Year Project and Masters Thesis Advisor, Morgan Widhalm, University of Notre Dame, “Stimulating Visual Cortex Reactivates Latent Visual Working Memories.” Now Research and Partnerships Program Manager, Nanovic Institute.

2017-2019 – 1st Year Project and Masters Thesis Advisor, Nicholas Yeh, University of Notre Dame, “How can transcranial magnetic stimulation be used to affect episodic memory?: A systematic review and meta-analysis.” Now seeking employment in UX Research or Data Science in Los Angeles, CA.

*Thesis Committees:*

Seham Kafafi, M.A. Committee  
Rachelle Pichot, Ph.D. Committee  
Sean Dageforde, M.A. & Ph.D. Committee  
Yanran Chen, M.A. Committee  
Jamie Trost, M.A. Committee  
Adam Vilanova-Goldstein, M.A. & Ph.D. Committee  
Kevin Schieman, Ph.D. Committee  
Niccole Nelson, M.A. Committee  
Joseph Pauszek, Ph.D. Committee  
Daniel Schor, Ph.D. Committee  
Jerry Fisher, Ph.D. Committee  
Katherine Ralph, Ph.D. Committee  
Abigail Csik Doolen, M.A. Committee  
Andrea Kalchik O’Rear, Ph.D. Committee  
Andrew Clements, Ph.D. Committee  
Kristina Krasich, M.A. Committee  
Steven Mattingly, Ph.D. Committee

**SUPERVISION**

***Notre Dame***

2021-present Chenlyngxi Xu, PhD student in Cognition, Brain, & Behavior, University of Notre Dame

2023-2024 Justine Fragetta, MA student in Cognition, Brain, & Behavior, University of Notre Dame

2023-2024 Summer Undergraduate Research Fellowship Advisor, Melanie Benitez, University of Notre Dame, College of Science

2021-2023 Dr. Chang-Mao Chao, Postdoctoral Fellow, University of Notre Dame; now a Postdoctoral Fellow in Lani Bennett Lab of Aging and Neurocognitive Imaging, UC-Riverside

2021-2022 Senior Honors Thesis and Summer Undergraduate Research Fellowship  
Advisor, Isaiah Metcalf, University of Notre Dame, College of Science; now in  
Medical School and The Ohio State University

2018-2019 Postdoctoral Co-Advisor, Pedro Sztybel, Postdoctoral Fellow in the Snow Lab  
at U. Nevada, Reno.

*Postbaccalaureate Research Assistant Lab Managers now in Graduate School:*

Joseph Saito -- Ph.D student in Cognitive Neuroscience, Fukuda Lab, University of  
Toronto-Mississauga

Jori Waner -- Ph.D. student Neuropsychology, Woods Brain Stimulation Lab, University  
of Florida

Zengbo Xie -- PhD student in Cognition and Cognitive Neuroscience, Woodman Brain  
Lab, Vanderbilt University

*Research Assistants in Graduate School programs:*

Willian DeFaria -- MD/PhD URM Prep Program in Biology & Neuroscience, Kanwisher  
Lab, M.I.T.

Monica Mesecar -- MD/Ph.D. PREP Scholar program, Jenkins Neuropsychiatric &  
Neurodevelopmental Diseases Lab, University of Michigan

Claire Alexander -- Ph.D. student in Clinical Neuropsychology at Ohio University

*Research Assistants now in Biomedical / Health Research:*

Lauren Crowe -- TMS Technician at Stanford University Medicine's Brain Stimulation  
Clinic

Lauren Sanderson -- TMS Technician at Harvard University's Center for Brain Circuit  
Therapeutics, Department of Neurology, Brigham and Women's Hospital

Josh Rhilinger -- Neuroimaging Technical Coordinator, Translational Cognitive &  
Affective Neuroscience Lab, UC-Davis, CA.

Margaret Meserve -- MS in Genetic Counseling from Boston U.; now Genetic Counselor  
Yu Lab, Harvard Medical School, Boston Children's Hospital

Mary Glass -- MS in Clinical Neuroscience, National University of Ireland Galway; now  
In Vivo Operations Leader, Ulysses Neuroscience Limited

Clare Hannon -- now a Consultant, Epic Healthcare Consulting Service

Stephanie Franczak -- clinical research assistant at the Medical College of Wisconsin,  
ALS neuromuscular research program

Joseph Weiler -- Business Analyst, McKinsey & Company

Katie McGuckin -- Abbvie Clinical Trial Operations Development Program

*Research Assistants in Medical School:*

Mario-Cyriac Tcheukado -- Cleveland Clinic Lerner College of Medicine

Isaiah Metcalf -- The Ohio State University College of Medicine

Frank Calabrese -- University of Cincinnati Medical School

Yuki Yoshioka -- University of Swansea Medical School

Shannon O'Hara -- Drexel University College of Medicine.

Taylor Guth -- Medical Student, University of South Florida

*Postdoctoral Fellow:*

Dr. Chang-Mao Chao -- now an Assistant Professor and Principal Investigator of his own lab at the University of Taiwan; formerly a Postdoctoral Fellow in Lani Bennett's Lab of Aging and Neurocognitive Imaging, UC-Riverside

***Pre-Notre Dame***

2015-2016, Post-baccalaureate Research Advisor, Nick Koleits, "*Is tDCS even doing anything?*": *Effects on working memory performance and brain activity simultaneously recorded with optical neuroimaging*, Australian Catholic University.

2015-2016, PhD Dissertation Co-Advisor, Susan Randall, "*Age Differences in Prospective Memory: Laboratory versus Naturalistic Settings*," Australian Catholic University

2015-2016, Masters Thesis Advisor, Sarah Gatt, Australian Catholic University

2015-2016, Honours Thesis Advisor, James Shadrach, Renee Vella, Australian Catholic University.

2013-2014, Biology 152 Independent Research Project Advisor, Emma Meyering, "*Are items in working memory, but outside focal attention, stored via long-term memory mechanisms?*" University of Wisconsin-Madison

2013-2014, Post-baccalaureate Research Project, Michael Starrett, "*Behavioral and EEG effects of rTMS on recall of items inside versus outside the focus of attention*," University of Wisconsin-Madison.

2011-2012, Visiting Ph.D. Student Project Advisor, Alexandra Hering, "*Ecological validity: The Assessment of Prospective Memory In and Outside the Lab*," University of Geneva / University of Toronto. Now Assistant Professor of Psychology, Tilburg University, Netherlands

2011-2013, Buchsbaum Lab, University of Toronto Research Assistants: Sabrina Lemire-Rodger, Ashley Bondad

2010 – 2013, Craik Lab University of Toronto Research Assistants: Karen Lau, Jenna Ware, Julia Czyzo, Darya Gaydukevych

2006 – 2010, Hale/Myerson Lab, Washington University in St. Louis Research Assistants: Kalin Guebert, Danielle Alvarez, Denise Rose, Matt Robbins

2005 – 2007, Sommers Lab, Washington University in St. Louis Research Assistants: Linden Weiswerda, Molly Ruben, Diana Smith

## **RESEARCH EXPERIENCE**

- 2016-present: Director of the *Cognitive Neuroscience of Memory & Aging Laboratory*, University of Notre Dame
- 2017-present: Co-Director of the *Virtual Reality Laboratory*, Department of Psychology, University of Notre Dame
- 2023-2024: Director of the Cognition, Brain, and Behavior PhD Program, Department of Psychology, University of Notre Dame
- 2015-2016: Associate Investigator, Australian Research Council Centre of Excellence in Cognition and Its Disorders, Macquarie University, Australia
- 2013-2015: Research Associate, Postle Lab, Department of Psychiatry, University of Wisconsin-Madison
- 2013: ERP Bootcamp with Dr. Steven Luck, University of California–Davis
- 2010-2013: Postdoctoral Fellow, Craik Lab and Buchsbaum Lab, Rotman Research Institute of Baycrest Centre for Geriatric Care and University of Toronto, Toronto, Ontario
- 2005-2010: Research Assistant, Sommers Lab, Hale/Myerson Lab, McDaniel Lab, Roediger Lab
- 2005-2006: Project Director, NIA grant AG022448, Principal Investigator: Sandra Hale, “*Listening Comprehension across the Adult Lifespan*”
- 2003-2004: Research Assistant, Sommers Speech and Hearing Lab, Psychology Department, Washington University in St. Louis
- 2003-2004: Research Assistant, Balota, Cognitive Lab, Psychology Department, Washington University in St. Louis
- 2003-2004: Research Assistant, Stern, Psychophysiology Lab, Psychology Department, Washington University in St. Louis

## **REVIEWERSHIP**

### **Study Section/Panel Review:**

*National Institutes for Health (NIH), Human Complex Mental Function Panel*



*National Science Foundation (NSF) BCS Division, CogNeuro Program x2  
NSF Graduate Research Fellowship Program*

**Consulting Editor:**

*Journal of Experimental Psychology: Learning, Memory, & Cognition  
Frontiers in Human Neuroscience - Brain Imaging and Stimulation*

**Ad-hoc Reviewer:**

**-Funding Agencies**

*Australian Research Council (ARC)*

*Canadian National Science and Engineering Research Council (NSERC)*

*National Science Foundation (NSF)*

*Swiss National Science Foundation (SNSF)*

**-Peer Reviewed Journals**

*Acta Psychologica*

*Advances in Cognitive Psychology*

*Aging, Neuropsychology and Cognition*

*Annals of the New York Academy of Sciences*

*Applied Memory Research*

*Behavioral Neuroscience*

*Brain & Behavior*

*Brain Stimulation*

*Brain Topography*

*British Journal of Clinical Psychology*

*British Journal of Educational Psychology*

*Canadian Journal of Experimental Psychology*

*Cerebral Cortex*

*Child Neuropsychology*

*Cognition*

*Cognitive Neuroscience*

*Cognitive Psychology*

*Cortex*

*Experimental Brain Research*

*Frontiers in Human Neuroscience*  
*Gerontology*  
*International Journal of Psychophysiology*  
*Journal of Applied Research on Memory and Cognition*  
*Journal of Clinical and Experimental Neuropsychology*  
*Journal of Cognitive Enhancement*  
*Journal of Cognitive Neuroscience*  
*Journal of Cognitive Psychology*  
*Journal of Experimental Child Psychology*  
*Journal of Experimental Psychology: General*  
*Journal of Experimental Psychology: Human Perception and Performance*  
*Journal of Experimental Psychology: Learning, Memory, and Cognition*  
*Journal of Gerontology: Psychological Sciences*  
*Journal of the International Neuropsychological Society*  
*Journal of Memory and Language*  
*Journal of Neuroscience*  
*Memory*  
*Memory & Cognition*  
*Neurobiology of Aging*  
*NeuroImage*  
*Neuropsychologia*  
*Neuropsychological Rehabilitation*  
*Perspectives on Psychological Science*  
*PLoS One*  
*Psychological Science*  
*Psychology and Aging*  
*Psychonomic Bulletin and Review*  
*Psychophysiology*  
*Quarterly Journal of Experimental Psychology*  
*Science*  
*The European Journal of Cognitive Psychology*  
*Trends in Cognitive Science*

## **PROFESSIONAL MEMBERSHIPS**

Psychonomic Society, 2006-2011 (Student Member), 2011-2013 (Associate member), 2013-present (Fellow), 2023 (Graduate Conference Awards Committee)

Cognitive Neuroscience Society, 2009-present

Society for Neuroscience, 2013-present

Association for Psychological Science, 2009-present

Society for Applied Research on Memory and Cognition, 2019-present

SPARK Society (to create networks and promote the professional development of historically excluded scholars of African American/Black, Latina/o/e American, and Native American heritage in Cognitive Psychology and Cognitive Science), 2023-present

## **PRESENTATIONS AT NATIONAL & INTERNATIONAL MEETINGS**

Fragetta, Justine; Benítez, Melanie; Chao, Chang-Mao; Xie, Zengbo; Henrickson, Daniel; Xu, Chenlingxi; Bormann, Luke; & Rose, Nathan. (2024). Brain and Behavioral Differences in Working Memory Updating Between Healthy Young and Older Adults. Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, Toronto, Ontario.

Rose, Nathan S., Xu, Chenlingxi; & Chao, Chang-Mao. (2023). A Dual Mechanisms of Control Account of Age Differences in Working Memory. Poster presented at the 64th Annual Meeting of the Psychonomic Society, San Francisco.

Xu, C., Xie, Z., Samaha, J., & Rose, N.S. (2023). Assessing the causal roles of neuroimaging correlates of working memory: A TMS-EEG study of the sensory recruitment hypothesis. Poster presented at the 64th Annual Meeting of the Psychonomic Society, San Francisco.

Rose, Nathan S., Xu, Chenlingxi; & Chao, Chang-Mao. (2022). A Dual Mechanisms of Control Account of Age Differences in Working Memory. Paper presented at the Midway Meeting of the Memory Minds, University of Chicago.

Rose, Nathan S.; Chao, Chang-Mao; Xu, Chenlingxi & Loaiza, Vanessa (2022). Are latent working memory items retrieved from long-term memory? Paper presented at the 63rd Annual Meeting of the Psychonomic Society, Boston.

Chao, Chang-Mao; Xie, Zengbo; Henrickson, Daniel; Xu, Chenlingxi; Koen, Joshua; & Rose, Nathan S. (2022). Neural and Behavioral Measures of Working Memory Updating in Healthy Older Adults with Alzheimer's Disease Biomarkers. Poster presented at the 63rd Annual Meeting of the Psychonomic Society, Boston.

Xu, Chenlingxi; Chao, Chang-Mao; & Rose, Nathan S. (2022). A Dual Mechanisms of Cognitive Control Account of Age Differences in WM. Poster presented at the Paper presented at the 63rd Annual Meeting of the Psychonomic Society, Boston.

- Chao, Chang-Mao; Xie, Zengbo; Henrickson, Daniel; Xu, Chenlingxi; Koen, Joshua; & Rose, Nathan S. (2022). Neural and Behavioral Measures of Working Memory Updating in Healthy Older Adults with Alzheimer's Disease Biomarkers. Paper presented at the Virtual Working Memory Symposium; 2022 June; Online.
- Xu, Chenlingxi; Chao, Chang-Mao; & Rose, Nathan S. (2022). A Dual Mechanisms of Cognitive Control Account of Age Differences in WM. Paper presented at the Virtual Working Memory Symposium; 2022 June; Online.
- Metcalf, I.J., & Rose, N.S. 2022. The Effects of Caffeine on Working Memory Capacity and Filtering Efficiency. Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Xie, Z., Samaha, J., & Rose, N.S. (2021). Reactivating Latent Working Memory with TMS to Visual Cortex. Poster presented at the Annual Meeting of the Society for Neuroscience, Chicago, IL.
- Rose, N.S. (2021, August). Using Immersive Virtual Reality Gameplay to Assess Age Differences in Naturalistic Prospective Memory. Invited Paper presented at the International Prospective Memory Workshop; 2021 August; Online.
- Rhilinger, J.P. & Rose, N.S. (2021, June). Are irrelevant items actively deleted from visual working memory? No evidence from repulsion effects in dual retrocue tasks. Paper presented at the Virtual Working Memory Symposium; 2021 June; Online.
- Chao, C-M & Rose, N.S. (2021, June). Effects of reactivating latent working memory on age differences in working memory and subsequent long-term memory. Paper presented at the Virtual Working Memory Symposium; 2021 June; Online.
- Rose, N.S. (2021, April). "They Forgot Their "Baby"?!: Factors that Cause Students to Forget Their Cell Phone". Invited Paper presented at the International Prospective Memory Symposium; 2020 April; Online.
- Rose, N.S. (2020, December). "My brain made me do it!": The consequences and culpability of prospective memory errors. Invited Paper presented at the Annual Meeting of the Southern Society for Philosophy and Psychology; 2020 December 19; Online.
- Rhilinger, J.P., Waner, J.L., & Rose, N.S. (2020, November). Revealing the causal roles of visual and frontal cortex in recovering latent visual working memories with non-invasive brain stimulation. Paper presented at the 61st Annual Meeting of the Psychonomic Society; 2020 November 19; Online.
- Rose, N.S. (2020, September). "Using brain stimulation to enhance prospective memory". 1 of 3 International Experts invited to present for the Virtual Workshop on Prospective Memory and Brain Stimulation sponsored by the University of Geneva; 2020 September 30; Online.
- Waner, J.L., Rhilinger, J.P., Metcalf, I.J., & Rose, N.S. (2020, June). Trigger My Memory: How rTMS to visual and frontal cortex impacts latent visual working

- memory representations. Paper presented at the Virtual Working Memory Symposium; 2020 June 4; Online.
- Rose, N.S., Yeh, N., & Widhalm, M. (2019). How to use transcranial magnetic stimulation to modulate and measure memories in humans? Co-Organizer and Chair of Nanosymposium for the Annual Meeting of the Society for Neuroscience, Chicago, IL.
- Widhalm, M., Samaha, J., & Rose, N.S. (2019). TMS to Visual Cortex Reactivates Unattended Representations Held in Visual Working Memory. Poster presented at the Annual Meeting of the Society for Neuroscience, Chicago, IL.
- Yeh, N., Rose, N.S., Koen, J., Kim, S., Kensinger, E., & Payne, J. & (2019). Flipping the emotional switch: The role of the mPFC in the emotional memory trade-off effect. Poster presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Rose, N.S. (2019). The association between age and individual differences in prospective memory and working memory depends on task context: evidence from performance in real and virtual environments. Invited paper to be presented at the annual meeting of the European Society for Cognitive Psychology, Tenerife, Spain.
- Rose, N.S. (2019). Twenty years of the “Age - Prospective Memory Paradox”: Still unsolved? Invited paper presented at the biennial meeting of the Society for Applied Research on Memory and Cognition, Cape Cod, MA.
- Weiler, J. & Rose, N.S. (2019). Test-Retest and Construct Validity of the Cognigram Computerized Concussion Assessment Tool in Amateur Women’s Boxing. Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Miller, Jacob A., Scimeca, Jason, Rose, Nathan S., & D’Esposito, Mark. (2018). Attentional effects on working memory representations: comparing information-detection techniques and metrics. Poster presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Widhalm, M. & Rose, N.S. (2018). Can TMS to Visual Cortex Reactivate Unattended Representations Held in Visual Working Memory? Paper presented in a Nanosymposium at the Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Yeh, N., Kim, S., Payne, J. & Rose, N.S. (2018). Medial PFC has a causal role in selectively enhanced consolidation of emotional memories: a TMS-EEG study. Poster presented at the Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Saito, J. & Rose, N.S. (2018). Validation of Virtual Reality for Measuring Prospective Memory in Young and Older Adults. Poster presented at the Annual Meeting of the Association for Psychological Science, San Francisco, CA.

- Widhalm, M. & Rose, N.S. (2018). Can TMS to Visual Cortex Reactivate Unattended Representations Held in Visual Working Memory? Poster presented at the Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
- Rose, N.S., Meserve, M., Alexander, C., Kehoe, K., & Brockmole, J.R. (2018). Effects of concussion on Cognigram and experimental measures of neurocognition. Midwestern Psychological Association, Chicago, IL.
- Rose, N.S., Csik, A.M. & O'Rear, A.E. (2018). They forgot their "baby"! Incidental encoding causes students to forget their mobile phones. International Conference on Prospective Memory, Melbourne, Australia.
- Rose, N.S., Szpunar, K.K., Goodin, P., Rendell, P.G., & Schacter, D.L. (2018). Discriminating between the past and future: Evidence from multi-voxel pattern analysis in younger and older adults. International Conference on Prospective Memory, Melbourne, Australia.
- Rose, N.S. (2017). "The Dynamic Processing Model of Working Memory". The 58<sup>th</sup> Annual meeting of the Psychonomic Society, Vancouver, CA.
- Rose, N.S. Szpunar, K.K. Maillet, D. Postle, B.R. & Schacter, D.L. (2017). Multi-Voxel Pattern Analysis Reveals both Similarities and Differences Between Imagining the Future and Remembering the Past. Paper presented at the Pattern Recognition in Neuroimaging Conference, Toronto, ON.
- Rose, N.S., Szpunar, K.K., Goodin, P., Rendell, P.G., & Schacter, D.L. (2016). "Decoding the content of thought in younger and older Adults during remembering and imagining". Paper presented at the 6<sup>th</sup> International Conference on Memory, Budapest, Hungary.
- Rose, N.S. (2016). How to Help Older Adults Remember to Remember Better? Paper presented at the Cognitive Aging Conference, Atlanta, GA.
- Rose, N.S., LaRocque, J., Riggall, A., Gosseries, O., Starrett, M. & Postle, B.R. (2016) "Can transcranial magnetic stimulation bring passively retained items in short-term memory back into focal attention?" Poster presented at the 23<sup>rd</sup> Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- Rose, N.S. Szpunar, K.K. Maillet, D. Postle, B.R. & Schacter, D.L. (2015). Similarities and Differences Between Imagining the Future and Remembering the Past: Evidence From Multi-voxel Pattern Analysis. Paper presented at the 56<sup>th</sup> Annual Meeting Psychonomic Society, Chicago, IL.
- Rose, N.S., Meyering, E.E., Baker, S., Rosenbaum, R. S., Dang, C., Buchsbaum, B., & Postle, B.R. (2015). Neuroimaging and Neuropsychological Evidence for Different States of Representation in Working Memory. Poster presented at the 56<sup>th</sup> Annual Meeting of the Psychonomic Society, Chicago, IL.
- Rose, N.S., Meyering, E.E., Baker, S., Rosenbaum, R. S., Dang, C., Buchsbaum, B., & Postle, B.R. (2015). Are items in working memory stored with long-term memory

- mechanisms? Poster presented at the 22<sup>nd</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Rose, N.S., LaRocque, J., Riggall, A., Gosseries, O., & Postle, B.R. (2014) Evidence for a synaptic theory of working memory: An fMRI/EEG/TMS study. Paper presented at the 55<sup>th</sup> Annual Meeting Psychonomic Society, Long Beach, CA.
- Rose, N.S., LaRocque, J., Riggall, A., Gosseries, O., & Postle, B.R. (2014) Evidence for a synaptic theory of working memory: An fMRI/EEG/TMS study. Paper presented at the Annual Meeting of the Society for Neuroscience, Washington D. C.
- Rose, N.S., LaRocque, J., Riggall, A., Gosseries, O., & Postle, B.R. (2014) How are attended and unattended items in short term memory represented? A fMRI/EEG/TMS study. Poster presented at the 21<sup>st</sup> Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
- Rose, N.S., Craik, F. I. M. & Buchsbaum, B. (2013). Levels of Representations in Working Memory. Paper presentation at the Annual Meeting of the Society for Neuroscience, San Diego, CA.
- Rose, N.S., Craik, F. I. M. & Buchsbaum, B. (2013). Similarities and Differences in the Cognitive Processes and Neural Substrates that Support Working Memory and Long-Term Memory. Poster presented at the 20<sup>th</sup> Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Rose, N.S., Craik, F. I. M. & Buchsbaum, B. (2012). Similarities and Differences in the Cognitive Processes and Neural Substrates that Support Working Memory and Long-Term Memory. Paper presented at the 53<sup>rd</sup> Annual Meeting of the Psychonomic Society, Minneapolis, MN.
- Rose, N.S., Craik, FIM, Hering, A, Rendell, PG, Moreno, S, Bidelman, GM, & Kliegel, M (2012). Cognitive and Neural Plasticity in Older Adults' Prospective Memory Following Training on the Virtual Week Computer Game. Abstract for poster presented at the 53<sup>rd</sup> Annual Meeting of the Psychonomic Society, Minneapolis, MN.
- Rose, N.S., Butler, A., Nunes, L. & Roediger, H. L. III (2012). Variability and Testing During Learning: Redundant or Additive Effects? Abstract for poster presented at the 53<sup>rd</sup> Annual Meeting of the Psychonomic Society, Minneapolis, MN.
- Rose, N.S., Craik, FIM, Hering, A, Rendell, PG, Moreno, S, Bidelman, GM, & Kliegel, M (2012). Training Older Adults' Prospective Memory with the Virtual Week Video Game. Abstract for poster presented at the 2012 Cognitive Aging Conference, Atlanta, GA.
- Hering, A., Rose, N.S., Craik, F.I.M., Rendell, P.G., Moreno, S., Bidelman, G.M., & Kliegel, M. (2012). Differential predictors of prospective memory performance in old age: Laboratory and naturalistic tasks are associated with different cognitive processes. Paper presented at the Cognitive Aging Conference, Atlanta, Georgia.

- Shelton, J., Scullin, M., Lee, J., Rose, N.S., Rendell, P., & McDaniel, M. (2012). Implementation intentions boost prospective memory in healthy and very mildly demented older adults. Paper presented at the Cognitive Aging Conference, Atlanta, Georgia.
- Rose, N.S., Olsen, R. K., Craik, F. I. M., & Rosenbaum, R. S. (2012). Working Memory and Amnesia: The Role of Stimulus Familiarity. Abstract for poster presentation, Cognitive Neuroscience Society Meeting, Chicago, IL.
- Rose, N.S. (2012). "Prospective Memory during a Virtual Week in Healthy Aging, Parkinson's Disease, and Alzheimer's Disease" for National Alzheimer's Awareness Month, Baycrest Hospital, Toronto, ON
- Rose, N.S., Craik, F. I. M. & Buchsbaum, B. (2011). Similarities and Differences between Working Memory and Long-Term Memory: Evidence from Levels-of-Processing Effects on Working Memory. Paper presented at the 52<sup>nd</sup> Annual Meeting of the Psychonomic Society, Seattle, WA.
- Craik, F. I. M., Rose, N.S., & Gopie, N. (2011). Reducing encoding resources paradoxically boosts memory on an explicit test without awareness. Paper presented at the 52<sup>nd</sup> Annual Meeting of the Psychonomic Society, Seattle, WA.
- Rose, N.S., Olsen, R. K., Rosenbaum, R. S., & Craik, F. I. M. (2011). Working Memory and Amnesia: The Role of Stimulus Familiarity. Abstract for poster presentation, International Conference on Memory, York, UK.
- Rose, N.S., Olsen, R. K., Rosenbaum, R. S., & Craik, F. I. M. (2011). Amnesia impairs maintenance of a single face for just one second, unless it's Paris Hilton. Abstract for poster presentation, Cognitive Neuroscience Society Meeting, San Francisco, CA.
- Gopie, N., Rose, N.S., & Craik, F. I. M. (2010). Reducing encoding resources paradoxically boosts memory on an explicit test without awareness. Abstract for poster presentation, 51<sup>st</sup> Annual Meeting of the Psychonomic Society, St. Louis, MO.
- Rose, N.S., Roediger, H. L. III, & Myerson, J. (2010). A processing approach to the working memory/long-term memory distinction: Evidence from a levels-of-processing span task. Abstract for poster presentation, 51<sup>st</sup> Annual Meeting of the Psychonomic Society, St. Louis, MO.
- Agarwal, P., Rose, N.S., & Roediger, H. L. III. (2010). Testing levels the playing field for students with lower working memory capacity. Abstract for poster presentation, 51<sup>st</sup> Annual Meeting of the Psychonomic Society, St. Louis, MO.
- Rose, N.S., Foster, E. T., McDaniel, M. A., & Rendell, P. G. (2010). Prospective memory in Parkinson disease and healthy aging during a Virtual Week. Abstract for poster presentation, Cognitive Aging Conference, Atlanta, GA.
- Tamez, E., Hale, S. Myerson, J., Rose, N.S., Sommers, M., Tye-Murray, N., & Spehar, B. (2010). Predicting fluid intelligence and listening comprehension across the adult



- lifespan. Abstract for poster presentation, Cognitive Aging Conference, Atlanta, GA.
- Rose, N.S., Foster, E. T., McDaniel, M. A., & Rendell, P. G. (2010). Prospective memory in Parkinson disease and healthy aging during a Virtual Week. *Frontiers in Human Neuroscience*. Conference Abstract: The 20th Annual Rotman Research Institute Conference, The Frontal Lobes.
- Rose, N.S., McDaniel, M.A., Rendell, P. (2009). Age and individual differences in prospective memory during a “Virtual Week”. Abstract for poster presentation, The 21<sup>st</sup> Annual Convention of the Association for Psychological Science, San Francisco, California.
- Rose, N.S., Hale, S. Myerson, J., Sommers, M., Tye-Murray, N., & Spehar, B. (2009). The structure of working memory abilities in younger and older adults: Age invariance regardless of scoring method. Abstract for poster presentation, The 19<sup>th</sup> Annual Rotman Research Institute Conference, Toronto, Ontario.
- Rose, N.S., Myerson, J., Roediger, H.L., III., & Hale, S. (2008). Working memory, secondary memory, and long-term memory: Insights from the levels-of-processing span task. Paper presented at the 49<sup>th</sup> Annual Meeting of the Psychonomic Society, Chicago, IL.
- Hale, S. Myerson, J., Sommers, M., Tye-Murray, N., Spehar, B. & Rose, N.S. (2008). Modeling Spoken Discourse Comprehension across the Adult Lifespan. Abstract for poster presentation, 49<sup>th</sup> Annual Meeting of the Psychonomic Society, Chicago, IL.
- Rose, N.S., Myerson, J., Roediger, H.L., III., & Hale, S. (2008). Working memory, secondary memory, and long-term memory: Insights from the levels-of-processing span task. Paper presented at the Show-Me Mental State Conference. University of Missouri.
- Rose, N.S., Myerson, J., Roediger, H.L., III., & Hale, S. (2008). Does Depth of Processing Affect Memory for Items From Working Memory Tasks? Paper presented at the 20<sup>th</sup> Annual Convention of the Association for Psychological Science, Chicago, Illinois.
- Rose, N.S., McDaniel, M.A., Rendell, P. (2008). Age and Individual Differences in Prospective Memory During a “Virtual Week”: The Role Working Memory, Vigilance, Task-Habituation, and Cue-Focality. Abstract for poster presentation, Cognitive Aging Conference, Atlanta, Georgia.
- Rose, N.S., Hale, S. Myerson, J., Sommers, M., Tye-Murray, N., & Spehar, B. (2008). Working Memory Ability across the Adult Life-Span. Abstract for poster presentation, Cognitive Aging Conference, Atlanta, Georgia.
- Hale, S. Myerson, J., Sommers, M., Tye-Murray, N., Spehar, B. & Rose, N.S., (2008). Spoken Discourse Comprehension across the Adult Lifespan. Abstract for poster presentation, Cognitive Aging Conference, Atlanta, Georgia.

- Rose, N.S., McDaniel, M.A., Rendell, P. (2007). Prospective Memory in a Virtual Week. Paper presented at the Cognitive Aging Conference, Adelaide, South Australia.
- Rose, N.S., Myerson, J., Roediger, H.L., III., & Hale, S. (2007). Depth of Processing Differentially Affects Working Memory and Long-Term Memory. Abstract for poster presentation, 48<sup>th</sup> Annual Meeting of the Psychonomic Society, Long Beach, California.
- Rose, N.S., Hale, S. Myerson, J., Sommers, M., Tye-Murray, N., & Spehar, B. (2006). Development of the LISN Test for Assessing Spoken Discourse Comprehension across the Adult Life-Span. Paper presented at the Auditory Perception and Cognition for Action Meeting, Houston, Texas.
- Rose, N.S., Myerson, J., Sommers, M., & Hale, S. (2006). Interference effects in working memory: Differences due to age and task complexity. Abstract for poster presentation, Cognitive Aging Conference, Atlanta, Georgia.
- Rose, N.S., Myerson, J., Sommers, M., & Hale, S. (2005). The effects of domain specific rehearsal suppression on working memory. Paper presented at the Show-Me Conference, University of Missouri.