

K. Alexandria Bond, PhD



INTERESTS

dynamic decision-making | exploration algorithms | *in silico* & human learning systems

EDUCATION

CARNEGIE MELLON UNIVERSITY | CARNEGIE MELLON NEUROSCIENCE INSTITUTE

PHD IN COGNITIVE NEUROSCIENCE WITH COMPUTATIONAL EMPHASIS

May 2022 | Pittsburgh, PA

EXPERIENCE

CARNEGIE MELLON UNIVERSITY COGNITIVE AXON LAB | POSTDOCTORAL RESEARCHER

May 2022 – Present | Pittsburgh, PA

CARNEGIE MELLON UNIVERSITY COGNITIVE AXON LAB | GRADUATE STUDENT RESEARCHER

July 2017 – May 2022 | Pittsburgh, PA

PRINCETON UNIVERSITY INTELLIGENT PERFORMANCE AND ADAPTATION LAB | LAB MANAGER

May 2014 – July 2017 | Princeton, NJ

HONORS

2020 1 of 8 Carnegie Mellon Graduate Student Representative Award

2019 1 of 6 Carnegie Mellon Neuroscience Institute Presidential Fellow

2017 1 of 10 National Institutes of Health (NIH) Behavioral Brain Research Training Fellowship

PUBLICATIONS

Bond K., Rubin, J., Verstynen, T. Underlying decision policy promotes exploration for metalearning. *In prep.*

Bond K., Rasero J., Madan, R., Bahuguna, J., Rubin, J., Verstynen, T. Competition between action plans tracks with evidence accumulation during flexible decision-making. **bioRxiv**. October 2022.

Bond K., Dunovan, K., Alexis Porter, Jonathan E Rubin, and Timothy Verstynen. Dynamic decision policy reconfiguration. **eLife**. December; 2021;10:e65540.

Bond K. and Taylor J.A. Structural learning in a visuomotor adaptation task is explicitly accessible. **eNeuro**. August; 10.1523/eneuro.0122-17.2017.

Bond K. and Taylor J.A. Flexible explicit but rigid implicit learning in a visuomotor adaptation task. **The Journal of Neurophysiology**. March; 10.1152/jn.00009.2015.

McDougle S.M., **Bond K.**, and Taylor J.A. Implications of plan-based generalization in sensorimotor adaptation. **The Journal of Neurophysiology**. April; 10.1152/jn.00974.2016.

McDougle S.M., **Bond K.**, and Taylor J.A. Explicit and implicit processes constitute the fast and slow processes of sensorimotor learning. **The Journal of Neuroscience**. July; 10.1523/jneurosci.5061-14.2015.

LEADERSHIP

CMU GRADUATE STUDENT ASSEMBLY EXECUTIVE BOARD 1 OF 8 | VICE PRESIDENT OF ACADEMIC AFFAIRS
October 2021 – May 2022

Elected GSA Executive Board member. Collaborated with Vice Provost of Education and other University leadership to meet academic needs of GS. Selection of successful initiatives:

- Completely free health insurance for all GS, minimum stipend of 27k across departments, and reasonable leave policies. Implemented in Fall 2022.
- Assessed need for empirically supported mentorship skills for both GS and advisors. Enabled informed, targeted development of University-level mentorship training and time-sensitive mental health checks by GS year.

CMU VICE PROVOST OF RESEARCH SEARCH COMMITTEE | SELECTED ADVISOR
UNIVERSITY STUDENT ADVISING COMMITTEE | SELECTED ADVISOR
UNIVERSITY EDUCATION COUNCIL | SELECTED ADVISOR
ASSOCIATE DEANS FOR GRADUATE PROGRAMS | SELECTED ADVISOR
THREE MINUTE THESIS (3MT) COMPETITION JUDGE 1 OF 1 | SELECTED GRADUATE STUDENT THESIS JUDGE FOR CMU

SCIENTIFIC OUTREACH

- Carnegie Mellon University Psychology and Cognitive Neuroscience Outreach Program for underserved communities (2017 - present)
- Trenton STEM-to-Civics Charter School | Science Outreach Volunteer (2017)
- Hopewell Elementary School | Science Fair Judge (2017)

ADVISING & TEACHING

- Advised Raghav Madan, Engineering & Tech. M.S. student (2019-2020) | now: PhD candidate at Washington University in Biomedical and Health Informatics
- Advised Jadelyn Flores, New Brunswick High School student participating in the Princeton Laboratory Learning Program (2015) | now: graduate of Princeton University
- Designed data science tutorials (coauthored Jupyter book; Spring 2019) | Teaching Assistant, Data Science for Psychology and Neuroscience
- Designed evaluation methods and managed a team of UG Teaching Assistants (Fall 2018) | Teaching Assistant, Cognitive Psychology

SKILLS

Computational Modeling | Computational Neuroimaging | Inferential statistics | Eyetracking & pupillometry | Multimodal physiological recording | Experimental design | Generalization testing | Bayesian analysis and numerical estimation | Simulation | Behavioral analysis | Time series analysis | Python | R