

## Curriculum Vitae

### Jeremy B. Caplan, Ph.D.

#### Address

Psychology Department  
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#### Personal

Born: September 27, 1973, Durham, NC, USA  
Citizenship: Canada, USA

#### Professional

- July 2021–present. Professor, Psychology Department, University of Alberta, Edmonton, Alberta, Canada.
- July 2012–June 2021. Associate Professor, Psychology Department, University of Alberta, Edmonton, Alberta, Canada.
- July 2014–July 2015. Visiting Scientist, Institut für Systemische Neurowissenschaften, Universitätsklinikum, Hamburg-Eppendorf, Hamburg, Germany.
- July 2006–June 2012. Assistant Professor, Psychology Department, University of Alberta, Edmonton, Alberta, Canada.
- December 2002–June 2006. Postdoctoral Fellow, Rotman Research Institute, Toronto, Ontario, Canada. Postdoctoral Advisor: Anthony R. McIntosh.
- September 1996–November 2002. Graduate Student, Neurosciences Program, Volen National Center for Complex Systems, Brandeis University. Dissertation Advisor: Michael J. Kahana.
- September 1995–August 1996. Research Assistant. Neural Systems Group and NMR Center, Massachusetts General Hospital. Advisor: Jeffery P. Sutton.

#### Education

- 2002 Ph. D., Brandeis University (Neuroscience. Dissertation: *Serial and navigational learning: behavior, theory and the roles of theta oscillations*).
- 1995 Sc. B., Brown University (Physics. Thesis: *Toward the development of a holographic star chart*).

## Current Grant Support

*Title: Basic mechanisms of directionality and association in relational memory (supplement)*

*Principal Investigator: **Jeremy B. Caplan***

*Agency: Alberta Innovates*

*Programme: NSERC Alliance - Alberta Innovates Advance Program*

*Amount: \$40,000.00*

*Funding Period: 2025/02/02–2027/02/01*

*Title: Basic mechanisms of directionality and association in relational memory*

*Principal Investigator: **Jeremy B. Caplan***

*Agency: Natural Sciences and Engineering Research Council of Canada*

*Programme: Discovery*

*Amount: \$255,000.00*

*Funding Period: 2023/04/01–2028/03/31*

*Title: Insights into dentate gyrus structure and function in the aged brain: possible functional and clinical correlates*

*Principal Investigator: **Nikolai V. Malykhin***

*Agency: Canadian Institutes of Health Research*

*Programme: Project Grant*

*Amount: \$775,000*

*Funding Period: 2022/04/01–2027/03/31*

## Prior Support

*Title: Cognitive and neural basis of memory for associations and order*

*Principal Investigator: **Jeremy B. Caplan***

*Agency: Natural Sciences and Engineering Research Council of Canada*

*Programme: Discovery*

*Amount: \$225,597.71*

*Funding Period: 2018/04/01–2023/03/31*

*Title: Adapting mnemonic training for neurocognitive aging*

*Principal Investigator: **Jeremy B. Caplan***

*Agency: Alberta Synergies in Alzheimer's and Related Disorders (SynAD) program which is funded by the Alzheimer Society of Alberta and Northwest Territories through their Hope for Tomorrow program and the University Hospital Foundation (University of Alberta).*

*Amount: \$9,940.40*

*Funding Period: 2020/12/15–2021/03/31*

*Title: Overcoming obstacles to mnemonic training in neurocognitive aging*

*Principal Investigator: **Jeremy B. Caplan***

*Agency: Alberta Synergies in Alzheimer's and Related Disorders (SynAD) program which is funded by the Alzheimer Society of Alberta and Northwest Territories through their Hope for Tomorrow program and the University Hospital Foundation (University of Alberta).*

*Amount: \$10,667.00*

*Funding Period: 2020/01/15–2021/01/14*

*Title: High density sensory arrays for cognitive neuroscience research*

*Principal Investigator: Anthony Singhal*

*Co-Investigator: **Jeremy B. Caplan***

*Agency:* Natural Sciences and Engineering Research Council of Canada

*Programme:* Research Tools and Instruments

*Amount:* \$37 447

*Funding Period:* 2013/03/01–2015/03/31

*Title:* *Infrastructure Operating Fund for The brain-activity basis of human memory, attention and motor control*

*Co-Investigators:* Anthony Singhal and **Jeremy B. Caplan**

*Agency:* Canada Foundation for Innovation

*Programme:* Infrastructure Operating Fund

*Amount:* \$55 177

*Funding Period:* 2009/04/01–2014/03/31

*Title:* *Cognitive and brain-activity basis of relational memory*

*Principal Investigator:* **Jeremy B. Caplan**

*Agency:* Natural Sciences and Engineering Research Council of Canada

*Programme:* Discovery

*Amount:* \$75 000

*Funding Period:* 2008/04/01–2013/03/31.

*Title:* *Individual differences in reward-based memory enhancement*

*Principal Investigators:* Esther Fujiwara and **Jeremy B. Caplan**

*Agency:* Alberta Gambling Research Institute

*Amount:* \$9998

*Funding Period:* 2011/10/01–2012/09/30.

*Title:* *How do older adults resolve associative interference?: A search for effective strategies and early markers of neurodegenerative disease*

*Principal Investigator:* **Jeremy B. Caplan**

*Agency:* Alberta Centre on Aging

*Amount:* \$4000

*Funding Period:* March 1, 2010–Feb 28, 2011.

*Title:* *Interference in human memory: its cognitive and neural origins and mechanisms of resolution*

*Principal Investigator:* **Jeremy B. Caplan**

*Agency:* Alberta Ingenuity Fund

*Amount:* \$277 321

*Funding Period:* September 1, 2008–August 31, 2011.

*Title:* *The brain-activity basis of human memory, attention and motor control*

*Principal Investigators:* **Jeremy B. Caplan** and Anthony Singhal

*Agency:* Canada Foundation for Innovation

*Project #:* 13111

*Amount:* \$220 708

*Award Date:* June, 2007.

*Title:* *Open RF Head Coil for 4.7 T.*

*Principal Investigator:* Alan Wilman

*Agency:* AHFMR Multiuser Equipment grant

*Amount:* \$80 000

*Award Date:* May, 2007.

*Title: Startup Funds.*

*Principal Investigator: **Jeremy B. Caplan***

*Agency: Faculty of Sciences/Psychology Department, University of Alberta*

*Amount: \$120 000*

*Funding Period: July 1, 2006–June 30, 2009.*

*Title: Development of an Integrative Computational Neuroscience Program to Understand Human Mental Function.*

*Principal Investigator: Anthony R. McIntosh*

*Agency: Canadian Institute of Health Research (CIHR) CIHR/INMHA 54001*

*Funding Period: December 2, 2002–June 30, 2006.*

*Title: The Cognitive Roles of Human Theta Oscillations.*

*Principal Investigator: **Jeremy B. Caplan***

*Agency: NIH/NIMH Type: F 31 MG12860*

*Project Period: April 20, 2001–October 19, 2002.*

*Title: IGERT Formal Proposal.*

*Principal Investigator: Eve Marder*

*Agency: NSF/DGE Type: DGE-9972756*

*Project Period: July 1 1999–June 30, 2000.*

*Title: Neuroscience: from Channels to Behavior.*

*Principal Investigator: Irwin Levitan*

*Agency: NIH/NIMH Type: 5 T 32 MH19929*

*Project Period: February 1, 1998–June 30, 1999.*

*Title: Graduate Funds.*

*Agency: Brandeis University*

*Period: September 1, 1996–January 31, 1998.*

Undergraduate Teaching and Research Assistantship  
Brown University, summer, 1994.

## Supervision and mentorship

### Graduate students

- Supervisor to Sergio Barra Rodriguez (Psychology MSc), September, 2022–present.
- Tamari Shalamberidze (Neuroscience PhD, co-supervisor with Dr. Kyle Nash), Nov. 2019–present. Certificate of Teaching Excellence from the Council of Canadian Departments of Psychology, 2022.
- Supervisor to Jeremy Thomas, (Psychology MSc), 2019–2022. Walter H Johns Graduate Fellowship and CGS-M, 2020. Psychonomic Society Graduate Conference Award 2023. CPA's Certificate of Academic Excellence 2022-2023 for Master's thesis.
- Felicitas Kluger (Psychology PhD), Sept. 2018–May, 2022. CPA's Certificate of Academic Excellence 2022-2023 for Doctoral thesis.
- Rayan Moukhaiber (Neuroscience MSc, co-supervisor with Dr. Anthony Singhal), Jan. 2018–Nov. 2020. QEII-M (full), 2018–2019. Faculty of Graduate Studies and Research Graduate Student Teaching Award, 2019.

- Ulises Rodríguez Domínguez (Psychology PhD candidate), Sept. 2016–July 2017. Dean’s Excellence Recruitment Scholarship (DERSA)
- Sucheta Chakravarty (Psychology PhD candidate), Sept. 2015–June, 2021. (Graduate Student Teaching Award, 2018).
- Kenichi Kato (Psychology PhD candidate), Sept. 2013–Nov. 2017.
- Yvonne Chen (Neuroscience PhD), Jan. 2011–April 2017. Bennet B. Murdock Award for best poster at the 2012 Context in Episodic Memory Symposium.
- Chris Madan (Psychology PhD, co-supervisor with Dr. Esther Fujiwara, Psychiatry), Sept. 2009–2013. Currently: Associate Professor, University of Nottingham. Psychonomics Early Career Award recipient. Funding received: CIHR master’s fellowship, QEII doctoral fellowship, DAAD graduate scholarship for study abroad (Germany), NSERC doctoral fellowship (CGS-D) and two Alberta Gaming Research Institute studentships.
- Yang Liu (Psychology PhD), Aug. 2008–2015. Funded by a NSERC doctoral fellowship and a QEII-D. Earned a MITACS Accelerate internship.
- Leanna Cruikshank (Neuroscience PhD candidate; co-supervisor with Dr. Anthony Singhal), Jan. 2008–June 2014. Funded by a QEII doctoral fellowship and Dissertation Fellowship.

### Postdoctoral Fellows

- Lin Wang (Psychology), September 2018–January, 2019.

### Graduate student lab rotations

- Stanislaw Hrybouski (Neuroscience), Winter, 2013.
- Michelle Chan (Psychology), Winter, 2011.
- Andrea Shafer (Neuroscience), Winter, 2009.
- Tara Whitten (Neuroscience), Fall, 2008.
- Farhang Nazer (Neuroscience), Fall, 2007.

### Undergraduate students

- Supervisor to Kieran Pawluk (Psychology), 2023–present.
- Supervisor to Aditi Roy (Psychology), 2024–present.
- Supervisor to Madhvi Sharma (Psychology), 2023–present.
- Supervisor to Gaurav Bansal (Psychology), 2023–present.
- Supervisor to Ziad Kadoura (Computing Science), 2023–present.
- Supervisor to Avigna Jena (Psychology), 2024.
- Supervisor to Ayaan Jutt (Computing Science, side-project), 2023–present.
- Supervisor to Shikang Peng (Psychology, side-project), 2022–2023.
- Supervisor to Naomi Robinson (Psychology Honours), 2022–2023.

- Supervisor to Sergio Barra Rodriguez (Psychology), 2021–2022.
- Supervisor to Kezziah Ayuno (Psychology), 2021–2022.
- Supervisor to Amir Shafaghat Ardebili (Psychology), 2019–2022.
- Supervisor to Debby Oladimeji (Neuroscience Honours), 2019–2022.
- Supervisor to Matthew Danyluik (Neuroscience Honours), 2019–2022.
- Supervisor to Awais Wattoo (Psychology BSc), 2019–2020.
- Supervisor to Yuwei Tan (Psychology, BSc), 2019–2021.
- Supervisor to Jeremy Thomas (Neuroscience Honours), 2018–2019.
- Supervisor to Isaac Ward (Education), Jun. 2018–Mar. 2019.
- Supervisor to Briana Kroeker (Psychology BSc), Jan. 2018–Jun. 2019.
- Supervisor to Nitya Khetarpal (Neuroscience Honours), 2018–2019.
- Supervisor to Sophie Taylor (Mathematical Physics BSc), Jan. 2018–May 2018.
- Supervisor to Kaiyuan Xu (Computing Science BSc, co-supervisor with Dr. Kelvin Jones), Jan. 2018–Aug. 2018.
- Supervisor to Nicole Dittmann, undergraduate student, neuroscience honours, November, 2017–April, 2019.
- Supervisor to Courtney Stolz, undergraduate student, July 2017–April 2018.
- Supervisor to Aleasha Pawluski, neuroscience honours student, NEURO 450 reading course, Winter, 2017.
- Supervisor to Madhawa Alahakoon, undergraduate student, including Psychology 396, September 2016–January, 2018.
- Supervisor to Hanna Warawa, undergraduate student, including Psychology 496/498, September 2016–2017, January–July 2018.
- Co-supervisor to Arth Pahwa, neuroscience honours student (supervisor: Dr. D. Collins), 2015–2016.
- Supervisor to Zainab Sari, undergraduate student, September 2015–January 2016.
- Supervisor to Tomi Ann Limcangco, undergraduate student, including Psychology 496, September 2015–2017 (awarded an Undergraduate Research Initiative stipend, summer, 2016).
- Supervisor to Angela Wan, undergraduate student, including Psychology 299, September Fall, 2015.
- Supervisor to Anam Wattoo, undergraduate student, including Psychology 398/496/498, September 2014–August 2015, September 2016–2017 (awarded an Undergraduate Research Initiative stipend, summer, 2015).
- Supervisor to Avik Sharma, undergraduate student, including Psychology 496 and NSERC USRA, Jan 2014–2015.
- Supervisor to Yondu Mori, undergraduate student, Psychology Honours, 2013–2015.

- Co-Supervisor to Patricia (Ioana) Bacus, undergraduate student, including Psychology 496/8, Sept 2013–May 2014.
- Supervisor to Pardeep Kang, undergraduate student, including Psychology 496, May 2013–May 2014.
- Supervisor to Aditi Gupta, undergraduate student, including Psychology 496, May 2013–March 2014.
- Supervisor to Isha Ober, undergraduate student, Neuroscience Honours, including Psychology 496, January 2013–2015 (NSERC USRA, Summer, 2013).
- Supervisor to Brittany Hopkins, undergraduate student, Psychology, including Psychology 496, January 2013–May 2013.
- Supervisor to Kenichi Kato, undergraduate student, including Psychology 496, May 2012–August 2013.
- Supervisor to Monica Bottomley, undergraduate student, Neuroscience Honours, July 2012–May 2013.
- Supervisor to Ivan Witt, undergraduate student, Neuroscience Honours, Feb. 2012–May 2013.
- Supervisor to Shrida Sahadevan, undergraduate student, Neuroscience Honours, Nov. 2011–2015 (awarded an Undergraduate Research Initiative stipend, summer, 2013).
- Supervisor to Nathan Ikuta, undergraduate student, Psychology 496, Winter, 2012.
- Supervisor to Jumjy Hemmerich, undergraduate student, including Psychology 496, Spring, 2010. Practitioner license next fall
- Supervisor to Bevin Cheng, undergraduate research assistant, Feb. 2009–2012, including Psychology 299, 496 and 498 independent studies.
- Supervisor to Yvonne Chen, undergraduate student, 2009–2010, including Psychology 496 and 498 independent studies. Currently: Graduate student in Neuroscience with J. Caplan
- Supervisor to Jennifer Cole Andrews, undergraduate student, 2009–2010, including Psychology 496 and 498 independent studies.
- Supervisor to Kathy Boulton, undergraduate research assistant, Apr. 2007–Apr. 2008, including Psychology 496 independent study. Currently: Education after-degree, University of Alberta.
- Supervisor to Jingjing Song, undergraduate research assistant, Sept. 2008–May 2009, Psychology 299 independent studies.
- Supervisor to Enoch Ng, undergraduate research assistant, Jan. 2008–Aug. 2009, including Psychology 496 independent study.
- Supervisor to Rachel Burton, undergraduate psychology honours student, research assistant, Mar. 2007–April, 2010. Currently: Community Mental Health, Prince Albert, SK.
- Supervisor to Michelle Chan, undergraduate research assistant, Mar. 2007–Aug. 2009, including Psychology 496 independent studies and including funding from Canada Summer Jobs (summer 2007) and NSERC USRA (summer 2008). Currently: Graduate student (Dr. A. Singhal, UofA Psychology), funded by an NSERC fellowship.
- Supervisor to Adam Hughes, undergraduate research assistant, Oct. 2006–Aug. 2009.

- Supervisor to Chris Madan, undergraduate research assistant, Oct. 2006–Aug. 2009, including Psychology 496 and 498 independent studies and including funding from Canada Summer Jobs (summer 2007) and Summer Temporary Employment Program (summer 2008). Currently: Graduate student in Psychology with J. Caplan and E. Fujiwara.
- Supervisor to Mayank Rehani, undergraduate research assistant, Oct. 2006–Aug. 2009, including Psychology 496 independent studies and including funding from Canada Summer Jobs (summer 2007).
- Supervisor to Darren Bedwell, research assistant, Oct. 2006–Oct. 2008, including funding from Summer Temporary Employment Program (summer 2007).
- Co-supervisor to Mackenzie Glaholt, Research Assistant, The Rotman Research Institute (December 2002–August 2004) and Graduate Student, University of Toronto (September 2004–June 2006). Currently: Postdoctoral fellow at University of California at San Diego.
- Co-supervised Signe Bray, Research Assistant, The Rotman Research Institute, September 2003–August 2004. Subsequently: Graduate Student at Caltech.
- Co-supervised Ehren Newman, Undergraduate Student, Brandeis University (currently Graduate Student at Princeton University)
- Supervisor to Rena Walles, Summer Undergraduate Student, summer, 2001.
- Supervisor to Stephanie Killian, Summer High School Research Intern, summer, 1999, Brandeis University.

### Research Assistants

- Supervisor to Ziad Kadoura, 2023–present.
- Muhammad Bilal Khan, 2023–present.
- Amir Shafaghat Ardebili, 2023–present.
- Felicitas Kluger, summer internship (PROSA), May–August, 2018 (DAAD internship, summer, 2018).
- Isabel Lek, research assistant, May 2010–May 2011.
- Stan Hrybouski, research assistant, Sept 2010–April 2011.
- Anton Poon, research assistant, Jan–April, 2010.
- Bridgette Gerson, research assistant, June 2009–Oct 2009.
- Mark Hueppelsheuser, research assistant, Jan 2008–Mar 2009.

### Supervisory Committees

- Psychology MSc supervisory committee: Malek Doughan (N. Brown).
- Psychology MSc supervisory committee: Oyku Ekinici (N. Brown).
- Psychology MSc supervisory committee: Julia Wood (A. Singhal).
- Psychology PhD supervisory committee: Yue Chen (W. Mou).
- Psychology MSc supervisory committee: Tim Woerle (P. Dickson).



- Psychology MSc supervisory committee: Yue Chen (W. Mou).
- Psychology MSc and PhD supervisory committee: Arturo Perez (M. Dawson).
- Neuroscience PhD supervisory committee: Alice Atkin (A. Singhal).
- Psychology MSc supervisory committee: Sayeed Devraj-Kizuk (Dr. Clayton Dickson), 2017–2018.
- Psychology MSc supervisory committee: Joanna Scanlon (Dr. Kyle Mathewson), 2016–2018.
- Psychology MSc supervisory committee: Jonathan Kuziek (Dr. Kyle Mathewson), 2016–2017.
- Neuroscience MSc supervisory committee: Melanie MacGillivray (Dr. Nikolai Malykhin), 2014–2017.
- Psychiatry MSc supervisory committee: Michael Mazo (Dr. Kathleen Hegadoren), 2013–2014.
- Psychology PhD supervisory committee: Brian Dupuis (Dr. Michael Dawson), 2013–2016.
- Psychology MSc supervisory committee: Lin Wang (Dr. Weimin Mou), 2012–2018.
- Neuroscience MSc supervisory committee: Stanislaw Hrybowski (Dr. Nikolai Malykhin), 2012–2020.
- Neuroscience MSc supervisory committee: Anastasia Greenberg (Dr. Clayton Dickson), 2012–2016.
- Psychology MSc supervisory committee: Ruojing Zhou (Dr. Weimin Mou), 2011–2016.
- Psychology MSc and PhD supervisory committee: Michelle Chan (Dr. Anthony Singhal), 2010–2016.
- Psychology MSc supervisory committee: Lisa Smithson (Dr. Elena Nicoladis), 2010–2014.
- Neuroscience MSc supervisory committee: Graeme Armstrong, 2009–2012.
- Psychology MSc supervisory committee: Tugba Uzer (Dr. Norman Brown), 2010–2012.
- Psychology PhD supervisory committee: Arjun Sharma (Dr. Clayton Dickson), 2008–2010.
- Neuroscience MSc and PhD supervisory committee: Tara Whitten (Dr. Clayton Dickson), 2008–2016.

### Examination Committees

- Psychology PhD chair: Paige Faulkner (Dr. Kyle Nash), June 6 2024.
- Psychology PhD chair: Sarah Sheldon (Dr. Kyle Mathewson), May 30, 2022.
- Psychology candidacy exam chair: Andy Scott (Dr. Jeff Schimel). 2022.05.05.
- External Examiner, Julian Fox (Dr. Adam Osth, University of Melbourne), September, 2022.
- Psychology candidacy exam chair: Sarah Sheldon (Dr. Kyle Mathewson), December, 2018.
- Neuroscience MSc examiner: Sayeed Devraj-Kizuk (Dr. Clayton Dickson), Fall, 2018.
- Linguistics PhD examiner: Georgie Columbus (Dr. Harald Baayen and Dr. Patrick Bolger), January, 2012.
- Neuroscience PhD examiner: Trisha Wolansky (Dr. Clayton Dickson), September 16, 2009.

- Neuroscience PhD examiner: Darren Clark (Dr. Fred Colbourne), September 17, 2009.
- Neuroscience MSc examiner: Gregory Silasi (Dr. Fred Colbourne), April, 2009.
- Linguistics PhD candidacy examiner: Georgie Columbus (Dr. Patrick Bolger), March, 2009.
- Psychology PhD external examiner: Andrew Gilbert (Dr. Suzanna Becker, McMaster University), November, 2008.
- Psychology MSc examining committee chair: Eric Legge (Dr. Marcia Spetch), September 5, 2008
- Psychology PhD candidacy examiner: Angela Auriat (Dr. Fred Colbourne), May 6, 2008
- Neuroscience PhD candidacy examiner: Trish Wolansky (Dr. Clayton Dickson), May 30, 2007
- Psychology PhD candidacy examiner: Emily Batty (Dr. Marcia Spetch), May 2, 2007
- Undergraduate Neuroscience Honours Examiner: Colin Casault (Dr. Clayton Dickson), Dec. 7, 2006

## Grant reviewing

1. Alberta Health: Addiction and Mental Health Strategic Clinical Network (ad-hoc reviewer), 2017.
2. Alberta Innovates-Health Solutions undergraduate summer studentship for the University of Alberta (university-level), 2016, 2017.
3. Canada Foundation for Innovation, ad-hoc reviewer, 2013, 2015, 2017, 2020, 2022, 2023. John R. Evans Leaders Fund Advisory Committee, 2018–2021.
4. Canadian Institutes of Health Research (ad-hoc reviewer), 2009. Stage 1 Project Scheme Competition review panel member, 2016.
5. Fonds de Recherche du Quebec – Nature et Technologies, TEAM Research project program, panel member, 2017.
6. MITACS Elevate post-doctoral fellowship (ad-hoc reviewer), 2017. Accelerate (ad-hoc reviewer), 2020.
7. National Science Foundation/National Institutes of Health, “Collaborative Research in Computational Neuroscience,” panel member, 2006, 2009, 2011. Ad-hoc reviewer, 2008.
8. National Science Foundation/National Institutes of Health, “Engineering of Biomedical Systems,” panel member, 2020.
9. National Science Foundation (ad-hoc reviewer), 2007.
10. Israel Science Foundation (ad-hoc reviewer), 2010, 2011.
11. Natural Sciences and Engineering Research Council of Canada, “Discovery Grant” (ad-hoc reviewer), 2008, 2010, 2015, 2016, 2019, 2020, 2023, 2024.
12. Netherlands Organisation for Scientific Research (NWO) doctoral fellowship, ad-hoc reviewer, 2013.
13. Wellcome Trust, ad-hoc (Investigator Award in Science), 2017.
14. Natural Sciences and Engineering Research Council of Canada, “Discovery Grant” (panel member), 2019.
15. SynAD (Neuroscience and Mental Health Institute, University of Alberta, ad-hoc reviewer, 2019.
16. National Science Foundation, “NeuroNex” panel member, 2020.

## Journal Editor

- Associate/Action Editor, *Memory*, January 2022–December 2025.

## Reviewer of Journals Articles

1. Acta Psychologica 2. Aging, Neuropsychology and Cognition 3. American Journal of Psychology 4. Attention, Perception, & Psychophysics 5. Behavior Research Methods 6. BioMed Central Neuroscience 7. Brain Research 8. Canadian Journal on Aging 9. Canadian Journal of Experimental Psychology [Editorial Board member, 2014–2024] 10. Cerebral Cortex 11. Cognitive Computation 12. Cognition and Emotion 13. Cognitive Neurodynamics 14. Cognitive Neuroscience 15. Cognitive Psychology 16. Collabra 17. Communications Biology 18. Computational Brain & Behavior 19. Current Directions in Psychological Science 20. Current Psychology 21. European Journal of Neuroscience 22. Experimental Brain Research 23. Experimental Psychology 24. Hippocampus 25. Human Brain Mapping 26. IEEE Access 27. Journal of Cognition 28. Journal of Cognitive Neuroscience 29. Journal of Cognitive Psychology 30. Journal of Experimental Psychology: Learning, Memory, & Cognition 31. Journal of Hearing Science 32. Journal of Mathematical Psychology 33. Journal of Memory and Language 34. The Journal of Neurophysiology 35. The Journal of Neuroscience 36. Journal of Neuroscience Methods 37. Memory 38. Memory & Cognition 39. Neurobiology of Aging 40. Neuropsychology 41. Neuroscience 42. Open Cybernetics and Systemics Journal 43. Open Statistics & Probability Journal 44. PLoS ONE 45. Progress in Neurobiology 46. Psychiatry Research 47. Psychological Reports 48. Psychological Review 49. Psychological Science 50. Psychonomic Bulletin & Review 51. Psychophysiology 52. Quarterly Journal of Experimental Psychology 53. Scientific Reports 54. Thinking and Reasoning 55. Trends in Cognitive Science

## Conference Reviewing Committees

- The Organization for Human Brain Mapping
- The Organization for Computational Neurosciences
- The Rotman Research Institute Annual Conference

## Other Committees and Service

- Psychology Academic Director of Research, 2024.07.01–present.
- Psychology Honours Programme Advisor (BSc), 2017–2021.
- Faculty of Science Graduate Mentoring Award Committee, 2019–2021.
- Undergraduate Awards Screening Committee member (Psychology), 2016–2020.
- Graduate Scholarship Screening Committee member (Psychology), 2010–2014.

## Events Organized

- Psychology Departmental Seminar, Coordinator, 2015–2021.
- Brian Harder Honours and Undergraduate Research Day and Joseph R. Royce Research Conference, University of Alberta: Co-Organizer, 2018
- Joseph R. Royce Research Conference, University of Alberta: Co-Organizer, 2013, 2014, 2016, 2017.
- Computational Neuroscientists of Upper Canada, one-day symposium, theme: Memory. Toronto, March 10, 2005.

## Teaching

Courses Taught [3 h/week each]

- Psychology 403/505: Replication Crisis, Winter, 2024. University of Alberta. [Associate Dean Learning and Innovation Bestie (ADLIB) Award]
- Psychology 505: Replication Crisis, Winter, 2023. University of Alberta.
- Psychology 375: Introduction to Cognitive Neuroscience, Winter, 2023, University of Alberta.
- Psychology 375: Introduction to Cognitive Neuroscience, Fall, 2022, University of Alberta.
- Fourth-year honours seminar, Fall–Winter, 2020–2021, University of Alberta.
- Psychology 403/505: Individual Differences in Memory Ability, Fall, 2020. University of Alberta.
- Fourth-year honours seminar, Fall–Winter, 2019–2020, University of Alberta.
- Psychology 403/505: Memory Enhancement, Fall, 2019. University of Alberta. [equivalent of honour roll with distinction]
- Fourth-year honours seminar, Fall–Winter, 2018–2019, University of Alberta.
- Psychology 403/505: Computational Neuroscience of Memory, Fall, 2018. University of Alberta. [honour roll with distinction]
- Fourth-year honours seminar, Fall–Winter, 2017–2018, University of Alberta.
- Psychology 574: Advanced Topics in Neuroscience, Fall–Winter, 2017–2018, University of Alberta. [honour roll]
- Psychology 403/505: Computational Memory Models, Winter, 2017. University of Alberta. [honour roll]
- Psychology 375: Introduction to Cognitive Neuroscience, Winter, 2017, University of Alberta. [honour roll]
- Psychology 375: Introduction to Cognitive Neuroscience, Fall, 2016, University of Alberta. [honour roll with distinction]
- Psychology 375: Introduction to Cognitive Neuroscience, Winter, 2016, University of Alberta.
- Psychology 574: Advanced Topics in Neuroscience, Fall–Winter, 2015–2016, University of Alberta.
- Psychology 403/505: Cognitive Neuroscience of Memory, Fall, 2015, University of Alberta.
- Psychology 375: Introduction to Cognitive Neuroscience, Winter, 2014, University of Alberta. [honour roll]
- Psychology 403/505: Cognitive Neuroscience of Memory, Fall, 2013, University of Alberta. [honour roll with distinction]
- Psychology 375: Introduction to Cognitive Neuroscience, Fall, 2013, University of Alberta.
- Psychology 375: Introduction to Cognitive Neuroscience, Winter, 2013, University of Alberta. [honour roll]
- Psychology 375: Introduction to Cognitive Neuroscience, Fall, 2012, University of Alberta. [honour roll]

- Psychology 403/505: Computational Memory Models, Fall, 2012, University of Alberta. [honour roll]
- Psychology 375: Introduction to Cognitive Neuroscience, Winter, 2012, University of Alberta.
- Psychology 403/505: Computational Memory Models, Winter, 2012, University of Alberta. [honour roll with distinction]
- Psychology 375: Introduction to Cognitive Neuroscience, Fall, 2011, University of Alberta. [honour roll]
- Psychology 403/505: Computational Memory Models, Winter, 2011, University of Alberta. [honour roll with distinction]
- Psychology 302: Introduction to Cognitive Neuroscience, Winter, 2011, University of Alberta.
- Psychology 403/505: Computational Memory Models, Winter, 2010, University of Alberta.
- Psychology 371: Neurobiology of Learning and Memory, Winter 2010, University of Alberta.
- Psychology 302: Introduction to Cognitive Neuroscience, Fall, 2009, University of Alberta. [honour roll]
- Psychology 403/505: Memory Models, Winter, 2009, University of Alberta. [honour roll with distinction]
- Psychology 371: Neurobiology of Learning and Memory, Winter 2009, University of Alberta. [honour roll]
- Psychology 302: Introduction to Cognitive Neuroscience, Fall, 2008, University of Alberta.
- Psychology 371: Neurobiology of Learning and Memory, Winter 2008, University of Alberta.
- Psychology 371: Neurobiology of Learning and Memory, Winter 2007, University of Alberta.
- Psychology 377: Human Neuropsychology, Fall 2006, University of Alberta.
- Teaching Assistant, Introductory Astronomy (Phsc 2b), 1996, Brandeis University.
- Teaching Assistant, Basic Physics II (Phys 11b), 1997, Brandeis University.
- Teaching Assistant, Introductory Astronomy (Phsc 2b), 1997, Brandeis University.

### Guest lectures

- Neurobiology of Learning and Memory, PSYCO 371 (C. Dickson). Topic: Oscillations and memory. 2018/11/21.
- Neurobiology of Learning and Memory, PSYCO 371 (C. Dickson). Topic: Oscillations and memory. 2017/11/23.
- Advanced Topics in Neuroscience, PSYCO 574 (C. Dickson). Topic: Sleep and memory. 2014/01/21.
- Neurobiology of Learning and Memory, PSYCO 371 (C. Dickson). Topic: Interference theory and long-term retrieval in amnesia. 2011/11/08.
- Advanced Topics in Neuroscience, PSYCO 574 (A. Singhal). Topic: Non-synaptic association-learning in the brain. 2011/11/02.
- Introduction to Cognitive Neuroscience, PSYCO 302 (A. Singhal). Topic: Memory. 2010/10/14.

- Honors Seminar I, PSYCO 300 (K. Noels), topic: Free recall and amnesia. 2011/03/29.
- Introduction to Cognitive Neuroscience, PSYCO 302 (A. Singhal). Topic: Memory. 2010/10/14.
- Lifespan Developmental Psychology, PSYCO 223 (E. Nicoladis), Topic: Memory and early development. 2010/03/26.
- Methods & analysis of Neurophysiological time series data (C. Dickson), PSYCO 402/505. Topic: Wavelets and Analyzing Oscillations. 2008/02/28.

## Publications

*Metrics: As of 14/09/2024:*

Web of Science: h=24; i-10=37, total citations=4529

Google Scholar: h=31; i-10=57, total citations=8692

<https://scholar.google.com/citations?user=PL8l8awAAAAJ&hl=en>

(trainees are underlined)

- Pawluk, K. A., Shalamberidze, T. and **Caplan, J. B.** (in press). Making oscillation detection more robust. *Journal of Neuroscience Methods*.
- Shalamberidze, T., Nash, K. and **Caplan, J. B.** (in press). Rhythmic activity in resting state EEG predicts trait anxiety. *Imaging Neuroscience*.
- **Caplan, J. B.** and Guitard, D. (in press). Inverted list-strength effects in recognition. *Journal of Experimental Psychology: Learning, Memory, and Cognition*.
- **Caplan, J. B.** and Guitard, D. (2024). Attentional subsetting theory of stimulus duration effects on recognition memory. *Journal of Memory and Language*, 139(104556).
- **Caplan, J. B.** and Guitard, D. (2024). A feature-space theory of the production effect in recognition. *Experimental Psychology*, 71(1), 64–82.
- Loprinzi, P. D. and **Caplan, J. B.** (2024). Effects of acute exercise intensity on behavioral pattern separation. *Quarterly Journal of Experimental Psychology*, 78(3), 534-545.
- Shafaghat Ardebili, A., Liu, Y. S and **Caplan, J. B.** (2024). The emergence of all-or-none retrieval of chunks in verbal serial recall. *Memory & Cognition*, 52(2), 352-372.
- **Caplan, J. B.** (2023). Sparse attentional subsetting of item features and list-composition effects on recognition memory. *Journal of Mathematical Psychology*, 116(102802).
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- **Caplan, J. B.** (2005). Associative isolation: unifying associative and order paradigms. *The Journal of Mathematical Psychology*, 49(5), 383–402. [27 citations (ISI)]
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## Manuscripts in Review/Revision

- Danyluik, M. H., Chakravarty, S. and **Caplan, J. B.** (submitted). EEG activity predictive of learning through feedback.
- Chakravarty, S., Ober, I., Madan, C. R., Chen, Y. Y., Fujiwara, E. and **Caplan, J. B.** (in revision). The feedback-related negativity and reward-prediction error in trial-and-error learning of many stimuli.

## Invited Lectures

- Strength in small numbers: understanding memory through handfuls of features. Psychology Colloquium, University of Arizona, Tucson, AZ, USA, February 6, 2025.
- Predicting memories from brain activity. Neuroscience and Mental Health Institute weekly seminar, University of Alberta, Edmonton, AB, Canada, October 1, 2024.
- Model mechanisms of the congruity effect from comparative judgements to one-trial episodic memory. Society for Mathematical Psychology, Psychonomics Satellite Symposium, New Orleans, LA, USA, November 15, 2018.
- The relationship between memory for items and memory for associations. Centre for Human Brain Health Seminar, University of Birmingham, Birmingham, UK, July 27, 2017.
- Rhythmic activity. Introductory Workshop on Computational Methods in Neuroscience. University of Lethbridge, Lethbridge, AB, Canada, June 8, 2016.
- Associative interference and its resolution. Computational Memory Lab, University of Pennsylvania, Philadelphia, PA, USA, May, 2016.
- Memory for order. Banff Annual Seminar in Cognitive Science, Banff, AB, Canada, May, 2012.

- Is there a context-coding basis for paired associate learning? Context and Episodic Memory Symposium, Palm Beach, FL, USA, January 2-3, 2009.
- Are words remembered as Gestalts? Linguistics Colloquium, Linguistics Department, University of Alberta, Canada, November 14, 2008.
- Theta oscillations: mechanisms of learning or coordinating brain areas? Keynote, Centenary Neuroscience Symposium. Queen's University, Belfast, Northern Ireland, October, 28, 2008.
- Verbal Memory: connecting behaviour and brain activity. Psychology Department, University of Glasgow, March 2006, Glasgow, UK.
- Verbal memory: connecting brain activity and behavioral approaches. Psychology Department, University of Alberta, March 2006, Edmonton, AB, Canada.
- Verbal Memory: connecting behaviour and brain activity. Psychology Department, University of Warwick, February 2006, Warwick, UK.
- Verbal memory: connecting brain activity and behavioral approaches. Psychology Department, Columbia University, February 2006, New York, NY, USA.
- Human memory: Connecting brain activity with behaviour. NeuroInformatics Group, University of Edinburgh, August 2005, Edinburgh, UK.
- Human memory: Connecting brain activity with behaviour. MEG Group Meeting, F.C. Donders Centre for Cognitive Neuroimaging, August 2005, Nijmegen, Netherlands.
- Human memory: Connecting brain activity with behaviour. Bernstein Center for Computational Neuroscience Symposium, August 2005, Berlin, Germany.
- *Discussant*: Context and Brain Activity on Kahana and Norman. Symposium on Context and Human Memory, March 2005, Philadelphia, PA, USA.
- Connecting associative and list memory. Cognitive Lunch, University of Colorado at Boulder, February, 2005, Boulder, CO, USA.
- Memory for associations and lists across domains. Institute of Cognitive Science, University of Colorado at Boulder, February, 2005, Boulder, CO, USA.
- Unifying paired associates and serial learning. Ebbinghaus Empire meeting, February 2003, Toronto, ON, Canada.
- Theta oscillations and spatial navigation: analyzing rhythmic activity and its relationship to spatial cognition. Computational Neuroscientists of Upper Canada meeting, January 2003, Toronto, ON, Canada.
- Isolation: unifying associative and list memory. Symposium on Context and Human Memory, November 2003, Orlando, FL, USA.
- Exploring exploring: Intracranially recorded oscillations are linked to human virtual navigation. Sloan-Swartz conference, June 2002, Boston, MA, USA.
- Human theta oscillations during virtual navigation. Neurozentrum, Universität Freiburg, December 2001, Freiburg, Germany.
- Probing the cortical surface. Volen National Center for Complex Systems Annual Retreat, April 2000, Woods Hole, MA, USA.

## Presentations at Scientific Meetings

- **Caplan, J. B.** and Guitard, D. (2024). Feature spaces and memory strength. *Canadian Society for Brain, Behaviour and Cognitive Science*, Edmonton, AB, Canada.
- **Caplan, J. B.** and Guitard, D. (2024). Attentional subsetting theory: strength in small numbers. *Context and Episodic Memory Symposium*, Philadelphia, PA, USA.
- Shalamberidze, T., **Caplan, J. B.** and Nash, K. (2023). Resting rhythmic activity and anxiety. *Cognitive Neuroscience Society*, Toronto, ON, Canada.
- Thomas, J. J. and **Caplan, J. B.** (2023). Recombined probes test mechanisms of order within associations. *Psychonomics*, San Francisco, CA, USA. [Psychonomic Society Graduate Conference Award to Jeremy Thomas].
- **Caplan, J. B.**, Shafaghat Ardebili, A. and Liu, Y. S. (2023). All-or-none retrieval of chunks. *Psychonomics*, San Francisco, CA, USA.
- Shalamberidze, T., **Caplan, J. B.** and Nash, K. (2023). Frontal midline theta oscillations in trait anxiety and episodic memory. *Cognitive Neuroscience Society*.
- **Caplan, J. B.** (2022). Effects on recognition memory of attention selecting sparse subsets of features. *Psychonomics*, Boston, MA, USA.
- **Caplan, J. B.** (2022). Associative chaining and position-preserving prior-list intrusions. *Society for Mathematical Psychology*, Toronto, ON, Canada.
- Chakravarty, S. and **Caplan, J. B.** (2019). Using brain activity during study to predict future memory. *Psychonomics*, Montreal, QC, Canada.
- **Caplan, J. B.** and Thomas, J. J. (2019). Visual imagery ability and memory for word pairs. *Psychonomics*, Montreal, QC, Canada.
- **Caplan, J. B.**, Xu, K., Jones, K. E. and Chakravarty, S. (2019). Item-memory emerges from association memory when you forget to mean-center. *Society for Mathematical Psychology*, Montreal, QC, Canada.
- **Caplan, J. B.**, Sommer, T., Madan, C. R. and Fujiwara, E. (2018). The roles of confidence and interactive imagery in the emotional impairment of association memory. *Psychonomics*, New Orleans, LA, USA.
- Chakravarty, S., Ober, I., Madan, C. R., Chen, Y. Y., Fujiwara, E. and **Caplan, J. B.** (2018). Feedback-related ERPs during value-learning foreshadow how participants later handle reversal learning. *Cognitive Neuroscience Society*, Boston, MA, USA.
- Chen, Y. Y. and **Caplan, J. B.** (2018). Generalization of associative item-memory EEG features to associative recognition. *Cognitive Neuroscience Society*, Boston, MA, USA.
- Pahwa, A. R., **Caplan, J. B.** and Collins, D. F. (2017). The time-dependent effects of cardiovascular exercise on associative memory. *Society for Neuroscience*, Washington, DC, USA.
- **Caplan, J. B.** and Liu, Y. S. (2017). Temporal grouping enhances serial recall primarily as a function of output position. *Psychonomics*, Vancouver, BC, Canada.
- Limcangco, T. A., Kato, K. and **Caplan, J. B.** (2017). Imagery-based strategies modulate order memory within word pairs. *Psychonomics*, Vancouver, BC, Canada.
- Rodríguez Domínguez, U. and **Caplan, J. B.** (2017). The population of grid cells as a modified hexagonal Fourier basis set. *Campus Alberta Neuroscience Symposium*, Calgary, AB, Canada.

- **Caplan, J. B.** and Liu, Y. S. (2017). A challenge to the independent-cueing assumption: backward serial recall of chunked lists. *Society for Mathematical Psychology*, Warwick, UK.
- Rodríguez Domínguez, U. and **Caplan, J. B.** (2017). The population of grid cells as a modified hexagonal Fourier basis set. *Context and Episodic Memory Symposium*, Philadelphia, PA, USA.
- Chakravarty, S., Fujiwara, E., Madan, C. R., Tomlinson, S. E., Ober, I and **Caplan, J. B.** (2017). Reward-driven memory biases may be due to utility rather than value. *Context and Episodic Memory Symposium*, Philadelphia, PA, USA.
- Limcangco, T. A., Chen, Y. Y., Kato, K. and **Caplan, J. B.** (2017). Visual imagery and the relationship between association-memory and within-pair order. *Context and Episodic Memory Symposium*, Philadelphia, PA, USA.
- Liu, Y. S. and **Caplan, J. B.** (2017). Backward serial recall of chunked lists challenges the independence assumption of positional coding models. *Context and Episodic Memory Symposium*, Philadelphia, PA, USA.
- **Caplan, J. B.** and Madan, C. R. (2016). Imageability may enhance pair-memory by leveraging the hippocampus. *Context and Episodic Memory Symposium*, Philadelphia, PA, USA.
- **Caplan, J. B.**, Burton, R. L., Rehani, M., Cole, J. A. and Lek, I. (2016). Associative independence revisited. *Context and Episodic Memory Symposium*, Philadelphia, PA, USA.
- **Caplan, J. B.** Burton, R. L. and Lek, I. (2016). Resolution of associative interference, *Psychonomics*, Boston, MA, USA.
- Chakravarty, S., Ober, I., Madan, C. R., Chen, Y. Y., Fujiwara, E. and **Caplan, J. B.** (2016). The feedback-related negativity indicates different use of feedback in two spontaneous strategies for handling changing values. *Cognitive Neuroscience Society*, San Francisco, CA, USA.
- Chen, Y. Y. and **Caplan, J. B.** (2016). Event-related potentials at study and test explain individual memory-performance differences in associative recognition. *Cognitive Neuroscience Society*, San Francisco, CA, USA.
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