ALYSSA H. SINCLAIR | Curriculum Vitae

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Research Interests: learning & memory, motivation, emotion, belief & behavior change, communication

Methods: behavior, fMRI, interventions, field studies, naturalistic tasks

Employment

Joan Bossert Postdoctoral Research Fellow — *University of Pennsylvania* July 2023 — Present
Affiliation: *Penn Center for Science, Sustainability, and the Media*
Primary Advisor: Prof. Emily Falk, *Communication Neuroscience Lab*

Education

Ph.D., Duke University — *Psychology & Neuroscience, Certificate in Cognitive Neuroscience* Aug 2018 — May 2023
Cumulative GPA: 4.0/4.0
Dissertation: "Pre-Learning Interventions Modulate Learning from Error"
Co-Advisors: Prof. R. Alison Adcock & Prof. Gregory R. Samanez-Larkin
Committee Members: Prof. Elizabeth Marsh & Prof. Felipe De Brigard

B.Sc. *with High Distinction*, University of Toronto — *Experimental Psychology* Sep 2014 — May 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 *(Profs. Karen Murphy & Minna Ng)* 2020, 2021
PSY444: Neuroscience Service Learning *(Prof. Minna Ng)* 2021

Teaching Assistantship — Victoria College, *University of Toronto*
VIC171: Method, Theory, & Practices in Natural Sciences *(Prof. Brian Baigrie)* 2017-2018

Tutor for University & High School Students — Independent, *Toronto, ON* 2016-2018

Publications

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. (2023). Communicating COVID-19 exposure risk with an interactive website counteracts risk misestimation. In press at *PLoS One*.

Sinclair, A.H.*, Wang, Y.C.*, & Adcock, R.A. (2023). Instructed motivational states bias reinforcement learning and memory formation. *Proceedings of the National Academy of Sciences of the U.S.A.*, *120*(31). ** equal contribution*

Sinclair, A.H., Taylor, M.K., Davidson, A., Weitz, J.S., Beckett, S.J., & Samanez-Larkin, G.R. (2023). Scenario-based messages on social media motivate COVID-19 information seeking. *Journal of Applied Research in Memory and Cognition*.

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 of the U.S.A. 118*(51).

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 of the U.S.A., 118*(32).

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

Sinclair, A.H., Wang, Y.C., & Adcock, R.A. (2023). First impressions or good endings: Rational valuation improves overnight. Under review at *Journal of Experimental Psychology: General*.

Sinclair, A.H., Taylor, M.K., Beckett, S., Weitz, J.S., & Samanez-Larkin, G.R. (2023). Personalized feedback about COVID-19 immunity corrects risk misestimation and motivates booster vaccinations.

Sinclair, A.H., Hsiung, A., Wright, R., Hakimi, S., & Adcock, R.A. (2023). Pausing to reflect during news consumption counteracts negativity biases in memory.

Kemp, P.L.*, **Sinclair, A.H.***, Adcock, R.A., & Wahlheim, C.N. (2023). Memory and belief updating following complete and partial reminders of fake news. ** equal contribution*

Fellowships

Joan Bossert Postdoctoral Research Fellowship, *University of Pennsylvania* $130,000, **2023—2025**

Graduate Research Fellowship, *National Science Foundation* $138,000, **2019—23**

Postgraduate Scholarship, *Natural Sci. and Eng. Research Council of Canada* $63,000, **2019—22**

James B. Duke Graduate Fellowship, *Duke University* $20,000, **2018—2022**

NSERC Canada Graduate Scholarship- Master's *(Declined)* $17,500, **2018**

NSERC Undergraduate Student Research Award, *University of Toronto* $5,625, **2018**

Grants

Applied Research on Intellectual Humility Co-PIs: R. Hoyle, E. Davisson, & **A. Sinclair** **2023—26**
Title: "Social and Psychological Mechanisms that Contribute to Humble Processing of Information that Challenges Personal Opinions and Beliefs" $250,000
Funding Agency: John Templeton Foundation

Coronavirus Contract Co-PIs: J. Weitz & G.R. Samanez-Larkin **2021—23**
Title: "Modeling SARS-CoV-2 Risk, Interventions, and Impacts on Healthcare" $600,000
Funding Agency: Centers for Disease Control and Prevention (CDC)
Role: Lead investigator for Aim 3 (risk communication interventions)

Psychology & Neuroscience Outreach Grant 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

Research Germinator Grant PI: **A. Sinclair** **2019—22**
Title: "Learning from Error: Cognitive, Motivational, and Neural Mechanisms" $25,000
Funding Agency: Duke Institute for Brain Sciences

Special Topics COVID-19 Research Grant PI: **A. Sinclair** **2020—21**
Title: "Affective States and Information Seeking During the COVID-19 Pandemic" $2,500
Funding Agency: Duke University, Charles Lafitte Foundation

Academic Awards & Honors

Governor General's Academic Medal, *Government of Canada*, *University of Toronto*
National award granted to the highest-performing undergraduate student. **2018**

John Black Aird Scholarship, *University of Toronto* **2018**
Awarded to the top student of the tri-campus graduating class (18,500 students).

Rose Sheinin Award, *University of Toronto* **2018**
Awarded for exemplary academic achievement by a woman in science.

Women's Centenary Silver Medal, *Victoria College*, *University of Toronto* **2018**

Treble & Barber Graduate Studies Scholarship, *Victoria College*, *University of Toronto* **2018**

Dean's List Scholar, *University of Toronto* **2014—18**

James Mark Baldwin Prize for Best Essay, *University of Toronto* **2017**

University of Toronto Scholars Award, *University of Toronto* **2014—17**

Academic Merit Scholarships, *Victoria College*, *University of Toronto* **2014—17**

Conference Awards

Conference Travel Award, *Duke University* **2022, 2023**

Trainee Professional Development Award, *Society for Neuroscience* **2019**

SARMAC 2019 Travel Award, *Society for Applied Research on Memory & Cognition* **2019**

Charles Lafitte Foundation Travel Awards, *Duke University* **2018, 2019**

Moscovitch Award, *Toronto Area Memory Group Conference* **2017**

Outstanding Poster Presentation, *NeuroXchange Con*ference **2017**

Conference & Invited Talks

Sinclair, A.H., Wright, R., & Adcock, R.A. (2023, November). Reframing the value of errors mitigates anxiety-related learning deficits. Symposium talk at *Psychonomic Society*, San Fran., CA.

Sinclair, A.H., Taylor, M.K., & Samanez-Larkin, G.R. (2023, August). Scenario-based messages on social media motivate COVID-19 information seeking. Talk at *SARMAC*, Nagoya, Japan.

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., 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., Hakimi, S., Stanley, M.S., Adcock. R.A., Samanez-Larkin, G.R. (2022, Feb). Lab and real-world interventions to correct pandemic risk perception. Colloquium talk at *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 at *SARMAC*, virtual.

Conference & Invited Talks (continued)

Sinclair, A.H. & Barense, M.D. (2018, May). Prediction error influences episodic memory reconsolidation. Data blitz at *Toronto Area Memory Group Conference*, Toronto, ON.

Sinclair, A.H. & Barense, M.D. (2018, April). Surprise and destabilize: Prediction error influences episodic memory reconsolidation. Talk at *NeuroXchange Conference*, Hamilton, ON.

Poster Presentations

Sinclair, A.H., Wang, Y.C., & Adcock, R.A. (2023, Nov). Neural correlates of motivational states that bias reinforcement learning and memory formation. *Society for Neuroscience*.

Sinclair, A.H., Wang, Y.C., & Adcock, R.A. (2023, Mar). Instructed motivational states bias reinforcement learning and memory formation. *Cognitive Neuroscience Society*.

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*.

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*.

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*. **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*.

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*.

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*.

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*.

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*.

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

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 in 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 Cognitive Neuroscience.

Departmental Event Planner — *Center for Cognitive Neuroscience, Duke University* 2021-2022
Contributed to planning the annual departmental retreat and solicited feedback from members of the department on culture, practices, and issues.

Journal Club Organizer — *Center for Cognitive Neuroscience, Duke University* 2019-2020
Organized and managed a weekly journal club for trainees in the Center.

Volunteer Editor — *The Inkblot: Undergraduate Journal of Psychology* 2017-2018
Reviewed & edited papers from undergraduate psychology students.

Outreach

Outreach Lecturer — *Duke University* 2023
Lectured on learning strategies and mental health as part of an NIH-funded outreach program for high-school students from underrepresented groups.

Program Coordinator & Mentor — *Cognitive Neuroscience Research Internship* 2020-2023
Contributed to founding 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 a service-learning course and forging community partnerships. Oversaw the design, production, and donation of educational neuroscience activity kits for children in underserved neighborhoods.

Mentor — *Científico Latino: Graduate School Mentorship Initiative* 2019-2022
Guided STEM graduate school applicants from underrepresented minorities. Revised graduate and NSF-GRFP applications, conducted mock interviews.

Mentoring

Graduate Students: Taurean Butler (2023—present), Christian Benitez (2023—present)

Honors Thesis Students: Alyssa Guthrie (2020—2023), Yume Choi (2021—2022)

Undergraduate Research Assistants: Paul Kim (2020—2022), Tolulemi Gbile (2018—2020), Grace Manalili (2017—2019), Carolyn Chung (2017—2018), Kayla Liu (2018)

Cognitive Neuroscience Research Interns: Paige Sevchik, Nour Kanan, Blaine Luebbering, Dipali Arora

Skills

- fMRI data collection & analysis (**FSL**, **SPM**, **bash**, **fMRIprep**)
- Data analysis with **R** and **Python**
- Experiment programming with **Qualtrics, Psychopy, Pavlovia** (Python, Javascript)
- Data visualization with **R** and **Adobe Illustrator**

Affiliations

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

References

Emily Falk, *PhD* emily.falk@asc.upenn.edu

Professor, *University of Pennsylvania*
Postdoctoral advisor, 2023-Present

Gregory R. Samanez-Larkin, *PhD* g.samanezlarkin@duke.edu

Jack H. Neely Associate Professor, *Duke University*
Graduate co-advisor, 2018-2023

R. Alison Adcock, *MD/PhD* alison.adcock@duke.edu

Associate Professor, *Duke University*
Graduate co-advisor, 2018-2023

Morgan D. Barense, *PhD* morgan.barense@utoronto.ca

Professor & Canada Research Chair, *University of Toronto*
Honors thesis advisor & collaborator, 2014-2021