




Brady R. T. Roberts, PhD

Curriculum Vitae

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 @bradytrroberts

Research Interests

- Improving memory
- Symbolism in the brain
- Imaging cognition
- Advanced meta-analysis

Teaching Interests

- Research in memory
- Brain physiology
- Methods and statistics
- Introductory psychology

Academic Appointments & Education

Postdoctoral Scholar, Department of Psychology Fellow, Institute for Mind and Biology University of Chicago Advisor: Wilma Bainbridge, PhD	2023 – present
Doctor of Philosophy, Cognitive Neuroscience Department of Psychology, University of Waterloo Advisors: Myra Fernandes, PhD & Colin MacLeod, PhD	2019 – 2023
Master of Arts, Cognitive Neuroscience Department of Psychology, University of Waterloo Advisors: Myra Fernandes, PhD & Colin MacLeod, PhD	2017 – 2019
Honours Bachelor of Arts, Psychology (Research Intensive Specialization) Minor in Human Resource Management Department of Psychology, University of Waterloo Advisors: Myra Fernandes, PhD & Jeffrey Wammes	2013 – 2017

Additional Research Experience

Database Coordinator Waterloo Research in Aging Participants (WRAP) University of Waterloo	2017 – 2023
Survey Field Researcher City of Waterloo	2019
NSERC USRA Student Researcher Cognitive Neuroscience Lab Department of Psychology, University of Waterloo	2017
Research Assistant Cognitive Neuroscience Lab Department of Psychology, University of Waterloo	2013 – 2017

Research Funding (\$233,500 total lifetime funding)

Postdoctoral Fellowship (PDF) Natural Sciences and Engineering Research Council of Canada (NSERC)	\$90 000 2023 – 2025
Postgraduate Scholarship-Doctoral (PGS-D3) Natural Sciences and Engineering Research Council of Canada (NSERC)	\$63 000 2020 – 2023
Ontario Graduate Scholarship (OGS) [award offer declined] Province of Ontario	\$15 000 2020 – 2021
President's Graduate Scholarship University of Waterloo	\$20 000 2019 – 2023
Ontario Graduate Scholarship (OGS) Province of Ontario	\$15 000 2019 – 2020
Graduate Scholarship / Arts Senate Graduate Scholarship University of Waterloo	\$26 000 2017 – 2019
Undergraduate Student Research Award (USRA) Natural Sciences and Engineering Research Council of Canada (NSERC)	\$4 500 2017

Publications

Peer-Reviewed Publications (13 total; 11 as first author)

1. Fawcett, J.M., Levy, B.J., Bergström, J.B., Clark, C.A., Hertel, P.T., Hulbert, J.C., MacLeod, C.M., Todorovic, D., van Schie, K., & The Memory Control Consortium (accepted in principle). A multisite registered replication of the think/no-think effect. *Nature Human Behaviour*.
2. Roberts, B.R.T., Meade, M.E., & Fernandes, M.A. (2024). Neural integration of multimodal memories following drawing: An fMRI study. *Memory & Cognition*. [DOI]
3. Roberts, B.R.T., Forrin, N.D., McLean, D., & MacLeod, C.M. (2024). Release from response interference in color-word contingency learning. *Acta Psychologica*, 244, 104187. [DOI]
4. Roberts, B.R.T. & Trossman, R. (2024). Face processing in ADHD: A review of the N170 event-related potential. *Canadian Journal of Experimental Psychology*, 78(1), 36–49. [DOI]
5. Roberts, B.R.T., Hu, Z.S., Curtis, E., Bodner, G.E., McLean, D., & MacLeod, C.M. (2024). Reading text aloud benefits memory but not comprehension. *Memory & Cognition*, 52(1), 57–72. [DOI]
6. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2023). Symbol superiority: Why \$ is better remembered than ‘dollar’. *Cognition*, 238, 105435. [DOI]
7. Roberts, B.R.T., Fernandes, M.A., & MacLeod, C.M. (2023). Memory for symbolic images: Findings from sports team logos. *Journal of Applied Research in Memory and Cognition*, 12(4), 589–596. [DOI]
8. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2022). The enactment effect: A systematic review and meta-analysis of behavioral, neuroimaging, and patient studies. *Psychological Bulletin*, 148(5-6), 397-434. [DOI]
9. *Homann, L.A., *Roberts, B.R.T., Ahmed, S., Fernandes, M. A. (2022). Are emojis processed visuo-spatially or verbally? Evidence for dual codes. *Visual Cognition*, 30(4), 267-279. * Both authors contributed equally to this work. [DOI]
10. Roberts, B.R.T. & Wammes, J.D. (2021). Drawing and memory: Using drawing to alleviate concreteness effects. *Psychonomic Bulletin & Review*, 28(1), 259-267. [DOI]
11. Roberts, B.R.T., Fernandes, M.A., & MacLeod, C.M. (2020). Re-evaluating whether bilateral eye movements influence memory retrieval. *PLOS One*, 15(1), e0227790. [DOI]
12. Roberts, B.R.T., Wammes, J.D., & Fernandes, M.A. (2020). Drawing with your eyes: Comparable memory benefits for oculomotor and manual-motor drawing. *Mind Pad*, 9(1), 3-7. [DOI]
13. Wammes, J.D., Roberts, B.R.T., & Fernandes, M.A. (2018). Task preparation as a mnemonic: The benefits of drawing (and not drawing). *Psychonomic Bulletin & Review*, 25(6), 2365–2372. [DOI]

Articles Submitted or Under Review (4 articles; 2 as first author)

1. Tharumalingam, T., Roberts, B.R.T., & Risko, E.F. (invited revision submitted). On increasing video lecture playback speed: A meta-analysis. *Educational Psychology Review*.
2. *Roberts, B.R.T., *Pruin, J., Bainbridge, W.A., Rosenberg, M.D., & deBettencourt, M.T. (invited revision submitted). Memory augmentation with an adaptive cognitive interface. *Psychonomic Bulletin & Review*. * Both authors contributed equally to this work.
3. Roberts, B.R.T., Tran, S.H.N., & Fernandes, M.A. (submitted). Symbolism itself does not boost memory: Evidence from the periodic table of elements. *Scientific Reports*.
4. Sivashankar, Y., Roberts, B.R.T., & Fernandes, M.A. (submitted). Integration of memory representations is key to the enactment benefit: Insights from stroke patients. *Neuropsychologia*.

Presentations

Invited Symposium Presentations (4 invited presentations; all as first author)

1. Roberts, B.R.T. & Bainbridge, W.A. (accepted). *The memorability of everyday symbols*. Attention & Perception Seminar, University of Illinois Urbana-Champaign, Champaign, Illinois, Feb 25, 2025.
2. Roberts, B.R.T. & Bainbridge, W.A. (accepted). *Visual features drive intrinsic memorability for abstract symbols*. 52nd annual meeting of the Society for Neuroscience (SfN), Chicago, Illinois, October 2024.
3. Roberts, B.R.T., Hu, Z.S., McLean, D., & MacLeod, C.M. (2022). *Does production of text benefit both comprehension and memory?* 32nd annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), Halifax, Nova Scotia, July 19, 2022.
4. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2021). *The enactment effect: A meta-analytic review of behavioural, neuroimaging, and patient studies*. 31st annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), Virtual Meeting, June 17, 2021. *Honorable mention for the Donald O. Hebb Award for best spoken presentation.

Conference Talks (10 presentations; all as first author)

1. Roberts, B.R.T. & Bainbridge, W.A. (2024). *Reverse-engineering what makes a symbol memorable*. 34th annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), Edmonton, Alberta, June 27, 2024.
2. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2022). *Memory for everyday symbols*. Midway Meeting of the Memory Minds (MMMM), Chicago, Illinois, October 18, 2023.

3. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2022). *Symbol superiority: Why \$ is better remembered than 'dollar'*. 32nd annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), Halifax, Nova Scotia, July 18, 2022.
4. Roberts, B.R.T., Forrin, N.D., McLean, D., & MacLeod, C.M. (2022). *Contingency learning decreases when associations are shared*. 44th annual meeting of the Cognitive Science Society (CogSci), Toronto, Ontario, July 27, 2022.
5. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2022). *Symbol superiority: Why \$ is better remembered than 'dollar'*. 6th annual meeting of the Toronto Area Memory Group (TAMeG), Toronto, Ontario, May 19, 2022.
6. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2022). *Symbol superiority: Why \$ is better remembered than 'dollar'*. 2022 Psychology Discovery Conference, Waterloo, Ontario, April 5, 2022.
7. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2021). *The enactment effect: A meta-analytic review of behavioural, neuroimaging, and patient studies*. 62nd annual meeting of the Psychonomic Society, Virtual Meeting, November 4, 2021.
8. Roberts, B.R.T., MacLeod, C.M., & Fernandes M.A. (2019). *Re-evaluating the influence of bilateral eye movements on memory performance*. 29th annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), Waterloo, Ontario, July 8, 2019.
9. Roberts, B.R.T., MacLeod, C.M., & Fernandes M.A. (2018). *The enactment effect: An integrative review*. 28th annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), St. John's, Newfoundland, July 6, 2018.
10. Roberts, B.R.T., Wammes, J.D., & Fernandes M.A. (2017). *Drawing with your eyes: Extending mnemonic research*. 47th Ontario Psychology Undergraduate Thesis Conference, Ottawa, Ontario, May 5, 2017.

Conference Posters (16 poster presentations; 15 as first author)

1. Roberts, B.R.T., Fernandes, M.A., & MacLeod, C.M. (accepted). *Memorable by design: The intrinsic properties of effective symbols*. 65th annual meeting of the Psychonomic Society, New York City, New York, November 23, 2024.
2. Roberts, B.R.T., Tran, S., & Fernandes, M.A. (2024). *Symbolism itself does not boost memory*. 34th annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), Edmonton, Alberta, June 26, 2024.
3. Sivashankar, Y., Roberts, B.R.T., & Fernandes, M.A. (2024). *Enhancing memory using enactment in stroke patients: Assessing the role of semantic integration and cognitive planning*. 52nd annual meeting of the International Neuropsychological Society, New York City, NY, February 15, 2024.

4. Roberts, B.R.T., Hu, Z.S., Curtis, E., Bodner, G.E., McLean, D., & MacLeod, C.M. (2023). *Reading text aloud benefits memory but not comprehension*. 14th annual meeting of the Society for Applied Research in Memory and Cognition (SARMAC), Nagoya, Japan, August 9, 2023.
5. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2023). *Symbol superiority: Why \$ is better remembered than 'dollar'*. 23rd annual meeting of the Vision Sciences Society (VSS), St. Pete Beach, Florida, May 19, 2023.
6. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2023). *Symbol superiority: Why \$ is better remembered than 'dollar'*. 50th annual meeting of the Lake Ontario Visionary Establishment (LOVE), Niagara Falls, Ontario, February 9, 2023.
7. Roberts, B.R.T., Fernandes, M.A., & MacLeod, C.M. (2022). *Memory for sports logos: The influence of familiarity*. 63rd annual meeting of the Psychonomic Society, Boston, Massachusetts, November 19, 2022.
8. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2022). *Symbol superiority: Why \$ is better remembered than 'dollar'*. Images2Symbols workshop during the 44th annual meeting of the Cognitive Science Society (CogSci), Toronto, Ontario, July 27, 2022.
9. Roberts, B.R.T., MacLeod, C.M., & Fernandes, M.A. (2022). *The enactment effect: A systematic review and meta-analysis of behavioural, neuroimaging, and patient studies*. 34th annual meeting of the Association for Psychological Science (APS), Chicago, Illinois, May 28, 2022.
10. *Homann, L.A., *Roberts, B.R.T., Ahmed, S., Fernandes, M. A. (2021). *Are emojis processed visuo-spatially or verbally? Evidence for dual codes*. 62nd annual meeting of the Psychonomic Society, Virtual Meeting, November 4, 2021. * Both authors contributed equally to this work.
11. Roberts, B.R.T., MacLeod, C.M., Fernandes, M.A. (2020). *Better memory for symbols than words: A role for visual imagery*. 61st annual meeting of the Psychonomic Society, Virtual Meeting, November 19, 2020.
12. Roberts, B.R.T., & Wammes, J.D. (2020). *Drawing and memory: Using visual production to alleviate concreteness effects*. 6th annual Graduate Psychology Discovery Conference, Waterloo, Ontario, October 30, 2020.
13. Roberts, B.R.T., McLean, D., Forrin, N.D., Risko, E.F., & MacLeod, C.M. (2019). *Pupillometric and gaze location evidence for preferential encoding of aloud words in the production effect*. 60th annual meeting of the Psychonomic Society, Montréal, Québec, November 15, 2019.
14. Roberts, B.R.T., & Wammes, J.D. (2019). *Drawing and memory: Using visual production to alleviate concreteness effects*. 29th annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS), Waterloo, Ontario, July 8, 2019.
15. Roberts, B.R.T., Forrin, N.D., & MacLeod, C.M. (2018). *Sharing associations influences color-word contingency learning*. 59th annual meeting of the Psychonomic Society, New Orleans, Louisiana, November 17, 2018.

16. Roberts, B.R.T., Forrin, N.D., & MacLeod, C.M. (2018). *One color, two words: The effect of sharing learning contingencies*. 4th annual Graduate Psychology Discovery Conference, Waterloo, Ontario, April 13, 2018.

Teaching Experience

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| Course Instructor, Physiological Psychology University of Waterloo | 2022 |
| <ul style="list-style-type: none">▪ Led a 100+ student lecture-style course on brain physiology and its connection to behaviour▪ Taught a breadth of neuroscience topics ranging from neurosurgery in Ancient Egypt to recent studies on circadian rhythm▪ Developed high-quality slides, practice quizzes, and breakout sessions | |
| Course Co-Instructor, Research in Memory University of Waterloo | 2022 |
| <ul style="list-style-type: none">▪ Facilitated an upper-year seminar course on research in memory▪ Fostered open dialogue with a conversational style course▪ Provided critical writing and presentation feedback to students▪ Offered after-hours guidance for those considering further education | |
| Guest Lecturer / Tutorial Leader University of Waterloo | 2018 – 2019 |
| <ul style="list-style-type: none">▪ Led weekly tutorials on experiment design and programming in an upper year research seminar course and on null hypothesis significance testing in a large second-year statistics course▪ Presented an invited guest lecture on assessing construct validity in psychological measures | |
| Teaching Assistant University of Waterloo | 2017 – 2023 |
| <ul style="list-style-type: none">▪ Teaching assistant for 15 courses, spanning each term of graduate school▪ Assisted in administration of both upper- and lower-year psychology courses on memory, neuropsychology, neural development, statistics, and introductory topics▪ Supported several business courses on entrepreneurship, practical business skills, and human resources management | |

Mentorship & Training

Co-Supervisor University of Waterloo	2019 – 2022
<ul style="list-style-type: none">▪ Mentored 4 honours thesis students and direct studies students▪ Contributed to two honours theses that won departmental awards▪ Trainees now in graduate school at the University of Toronto, Wilfrid Laurier University, and the Ivey Business School at Western University	
Project Coordinator University of Waterloo	2017 – 2023
<ul style="list-style-type: none">▪ Trained and supervised 9 research assistants▪ Developed a lab manual for new research assistants▪ Held weekly meetings and offered opportunities for advanced training in experimental design and statistical analyses	

Academic Community Service

Ad Hoc Reviewer for Psychological Bulletin, Attention, Perception, & Psychophysics, Quarterly Journal of Experimental Psychology, Memory, Journal of Cognitive Psychology, Cortex, Journal of Applied Research in Memory and Cognition, Journal of Experimental Psychology: Learning, Memory, and Cognition, Canadian Journal of Experimental Psychology, Memory & Cognition, Psychological Research, and Mind Pad	2019 – present
Co-organizer for the ReproducibiliTea journal club at the University of Chicago	2024 – present
Member of the Postdoctoral Advisory Committee at the University of Chicago	2024 – present
Associate Departmental Representative (ADR) for the Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS)	2020 – 2023
Head of website and communications organizational sub-committee for the annual Toronto Area Memory Group (TAMeG) conference	2022
Reviewer for the Annual Undergraduate Thesis Conference	2019 – 2020
Executive Member of the Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS) conference social planning committee	2019
Social Affairs Coordinator for the Graduate Association of Students in Psychology at the University of Waterloo	2018 – 2019
Vice-President of the Waterloo Neuroscience Club at the University of Waterloo	2017 – 2018

Awards, Honours, and Certifications

Certification in Unconscious Biases LinkedIn Learning	2023
Certification in Equity, Diversity, and Belonging LinkedIn Learning	2023
Certification to administer the MoCA cognitive assessment Montreal Cognitive Assessment	2022
Certification to administer Baycrest's Memory and Aging Program Baycrest Health Sciences	2022
Honourable mention for the Donald O. Hebb Award for best spoken presentation at the 31 st annual meeting [\$100] Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBBCS)	2021
Certification in Fundamentals of University Teaching Centre for Teaching Excellence, University of Waterloo	2019
Undergraduate Student Research Award (USRA) [\$4,500] Natural Sciences and Engineering Research Council of Canada (NSERC)	2017
Certificate of Academic Excellence Canadian Psychological Association (CPA)	2017
Honours Thesis Award University of Waterloo, Department of Psychology	2017
Merit Scholarship [\$1,000] University of Waterloo	2013

Technical Proficiencies

R | Meta-analysis | Python | Bayesian modelling | Deep learning models | Mixed-effects modelling | Simulated power analysis | PsychoPy | lab.js | OpenSesame | JAMOVI | JASP | SPSS | Qualtrics | E-Prime | Structural equation modeling | Robust statistics | Non-parametric testing

Professional Affiliations

Association for Psychological Science (APS) | Cognitive Neuroscience Society (CNS) | Canadian Psychological Association (CPA) | Canadian Society for Brain, Behaviour, & Cognitive Science (CSBBCS) | Psychonomic Society | Cognitive Science Society (CogSci) | Vision Sciences Society (VSS) | Society for Applied Research in Memory and Cognition (SARMAC) | Society for Neuroscience (SfN)

References

Dr. Wilma A. Bainbridge
Assistant Professor, University of Chicago
Postdoctoral supervisor
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Dr. Myra A. Fernandes
Professor, University of Waterloo
Undergraduate and graduate co-supervisor
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Dr. Colin M. MacLeod
Distinguished Professor Emeritus, University of Waterloo
Graduate co-supervisor
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Dr. Jeffrey D. Wammes
Assistant Professor, Queen's University
Undergraduate co-supervisor and collaborator
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