

# ALYSSA H. SINCLAIR | Curriculum Vitae

Duke University, Center for Cognitive Neuroscience

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**Research Interests:** *Learning & memory, motivation, belief & behavior change, interventions*

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## Education

- Ph.D., Duke University — Psychology & Neuroscience, Cognitive Neuroscience** 2018 — 2023  
Cumulative GPA: 4.0/4.0 (anticipated)  
Co-Advisors: Prof. R. Alison Adcock & Prof. Gregory R. Samanez-Larkin  
Committee Members: Prof. Elizabeth Marsh & Prof. Felipe De Brigard
- M.A., Duke University — Psychology & Neuroscience, Cognitive Neuroscience** 2018 — 2021  
Cumulative GPA: 4.0/4.0
- B.Sc. with High Distinction, University of Toronto — Research Psychology** 2014 — 2018  
Cumulative GPA: 4.0/4.0, *Valedictorian*  
Honors Thesis: *Prediction Error Influences Episodic Memory Reconsolidation*  
Thesis Advisor: Prof. Morgan Barense  
Independent Project Advisor: Prof. William Cunningham

## Teaching Experience

- Lecturer — Cognitive Neuroscience Research Internship, Duke University** 2020-2023  
Topics: *Cog Neuro Methods, Memory & Motivation, Reinforcement Learning*
- Lecturer — Duke Neuro Methods Workshops, Duke University** 2020-2021  
Topics: *Mixed Effects Regression, Advanced Data Visualization*
- Teaching Assistantships — Dep. of Psychology & Neuroscience, Duke University**
- NEUROSCI101: Biological Bases of Behavior, Team-Based (Prof. Minna Ng) 2021
  - PSY444: Neuroscience Service Learning (Prof. Minna Ng) 2021
  - NEUROSCI101: Biological Bases of Behavior (Profs. Karen Murphy & Minna Ng) 2020
- Teaching Assistantship — Victoria College, University of Toronto**
- VIC171: Method, Theory, & Practices in Natural Sciences (Prof. Brian Baigrie) 2017-2018
- Independent Tutor for University and High School Students — Toronto, ON** 2016-2018

## Publications

- Sinclair, A.H., Taylor, M.T., Weitz, J.S., Beckett, S., & Samanez-Larkin, G.R. (2023). [Reasons for receiving or not receiving bivalent COVID-19 booster vaccinations among adults – United States, November 1–December 10, 2022](#). *Morbidity & Mortality Weekly Report*, 72(3).
- Sinclair, A.H., Manalili, G.M., Brunec, I.K., Adcock, R.A., & Barense, M.D. (2021). [Prediction errors disrupt hippocampal representations and update episodic memories](#). *Proceedings of the National Academy of Sciences*, 118(51), e2117625118.
- Sinclair, A.H.\*, Hakimi, S.\*, Stanley, M.L., Adcock, R.A., & Samanez-Larkin, G.R. (2021). [Pairing facts with imagined consequences improves pandemic-related risk perception](#). *Proceedings of the National Academy of Sciences*, 118(32), e2100970118. \*Denotes equal contribution.
- Sinclair, A.H., Stanley, M.L., Hakimi, S., Cabeza, R., Adcock, R.A., & Samanez-Larkin, G.R. (2021). [Imagining a personalized scenario selectively increases perceived risk of viral transmission for older adults](#). *Nature Aging*, 1, 677-683.
- Sinclair, A.H., Stanley, M.L., & Seli, P. (2020). [Closed-minded cognition: Right-Wing Authoritarianism is negatively related to belief updating following prediction error](#). *Psychonomic Bulletin and Review*, 27, 1348–1361.
- Stanley, M.L., Sinclair, A.H., & Seli, P. (2020). [Intellectual humility and perceptions of political opponents](#). *Journal of Personality*, 88(6), 1-21.
- Sinclair, A.H. & Barense, M.D. (2019). [Prediction error and memory reactivation: How incomplete reminders drive reconsolidation](#). *Trends in Neurosciences*, 42(10), 728-740.
- Sinclair, A.H. & Barense, M.D. (2018). [Surprise and destabilize: Prediction error influences episodic memory reconsolidation](#). *Learning & Memory*, 25(8), 369-381.

## Preprints & Submitted Manuscripts

- Sinclair, A.H.\*, Wang, Y.C.\*, & Adcock, R.A. (2022). [Instructed motivational states bias reinforcement learning and memory formation](#). Under revision for resubmission to PNAS. Preprint posted to PsyArXiv. \* denotes equal contribution
- Sinclair, A.H., Taylor, M.K., Davidson, A., Adcock, R.A., Weitz, J.S., Samanez-Larkin, G.R., & Beckett, S.J. (2022). [Scenario-based messages on social media motivate COVID-19 information seeking](#). Resubmitted after revision at JARMAC. Preprint posted to PsyArXiv.
- Sinclair, A.H., Taylor, M.K., Brandel-Tanis, F., Davidson, A., Chande, A.T., Rishishwar, L., Andris, C., Adcock, R.A., Weitz, J.S., Samanez-Larkin, G.R., & Beckett, S.J. (2022). [Real-time interventions counteract COVID-19 risk misestimation in the United States](#). Under review at PLOS One. Preprint posted to PsyArXiv.

## Fellowships

Graduate Research Fellowship, <i>National Science Foundation</i>	\$138,000, 2019–23
Postgraduate Scholarship, <i>Natural Sci. and Eng. Research Council of Canada</i>	\$63,000, 2019–22
James B. Duke Graduate Fellowship, <i>Duke University</i>	\$20,000, 2018–2022
NSERC Canada Graduate Scholarship- Master's ( <i>Declined</i> )	\$17,500, 2018
NSERC Undergraduate Student Research Award, <i>University of Toronto</i>	\$5,625, 2018

## Grants

<b>Coronavirus Contract</b>	Co-PIs: J. Weitz & G.R. Samanez-Larkin	2021–23
Title: “Modeling SARS-CoV-2 Risk, Interventions, and Impacts on Healthcare Resources”		\$600,000
Funding Agency: Centers for Disease Control and Prevention (CDC)		
Grant Numbers: 75D30121P10600, 75D30122C15294		
Role: Lead investigator for Aims 2/3 (developing online risk assessment tools, improving risk literacy, increasing booster vaccine uptake, and motivating information seeking)		
<b>Psychology &amp; Neuroscience Outreach Grant</b>	Co-PIs: A. Hsiung, A. Sinclair	2021–22
Title: “Promoting Equitable Access to Cognitive Research: A Comprehensive Internship Program for Undergraduates”		\$36,434
Funding Agencies: Duke University, Charles Lafitte Foundation		
<b>Research Germinator Grant</b>	PI: A. Sinclair	2019–22
Title: “Learning from Error: Cognitive, Motivational, and Neural Mechanisms”		\$25,000
Funding Agency: Duke Institute for Brain Sciences		
<b>Special Topics COVID-19 Research Grant</b>	PI: A. Sinclair	2020
Title: “Affective States and Information Seeking During the COVID-19 Pandemic”		\$2,500
Funding Agency: Duke University, Charles Lafitte Foundation		

## Conference Awards

Conference Travel Award, <i>Duke University</i>	2022
Trainee Professional Development Award, <i>Society for Neuroscience</i>	2019
SARMAC 2019 Travel Award, <i>Society for Applied Research on Memory &amp; Cognition</i>	2019
Charles Lafitte Foundation Travel Awards, <i>Duke University</i>	2018, 2019
Moscovitch Award for Outstanding Contribution to Discussion, <i>TAMeG Conference</i>	2017
Outstanding Poster Presentation, <i>NeuroXchange Conference</i>	2017

## Academic Awards & Honors

<b>Governor General's Academic Medal</b> , <i>Government of Canada, University of Toronto</i> National award granted to the highest-performing undergraduate student.	2018
<b>John Black Aird Scholarship</b> , <i>University of Toronto</i> Awarded to the top student of the tri-campus graduating class (18,500 students).	2018
<b>Rose Sheinin Award</b> , <i>University of Toronto</i> Awarded for exemplary academic achievement by a woman in science.	2018
<b>Women's Centenary Silver Medal</b> , <i>Victoria College, University of Toronto</i>	2018
<b>Treble &amp; Barber Graduate Studies Scholarship</b> , <i>Victoria College, University of Toronto</i>	2018
<b>Dean's List Scholar</b> , <i>University of Toronto</i>	2014–18
<b>James Mark Baldwin Prize for Best Essay</b> , <i>University of Toronto</i>	2017
<b>University of Toronto Scholars Award</b> , <i>University of Toronto</i>	2014–17
<b>Academic Merit Scholarships</b> , <i>Victoria College, University of Toronto</i>	2014–17

## Conference & Invited Talks

- Sinclair, A.H.**, Wang, Y.C., & Adcock, R.A. (2023, Mar). Instructed motivational states bias reinforcement learning and memory formation. Data blitz at *Cognitive Neuroscience Society*, San Fran., CA.
- Sinclair, A.H.**, Wang, Y.C., & Adcock, R.A. (2023, Apr). Instructed motivational states bias reinforcement learning and memory formation. Symposium talk at *Learning & Memory*, Huntington Beach, CA.
- Sinclair, A.H.**, Hakimi, S., Stanley, M.S., Adcock, R.A., Samanez-Larkin, G.R. (2022, Feb). Lab and real-world interventions to correct pandemic-related risk perception. Colloquium talk for the *Center for Cognitive Neuroscience Colloquium Series*, Duke University.
- Sinclair, A.H.**, Hakimi, S., Stanley, M.S., Adcock, R.A., Samanez-Larkin, G.R. (2021, July). Pairing facts with imagined consequences improves pandemic-related risk perception. Talk presented at the meeting of the *Society for Applied Research on Memory and Cognition*, Virtual Conference.
- Sinclair, A.H.**, Manalili, G.M., & Barense, M.D. (2019, June). Surprise drives episodic memory updating and distortion. Talk presented at the meeting of the *Society for Applied Research on Memory and Cognition*, Cape Cod, MA.
- Sinclair, A.H.** & Barense, M.D. (2018, May). Prediction error influences episodic memory reconsolidation. Data blitz at the *Toronto Area Memory Group Conference*, Toronto, ON.
- Sinclair, A.H.** & Barense, M.D. (2018, May). Prediction error influences episodic memory reconsolidation. Talk presented at the *Undergraduate Thesis Conference*, Toronto, ON. **\*Awarded Notable Presentation.**
- Sinclair, A.H.** & Barense, M.D. (2018, April). Surprise and destabilize: Prediction error influences episodic memory reconsolidation. Talk presented at the *NeuroXchange Conference*, Hamilton, ON.

## Poster Presentations

- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2023, Mar). Instructed motivational states bias reinforcement learning and memory formation. *Cognitive Neuroscience Society*, San Fran., CA.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2022, Nov). Early and late rewards bias value memory and preferences over distinct timescales. *Psychonomic Society*, Boston, MA.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2022, Apr). First impressions: Early rewards in episodes bias value memory and preferences. *Cognitive Neuroscience Society*, San Fran., CA.
- Sinclair, A.H.\*,** Wright, R.\*, Hsiung, A.\*, Hakimi, S., & Adcock, R.A. (2022, Apr). Downside of doom scrolling: Pausing to reflect influences information seeking and enhances memory. *Cognitive Neuroscience Society*, San Fran., CA. \*Denotes equal contribution.
- Sinclair, A.H.,** Hakimi, S., Stanley, M.S., Adcock, R.A., & Samanez-Larkin, G.R. (2020, October). Perceived vs. actual virus transmission risk during the COVID-19 pandemic. *Society for Neuroeconomics*, Virtual Conference.
- Sinclair, A.H.,** Hakimi, S., Adcock, R.A., & Barense, M. D. (2020, August). Effective connectivity among cortico-hippocampal regions predicts memory for naturalistic episodes. *Context and Episodic Memory Symposium*, Virtual Conference.
- Sinclair, A.H.,** Poh, J.H., Adcock, R.A., & Barense, M. D. (2020, May). Neural representations of emotional valence and intensity during naturalistic events. *Cognitive Neuroscience Society*, Virtual Conference.
- Sinclair, A.H.,** Manalili, G.M., & Adcock, R.A., & Barense, M. D. (2019, Nov). Surprising event boundaries modulate hippocampal activity & distort episodic memories. *Psychonomic Society*, Montreal, QC.
- Sinclair, A.H.,** Manalili, G.M., Adcock, R.A., & Barense, M. D. (2019, Oct). Prediction errors at event boundaries drive episodic memory reconsolidation. *Society for Neuroscience*, Chicago, IL. **\*Trainee Professional Development Award**
- Sinclair, A.H.,** Manalili, G.M., & Barense, M.D. (2019, Apr). Neural mechanisms of prediction error and episodic memory distortion. *Smokies Cognition and Neuroscience Symposium*, Asheville, NC.
- Sinclair, A.H.,** Manalili, G.M., & Barense, M.D. (2017, Oct). Surprise and destabilize: Prediction error triggers episodic memory updating. *Society for Neuroscience*, Washington, DC.

## Service & Outreach

- Ad Hoc Reviewer** — *Nature Human Behaviour, Psychological Science, Nature Communications, Journal of Cognitive Neuroscience, Learning & Memory, npj Science of Learning, Cognition, Learning & Motivation, Memory & Cognition, Neuropsychologia, Journal of Applied Research on Memory and Cognition, WIREs Cognitive Science, Personality Science, Frontiers in Psychology*
- Nominated Representative** — *Graduate Student Affairs, Duke University* 2019-2023  
Student Liaison to the Graduate School, representing the Cognitive Neuroscience Program.
- Program Coordinator & Mentor** — *Cognitive Neuroscience Research Internship* 2020-2023  
Contributed to developing and leading a [research internship program](#) that provides equitable and accessible research opportunities for undergraduate students from historically underrepresented backgrounds. Lectured, mentored, performed administration, and obtained funding.
- Service Learning Facilitator** — *Neuroscience Service Learning Course, Duke University* 2021  
Contributed to developing and facilitating a new service learning course. Forged new connections with local community partners that support K-8 children in underserved neighborhoods. Oversaw the design, production, and donation of educational activity kits that introduce children to neuroscience.
- Mentor** — *Cientifico Latino: Graduate School Mentorship Initiative* 2019-2022  
Guided STEM graduate school applicants from underrepresented minorities. Revised graduate and NSF-GRFP applications, conducted mock interviews.
- Volunteer Editor** — *The Inkblot: Undergraduate Journal of Psychology* 2017-2018  
Reviewed & edited papers from undergraduate psychology students.

## Skills

- fMRI data collection & analysis (FSL, SPM, bash, fMRIPrep)
- Data analysis with R (proficient) & Python (intermediate)
- Task programming with Qualtrics (proficient), Psychopy/Pavlovia (proficient)
- Data visualization with R (proficient) & Adobe Illustrator (intermediate)

## Affiliations

- Cognitive Neuroscience Society
- Society for Applied Research on Memory & Cognition
- Society for Neuroscience
- Psychonomic Society
- Society for Neuroeconomics

## References

Prof. Gregory R. Samanez-Larkin, *Duke University*

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Prof. R. Alison Adcock, *Duke University*

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Prof. Morgan D. Barense, *University of Toronto*

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